Traffic Consulting Group
1606 PONCE DE LEÓN SUITE 603 • SAN JUAN, PR 00909
PHONE: (787) 724-2007 • FAX: (787) 724-0690
INFO@TRAFFICPR.COM • WWW.TRAFFICPR.COM

Estudio de Tránsito
Dorado Office Park
Dorado, PR

Preparado para:
Golden Environmental Consultant
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1 INTRODUCCIÓN

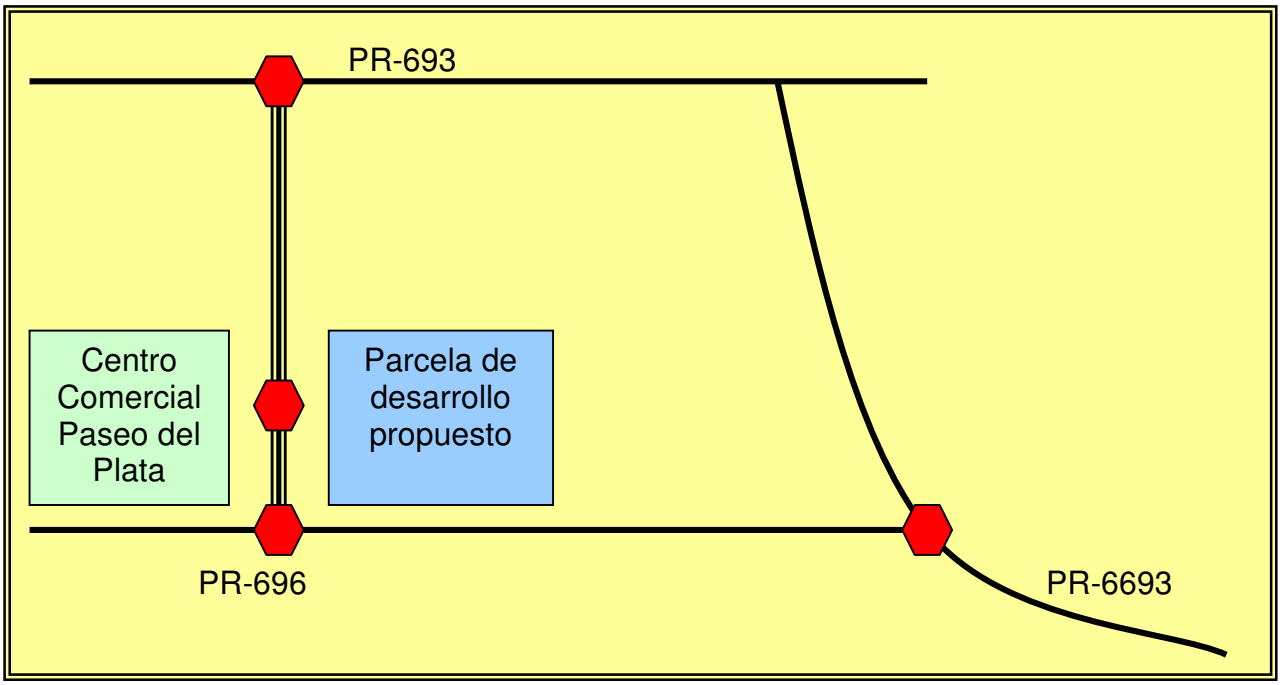
El siguiente informe presenta el estudio de tránsito para el área de influencia asociada a la construcción del proyecto Dorado Office Park en el municipio de Dorado. El mismo evalúa las condiciones del tránsito presentes en el área al igual que el impacto que tendrá la acción propuesta. Se modelará el funcionamiento de las intersecciones afectadas por el nuevo desarrollo mediante el uso del programa de computadoras para el análisis de intersecciones "**S**ignalised & unsignalised **I**ntersection **D**esign & **R**esearch **A**id", con el fin de determinar el efecto final del mismo en las intersecciones de interés. También se evaluará el efecto de las mejoras geométricas que sean necesarias para mitigar el efecto del proyecto.

2 LOCALIZACIÓN Y DESCRIPCIÓN DE LA ACCIÓN PROPUESTA

El proyecto propuesto estará localizado en un predio de terreno de unas 22 cuerdas adyacente a la avenida José Efrón en el barrio Higuillar del municipio de Dorado. El uso propuesto para la parcela en cuestión es uno de Parque de Oficinas. El mismo constará de un total de 412,320 pies cuadrados de area bruta de piso a ser utilizada como oficinas; repartidos en el solar en edificaciones de uno u dos niveles.

El desarrollo planifica proveer un solo acceso a la parcela. El mismo estaría localizado en la mencionada Avenida y utilizaría la misma intersección que al día de hoy utiliza el centro comercial Paseo del Plata. La referenciada Avenida da acceso sirve de colectora a las carreteras PR-693 y PR-693; ambas, vías de importancia para el mencionado Municipio.

Figura 1 Diagrama esquemático de localización del proyecto



3 METODOLOGÍA PARA LA EVALUACIÓN DEL IMPACTO EN EL TRÁNSITO DEBIDO A LA ACCIÓN PROPUESTA

1) El miércoles 27 y el jueves 28 de octubre de 2004 se realizaron conteos de vehículos en el área de estudio durante las 12 horas de mayor afluencia vehicular. Los horarios de conteos realizados fueron de 6:00 AM a 6:00 PM. Estos conteos se realizaron para determinar el número de vehículos que utilizan las vías de tránsito cercanas al área del proyecto. Las intersecciones medidas fueron:

   a) La carretera PR-693 con la Ave. José Efrón

   b) La carretera Ave. José Efrón con la entrada al centro comercial Paseo del Plata

   c) La carretera PR-696 con la Ave. José Efrón

   d) La carretera PR-6693 con la PR-693

2) Dado que el proyecto no estará completado hasta aproximadamente el año 2007, los flujos del año 2004 fueron expandidos a ese año usando un factor de crecimiento anual de 2.5%.

3) Utilizando como referencia el Manual de Generación de Viajes del ITE se estimó el número de viajes que se generarían desde y hacia el proyecto propuesto.

4) Con todos los datos recopilados se procedieron a analizar las intersecciones en cuestión. Para realizar este análisis se utilizó el programa de computadoras aaSIDRA 2.1. Las situaciones estudiadas fueron los períodos pico de la mañana y de la tarde con los flujos existentes, y las mismas situaciones al añadirse el crecimiento anual esperado y los flujos generados por el proyecto. Las intersecciones estudiadas son las mencionadas anteriormente.

4 TEORÍA

4.1 Evaluación sobre el Nivel de Servicio (LOS) para una intersección:

El nivel de servicio es la metodología más conocida utilizada para la evaluación de una facilidad. El nivel de servicio representa las condiciones de operación de las intersecciones: el nivel de servicio "A" representa las condiciones excelentes de tránsito y el nivel "F", las peores condiciones. Tanto las intersecciones semaforizadas como las no semaforizadas pueden ser categorizadas utilizando esta metodología. Estos niveles de servicio a su vez se encuentran basados en las demoras promedio que tienen los vehículos en las intersecciones. A continuación se definen las categorías para cada nivel de servicio.

LOS A: Excelente

Esta es una condición de flujo libre, acompañada por bajos volúmenes de tránsito y altas velocidades. Hay poca o ninguna restricción en maniobrabilidad del conductor y los conductores pueden mantener sus deseadas velocidades con poco o ningún retraso.

LOS B: Muy Buena

En esta condición, las velocidades de operación comienzan a estar restringidas un tanto por las condiciones del tránsito. Los conductores aún tienen una libertad considerable para seleccionar su velocidad y carril de operación.

LOS C: Buena

Las velocidades y maniobrabilidad se vuelven más controladas por volúmenes de tránsito más altos. La mayoría de los conductores están restringidos en su libertad para seleccionar su propia velocidad, cambiar de carril o pasar.

LOS D: Aceptable

Este nivel de servicio se acerca a un flujo inestable, con velocidades operacionales tolerables siendo mantenidas, aunque considerablemente afectadas por los cambios en las condiciones operacionales. Los conductores tienen poca libertad para maniobrar y la comodidad y conveniencia son bajas.

LOS E: Capacidad

El flujo de tránsito se vuelve inestable y podría haber paradas momentáneas.

LOS F: Mala

En esta condición, la velocidad operacional podría bajar a cero y resultar en colas de tránsito.

4.2 Relación entre demoras y Nivel de Servicio

La tabla #1, muestra las diferentes relaciones entre el nivel de servicio y las demoras promedio por cada vehículo en las intersecciones controladas ya sea por semáforo, señales de PARE o CEDA, o en rotondas. (Manual de aaSIDRA 2.1). Estas demoras tienen como componentes la demora de viajar a través de la intersección mas la demora de la detención como consecuencia de la intersección.

Tabla 1 Criterio del Nivel de Servicio para intersecciones

NIVEL DE SERVICIO	DEMORA DE VEHÍCULOS (SEG.)	
	Semáforo y Rotonda	PARE y CEDA
A	$d \leq 10$	$d \leq 10$
B	$10 < d \leq 20$	$10 < d \leq 15$
C	$20 < d \leq 35$	$15 < d \leq 25$
D	$35 < d \leq 55$	$25 < d \leq 35$
E	$55 < d \leq 80$	$35 < d \leq 50$
F	$80 < d$	$50 < d$

5 ANÁLISIS DE TRÁNSITO

5.1 Afluencia vehicular

A modo de determinar el patrón de viajes actuales del sector se realizaron conteos manuales en cuatro (4) intersecciones. Dichos conteos se realizaron en periodos de quince (15) minutos de 6:00 AM a 6:00 PM los días 27 y 28 de octubre de 2004. Las siguientes intersecciones fueron seleccionadas de los alrededores del proyecto:

a) La carretera PR-693 con la Ave. José Efrón (27-10-2004)

b) La carretera Ave. José Efrón con la entrada al centro comercial Paseo del Plata (27-10-2004)

c) La carretera PR-696 con la Ave. José Efrón (28-10-2004)

d) La carretera PR-6693 con la PR-693 (28-10-2004)

Las tablas en el apéndice 1 ilustran el flujo vehicular obtenido mediante dichos conteos manuales. Para determinar la hora pico se buscaron los cuatro períodos consecutivos de 15 minutos con más flujo. Una vez se encontraba esta hora en los períodos AM y PM, se buscaba el período de 15 minutos con mayor flujo, y este valor multiplicado por cuatro era el que se utilizaba para la modelación. Dado que ya se está usando el valor del período de 15 minutos más alto, el factor de hora pico a utilizarse es 1.0.

Los flujos mostrados están identificados por dos letras separadas por un guión. La primera representa el acceso de procedencia del movimiento en inglés: North, South, East & West. La segunda letra representa el tipo de movimiento: Left, Thru & Right.

Las siguientes tablas muestran los flujos vehiculares por acceso de las intersecciones estudiadas.

Tabla 2 Flujos PR-693 con la ave. José Efrón (Condición Presente)

2004	S-L	S-R	E-L	E-T	W-T	W-R	Total
Pico AM	176	172	148	344	388	528	1756
Pico PM	280	320	208	420	292	284	1804

Tabla 3 Flujos Avenida José Efrón con el acceso existente Centro Comercial Paseo del Plata (Condición Presente)

2004	S-L	S-T	S-R	E-L	E-T	E-R	N-L	N-T	N-R	W-L	W-T	W-R	Total
Pico AM	88	300	N/A	N/A	N/A	N/A	N/A	532	28	28	N/A	48	1024
Pico PM	84	460	N/A	N/A	N/A	N/A	N/A	588	56	176	N/A	216	1580

Tabla 4 Flujos PR-696 con la ave. José Efrón (Condición Presente)

2004	E-T	E-R	N-L	N-R	W-L	W-T	Total
Pico AM	204	136	496	40	148	532	1556
Pico PM	564	256	656	132	84	160	1852

Tabla 5 Flujos PR-6693 con la PR-696 (Condición Presente)

2004	S-L	S-T	N-T	N-R	W-L	W-R	Total
Pico AM	196	508	476	120	248	264	1812
Pico PM	764	636	636	148	48	592	2824

5.2 Crecimiento Anual

Los flujos obtenidos en el año 2004 fueron expandidos al año 2007, cuando entendemos que el proyecto estará operando. Los flujos de la zona fueron expandidos utilizando un factor de 2.5% de crecimiento anual.

5.3 Generación de Viajes del proyecto Dorado Office Park

Para el cómputo de la generación de viajes utilizamos la categoría 750 (Parque de Oficinas) del Manual de Generación de Viajes de ITE como clasificación del uso del terreno. La variable independiente utilizada fue el número de pies cuadrados de área bruta de piso. La siguiente tabla muestra los resultados obtenidos.

Tabla 6 Generación de Viajes del proyecto Alturas del Bosque

Uso	Categoría	Unidades	ADT			Pico AM			Pico PM		
			Total	In	Out	Total	In	Out	Total	In	Out
Parque de oficina	750	412.32	4705	2353	2353	497	442	55	605	85	520

La tabla anterior muestra los flujos que estarían accediendo a la avenida José Efrón provenientes del desarrollo Dorado Office Park.

Tabla 7 Generación de Viajes de proyectos cercanos que influyen el área de estudio

Uso	Categoría	Unidades	ADT			Pico AM			Pico PM		
			Total	In	Out	Total	In	Out	Total	In	Out
Centro Comercial	820	43.97	3981	1990	1990	96	58	37	364	175	189
Pass-By = 0.5						48	29	19	182	87	95
Banco	911	6	772	386	386	17	10	7	52	25	27
Total			4753	2376	2376	65	39	26	234	112	122

5.4 Distribución de Viajes

Para realizar la distribución de los viajes que generara el proyecto bajo estudio, presumimos que un 60% de los viajes generados se dirigirían desde y

hacia el sur del proyecto a través de la avenida José Efrón; en dirección hacia la PR-696. El restante 40% del total de viajes generados se presume discurrirán desde y hacia el norte; en dirección a la PR-693. Esta distribución es consistente con el patrón de flujos que se observa actualmente en la mencionada Avenida.

Los flujos fueron luego distribuidos en las demás intersecciones analizadas siguiendo la distribución de viajes existentes en cada una de ellas.

5.5 Tránsito Futuro

Para la modelación de la situación futura se tomaron los flujos de la situación base, se multiplicaron por el factor de crecimiento anual y se le añadieron los flujos que se obtuvieron en la etapa de generación de viajes, repartidos de acuerdo a la distribución que se explicó anteriormente.

Las siguientes tablas muestran los flujos modelados.

Tabla 8 Flujos PR-693 con la ave. José Efrón (Condición Futura)

2007	S-L	S-R	E-L	E-T	W-T	W-R	Total
Pico AM	213	212	215	376	428	781	2225
Pico PM	562	627	259	482	336	337	2603

Tabla 9 Flujos Avenida José Efrón con el acceso existente Centro Comercial Paseo del Plata (Condición Futura)

2007	S-L	S-T	S-R	E-L	E-T	E-R	N-L	N-T	N-R	W-L	W-T	W-R	Total
Pico AM	95	328	177	33	5	22	265	535	30	30	5	52	1577
Pico PM	90	517	34	312	5	208	51	648	60	190	5	233	2353

Tabla 10 Flujos PR-696 con la ave. José Efrón (Condición Futura)

2007	E-T	E-R	N-L	N-R	W-L	W-T	Total
Pico AM	220	237	566	47	250	573	1893
Pico PM	607	317	966	209	105	172	2376

Tabla 11 Flujos PR-6693 con la PR-696 (Condición Futura)

2007	S-L	S-T	N-T	N-R	W-L	W-R	Total
Pico AM	266	547	513	165	293	310	2094
Pico PM	718	823	685	167	78	872	2824

5.6 Modelación de Tránsito

Para la evaluación de las intersecciones afectadas se utilizó el programa aaSIDRA 2.1. Este modelo permite la evaluación de intersecciones semaforizadas y de prioridad, además de la optimización de las de semáforo, y es preferido debido a su capacidad de predicción, aún en situaciones de sobresaturación. Se realizaron modelaciones para los períodos pico de la mañana y de la tarde para la situación actual y la situación futura.

5.6.1 Intersección PR-693 y Avenida José Efrón

Esta intersección tiene una configuración en “T” y esta controlada por Pare. La misma consiste al presente de accesos en ambas direcciones con un carril por cada dirección de flujo. Esto a excepción del acceso oeste que presenta un carril corto de viraje a la derecha. Los flujos en dirección Este-Oeste son los prioritarios en esta intersección.

Esta facilidad se localiza al norte del proyecto. La carretera PR-693 discurre en el eje Este-Oeste y provee conexión a la zona turístico-residencial del municipio, el

Pueblo y la zona costera del municipio adyacente de Vega Alta. La avenida José Efrón va en el eje Norte-Sur y sirve de colectora a la mencionada carretera estatal y de conexión a la PR-696.

La siguiente tabla muestra los resultados obtenidos para las distintas situaciones modeladas.

Tabla 12 Resultados modelación aaSIDRA PR-693 y Ave. José Efrón

	DEMORA PROMEDIO POR VEHÍCULO [SEG.] Y NIVEL DE SERVICIO (LOS)				
	Acceso Sur Ave. José Efrón	**Acceso Este PR-693**	**Acceso Norte N/A**	**Acceso Oeste PR-693**	**Total Int.**
Base 2004					
AM	**19.0 C**	**15.0 C**	**N/A**	**4.9 A**	**10.6**
PM	**28.0 C**	**9.4 A**	**N/A**	**4.3 A**	**14.0**
Futuro 2007					
AM	**23.8 C**	**11.5 B**	**N/A**	**12.8 B**	**14.6 B**
PM	**20.3 C**	**17.8 B**	**N/A**	**17.0 B**	**18.7 B**

Para obtener los resultados presentados en la tabla fue necesario realizar cambios significativos en la geometría de la intersección; así como a su sistema de control. A diferencia de la intersección existente la condición futura requiere, para que no falle el acceso de la correspondiente a la avenida José Efrón, que el mismo sea expandido a una sección de dos carriles por dirección. En adición a esto será necesario que se le añada al acceso Este de la misma un carril corto de viraje a izquierda.

Al mismo tiempo el sistema de control por prioridad existente deberá ser remplazado por uno de semáforos. Para determinar si este dramático cambio en el sistema de control se debe exclusivamente a la introducción del desarrollo en

cuestión, se realizo una evaluación de los requisitos de necesidad de semáforo; comenzando por los volúmenes existentes. El resultado de esta evaluación fue que aun al presente los volúmenes justifican la instalación de un control mecanizado.

Por tanto, aún cuando el desarrollo propuesto conlleva marcado efectos en la operación de la intersección, el mismo no es del todo responsable por la necesidad del semáforo.

5.6.2 Intersección PR-Ave. José Efrón con Entrada a Paseo del Plata y Desarrollo

Esta intersección tiene una configuración de tipo “T” y está controlada por Pare. La cantidad general de carriles por acceso es de dos (2) dirección con la excepción del acceso sur que consta con un carril corto de viraje a la izquierda. Esta configuración cambia dramáticamente en el escenario futuro dada la introducción de la vía de acceso al nuevo parque de oficinas.

La siguiente tabla muestra los resultados obtenidos para los escenarios modelados.

Tabla 13 Resultados modelación aaSIDRA Ave. José Efrón y Accesos a Paseo del Plata y Dorado Office Park

	DEMORA PROMEDIO POR VEHÍCULO [SEG.] Y NIVEL DE SERVICIO (LOS)				
	Acceso Sur Ave. Efrón	Acceso Este Nuevo acceso	Acceso Norte Ave. Efrón	Acceso Oeste Entrada a Paseo del Plata	Total Int.
Base 2004					
AM	**2.5 A**	**N/A**	**0.4 A**	**14.5 B**	**2.2**
PM	**1.8 A**	**N/A**	**0.7 A**	**18.1 C**	**5.4**
Futuro 2007					
AM	**4.2 A**	**18.2 C**	**4.0 A**	**15.1 C**	**5.2**
PM	**2.2 A**	**25.5 D**	**1.4 A**	**22.1 C**	**10.7**

Esta intersección, a diferencia de la anterior, cuenta con capacidad suficiente para manejar el aumento en tránsito esperado; con su geometría modificada para servir de punto de acceso al parque de oficinas y control existente. Como puede observarse los niveles de servicio de la Ave. Efrón se mantienen en "A" lo que representa un nivel optimo de servicio. La entrada al centro comercial sufre un mínimo aumento en la demora; mientras los niveles de servicio más bajos los experimenta el acceso al mencionado parque. Esto es típico en intersecciones de prioridad aunque en este caso particular no aparenta ser tan crítico.

5.6.3 Intersección PR-696 y Ave. José Efrón

Esta intersección tiene una configuración en "T" y esta controlada por Pare. Sus accesos Este y Oeste poseen un carril por dirección y carriles cortos de viarjes. Su acceso Norte (Ave. Efrón) consta de dos carriles por dirección. Esta ultima vía discurre de norte a sur y sirve de colectora a la PR-696.

La siguiente tabla muestra los resultados obtenidos para las distintas situaciones modeladas.

Tabla 14 Resultados modelación aaSIDRA PR-696 y Ave. José Efrón

	DEMORA PROMEDIO POR VEHÍCULO [SEG.] Y NIVEL DE SERVICIO (LOS)				
	Acceso Sur N/A	**Acceso Este PR-696**	**Acceso Norte Ave. Efrón**	**Acceso Oeste PR-696**	**Total Int.**
Base 2004					
AM	**N/A**	**3.3 A**	**33.1 D**	**2.2 A**	**13.1**
PM	**N/A**	**2.6 A**	**77.0 F**	**5.1 A**	**34.6**
Futuro 2007					
AM	**N/A**	**16.8 B**	**28.3 C**	**13.6 B**	**19.1 B**
PM	**N/A**	**21.6 C**	**37.3 D**	**27.0 C**	**30.0 C**

Se desprende de los resultados presentados, que al presente esta intersección posee dificultad para manejar los flujos. Por tanto, la situación futura donde el cuadro de volúmenes es significativamente mayor no mejorará sin cambios significativos.

En este caso los resultados para la condición futura corresponden a la modelación de la intersección con la geometría existente aunque siendo controlada por semáforos. Este cambio en el sistema de control representó una distribución mas equitativa del tiempo para manejar los flujo que se presentarán en el futuro.

Sin embargo, al igual que en la intersección de la PR-693 con la Ave. Efrón esta también posee volumen suficiente al día de hoy para justificar el semáforo. La evaluación de los requisitos de semáforos mostró cumplimiento con los requisitos 1, 2 y 3 en la situación existente.

5.6.4 Intersección PR-6693 y PR696

Esta intersección tiene una configuración en "T", esta controlada por Pare y posee un carril por dirección el acceso oeste (aunque auxiliada con una generosa isleta canalizadora para su viraje a la derecha), un carril normal y uno corto para virajes a la izquierda en su acceso Sureste y dos carriles en el Norte. La siguiente tabla muestra los resultados obtenidos para las distintas situaciones modeladas.

Tabla 15 Resultados modelación aaSIDRA PR-6693 y PR-696

	DEMORA PROMEDIO POR VEHÍCULO [SEG.] Y NIVEL DE SERVICIO (LOS)				
	Acceso Sureste PR-6693	Acceso Este N/A	Acceso Norte PR-6693	Acceso Oeste PR-696	Total Int.
Futuro 2004					
AM	**8.2 A**	**N/A**	**7.3 A**	**20.7 C**	**11.4**
PM	**19.7 C**	**N/A**	**7.3 A**	**26.6 D**	**17.9**
Futuro 2007					
AM	**14.5 B**	**N/A**	**24.7 C**	**26.6 C**	**21.3 C**
PM	**18.1 B**	**N/A**	**37.0 D**	**24.9 C**	**24.8 C**

Para obtener los resultados presentados en la tabla fue necesario realizar cambios significativos en la geometría de la intersección; así como a su sistema de control. A diferencia de la intersección existente la condición futura requiere, para que la intersección no colapse, que el acceso oeste sea modificado para que a la intersección lleguen dos carriles que permitan virar a izquierda. En adición a esto será necesario que al acceso Sureste se le extienda el segundo carril en dirección norte; como un carril corto para continuar recto.

Al mismo tiempo el sistema de control por prioridad existente deberá ser remplazado por uno de semáforos. Para determinar si este cambio en el control se debe exclusivamente al desarrollo en cuestión realizamos, al igual que en las

intersecciones anteriores una evaluación de los requisitos de necesidad de semáforo; comenzando por los volúmenes existentes. El resultado de esta evaluación fue que aun al presente los volúmenes justifican la instalación de un control mecanizado.

Por tanto, aún cuando el desarrollo propuesto conlleva efectos en la operación de la intersección, el mismo no es del todo responsable por la necesidad del semáforo en esta intersección.

En el apéndice 2 se muestran los resultados se muestran los resultados de las modelaciones de aaSIDRA.

6 CONCLUSIONES Y RECOMENDACIONES

Luego de analizar las intersecciones de interés al proyecto que nos ocupa podemos llegar a la conclusión que desde el punto de vista de la Ingeniería de Tránsito no existe impedimento para su desarrollo. Las modelaciones de estas intersecciones nos demuestran que las mismas poseen o puede poseer con modificaciones geométricas y cambios al sistema de control, la capacidad para manejar adecuadamente el incremento en tránsito que el proyecto bajo estudio, los desarrollos considerados y el incremento típico (2.5%), pudiera representar.

Tres intersecciones, PR-693 con Ave. José Efrón, PR-696 con Ave. José Efrón y PR-6693 con PR-696 ameritan ciertas mejoras geométricas y cambios en su sistema de control. Como se discutió en la sección anterior, las mencionadas mejoras son las siguientes:

1) PR-693 con Ave. Efrón
    a) Ensanche a dos carriles por dirección de la Ave. Efrón
    b) Añadir un carril corto de viraje a izquierda en el acceso Este (PR-693 desde el pueblo)
    c) Instalar un sistema de semáforo
2) PR-696 con Ave. Efrón
    a) Instalar sistema de semáforo
3) PR-6693 con PR-696
    a) Modificar la isleta canalizadora del acceso oeste para añadir un carril corto de viraje a izquierda

b) Extender el segundo carril de salida en el acceso Norte para que sirva como segundo carril en esa dirección desde el acceso sureste.

c) Instala un sistema de semáforo

Es importante señalar que tras evaluar la necesidad de semáforos en las mencionadas intersecciones todas ellas cumplen al día de hoy con al menos uno de los requisitos para la instalación de semáforo.

La intersección que proveerá acceso al desarrollo, a diferencia de las demás, cuenta con capacidad suficiente para manejar el aumento en tránsito esperado; con su geometría modificada para servir de punto de acceso al parque de oficinas y control existente

7 CERTIFICACIÓN

Certifico que la información presentada en este estudio es cierta, correcta y completa, y que fue obtenida utilizando los criterios de la practica usual y aceptada de la ingeniería de tránsito

Carlos M. Contreras, PE, PTOE
Lic. 13395

8 REFERENCIAS

1. Trip Generation Manual, Institute of Transportation Engineers, 7th edition, 2003
2. Trip Generation Handbook: An ITE Recommended Practice, Institute of Transportation Engineers, March 2001
3. "Signalised & unsignalised Intersection Design & Research Aid". aaSIDRA

9 APÉNDICES

APÉNDICE 1:

Flujos Obtenidos Mediante Conteos

Conteos PR-693- Ave José Efrón

Beginning of Period	Movement												TOTAL
	S-L	S-T	S-R	E-L	E-T	E-R	N-L	N-T	N-R	W-L	W-T	W-R	
06:00	10	0	19	20	58	0	0	0	0	0	57	62	226
06:15	20	0	20	31	68	0	0	0	0	0	51	70	260
06:30	20	0	25	33	96	0	0	0	0	0	68	68	310
06:45	40	0	43	40	104	0	0	0	0	0	70	90	387
07:00	49	0	30	35	100	0	0	0	0	0	88	100	402
07:15	44	0	43	37	86	0	0	0	0	0	97	132	439
07:30	47	0	50	37	108	0	0	0	0	0	96	100	438
07:45	49	0	35	33	78	0	0	0	0	0	116	94	405
08:00	52	0	17	34	79	0	0	0	0	0	75	133	390
08:15	57	0	23	16	56	0	0	0	0	0	60	93	305
08:30	53	0	28	29	80	0	0	0	0	0	70	96	356
08:45	28	0	33	11	45	0	0	0	0	0	76	78	271
09:00	37	0	25	22	60	0	0	0	0	0	75	61	280
09:15	40	0	15	21	63	0	0	0	0	0	61	52	252
09:30	35	0	23	15	63	0	0	0	0	0	67	42	245
09:45	31	0	19	21	69	0	0	0	0	0	65	52	257
10:00	32	0	15	16	69	0	0	0	0	0	51	54	237
10:15	36	0	17	23	61	0	0	0	0	0	65	61	263
10:30	20	0	24	22	56	0	0	0	0	0	66	49	237
10:45	25	0	27	19	61	0	0	0	0	0	79	59	270
11:00	26	0	48	29	73	0	0	0	0	0	57	59	292
11:15	30	0	31	16	61	0	0	0	0	0	65	49	252
11:30	50	0	21	16	60	0	0	0	0	0	64	36	247
11:45	75	0	84	41	85	0	0	0	0	0	47	45	377
12:00	26	0	36	41	58	0	0	0	0	0	44	39	244
12:15	32	0	20	20	61	0	0	0	0	0	50	57	240
12:30	40	0	28	32	79	0	0	0	0	0	59	67	305
12:45	26	0	34	19	36	0	0	0	0	0	47	44	206
13:00	16	0	39	32	61	0	0	0	0	0	70	63	281
13:15	34	0	36	32	67	0	0	0	0	0	86	53	308
13:30	41	0	30	30	86	0	0	0	0	0	75	62	324
13:45	44	0	19	17	88	0	0	0	0	0	102	79	349
14:00	64	0	44	36	76	0	0	0	0	0	87	68	375
14:15	70	0	45	40	123	0	0	0	0	0	91	54	423
14:30	35	0	47	36	71	0	0	0	0	0	65	60	314
14:45	41	0	49	22	95	0	0	0	0	0	58	83	348
15:00	38	0	41	34	103	0	0	0	0	0	72	56	344
15:15	70	0	80	52	105	0	0	0	0	0	73	71	451
15:30	64	0	68	23	77	0	0	0	0	0	44	74	350
15:45	66	0	54	28	70	0	0	0	0	0	51	64	333
16:00	46	0	49	20	46	0	0	0	0	0	55	48	264
16:15	46	0	33	18	40	0	0	0	0	0	35	34	206
16:30	59	0	43	19	70	0	0	0	0	0	50	60	301
16:45	66	0	68	23	48	0	0	0	0	0	66	52	323
17:00	50	0	75	14	68	0	0	0	0	0	56	71	334
17:15	54	0	51	37	46	0	0	0	0	0	39	39	266
17:30	55	0	44	21	34	0	0	0	0	0	38	65	257
17:45	48	0	49	18	30	0	0	0	0	0	29	49	223

Conteo Ave. Efrón y Entrada a Paseo del Plata

Beginning of Period	Movement												TOTAL
	S-L	S-T	S-R	E-L	E-T	E-R	N-L	N-T	N-R	W-L	W-T	W-R	
06:00	8	32	0	0	0	0	0	74	2	0	0	1	117
06:15	5	45	0	0	0	0	0	89	2	1	0	0	142
06:30	12	48	0	0	0	0	0	95	3	3	0	2	163
06:45	16	71	0	0	0	0	0	139	12	7	0	6	251
07:00	14	78	0	0	0	0	0	147	14	2	0	5	260
07:15	17	84	0	0	0	0	0	173	9	4	0	7	294
07:30	13	81	0	0	0	0	0	142	12	7	0	8	263
07:45	22	75	0	0	0	0	0	133	7	7	0	12	256
08:00	8	57	0	0	0	0	0	112	8	10	0	11	206
08:15	13	54	0	0	0	0	0	84	9	10	0	11	181
08:30	18	65	0	0	0	0	0	73	9	5	0	13	183
08:45	8	47	0	0	0	0	0	60	6	7	0	7	135
09:00	14	54	0	0	0	0	0	74	8	6	0	10	166
09:15	11	46	0	0	0	0	0	86	8	5	0	9	165
09:30	14	62	0	0	0	0	0	62	7	11	0	11	167
09:45	6	47	0	0	0	0	0	80	9	7	0	7	156
10:00	14	40	0	0	0	0	0	66	10	6	0	7	143
10:15	13	33	0	0	0	0	0	78	10	9	0	12	155
10:30	11	36	0	0	0	0	0	42	6	5	0	7	107
10:45	8	48	0	0	0	0	0	46	1	7	0	15	125
11:00	13	63	0	0	0	0	0	79	11	19	0	16	201
11:15	13	56	0	0	0	0	0	86	12	12	0	10	189
11:30	8	50	0	0	0	0	0	106	9	7	0	5	185
11:45	20	125	0	0	0	0	0	104	18	44	0	44	355
12:00	13	44	0	0	0	0	0	92	8	7	0	21	185
12:15	12	42	0	0	0	0	0	68	5	11	0	14	152
12:30	19	54	0	0	0	0	0	85	11	7	0	9	185
12:45	18	59	0	0	0	0	0	76	4	5	0	11	173
13:00	17	65	0	0	0	0	0	116	9	8	0	14	229
13:15	8	81	0	0	0	0	0	92	5	2	0	9	197
13:30	22	76	0	0	0	0	0	114	12	6	0	12	242
13:45	19	41	0	0	0	0	0	111	18	13	0	21	223
14:00	17	132	0	0	0	0	0	137	2	12	0	11	311
14:15	19	109	0	0	0	0	0	98	6	10	0	16	258
14:30	21	61	0	0	0	0	0	100	3	12	0	11	208
14:45	23	64	0	0	0	0	0	82	10	11	0	15	205
15:00	15	65	0	0	0	0	0	75	2	11	0	20	188
15:15	21	115	0	0	0	0	0	147	14	44	0	54	395
15:30	19	120	0	0	0	0	0	41	6	10	0	12	208
15:45	17	91	0	0	0	0	0	57	5	17	0	14	201
16:00	26	64	0	0	0	0	0	53	6	14	0	17	180
16:15	17	62	0	0	0	0	0	54	15	16	0	26	190
16:30	17	82	0	0	0	0	0	48	9	14	0	18	188
16:45	27	105	0	0	0	0	0	56	15	19	0	23	245
17:00	19	125	0	0	0	0	0	46	13	18	0	18	239
17:15	19	120	0	0	0	0	0	49	17	14		13	232
17:30	15	79	0	0	0	0	0	38	12	13	0	20	177
17:45	16	75	0	0	0	0	0	46	10	11	0	15	173

Conteo PR-696 –Aveida José Efrón

Beginning of Period	Movement												TOTAL
	S-L	S-T	S-R	E-L	E-T	E-R	N-L	N-T	N-R	W-L	W-T	W-R	
06:00	0	0	0	0	23	22	46	0	6	12	43	0	152
06:15	0	0	0	0	29	33	58	0	12	20	54	0	206
06:30	0	0	0	0	24	38	71	0	6	26	71	0	236
06:45	0	0	0	0	28	32	74	0	11	26	51	0	222
07:00	0	0	0	0	23	29	92	0	14	22	48	0	228
07:15	0	0	0	0	40	22	82	0	9	28	62	0	243
07:30	0	0	0	0	35	39	118	0	12	18	84	0	306
07:45	0	0	0	0	51	34	124	0	10	37	133	0	389
08:00	0	0	0	0	39	37	133	0	11	27	75	0	322
08:15	0	0	0	0	35	41	150	0	12	20	59	0	317
08:30	0	0	0	0	34	41	76	0	8	23	46	0	228
08:45	0	0	0	0	32	43	98	0	9	23	48	0	253
09:00	0	0	0	0	33	51	78	0	11	25	49	0	247
09:15	0	0	0	0	35	37	67	0	8	12	37	0	196
09:30	0	0	0	0	33	28	87	0	8	15	44	0	215
09:45	0	0	0	0	31	33	46	0	5	22	31	0	168
10:00	0	0	0	0	26	22	62	0	14	12	37	0	173
10:15	0	0	0	0	30	39	47	0	9	9	29	0	163
10:30	0	0	0	0	29	38	62	0	29	17	34	0	209
10:45	0	0	0	0	38	30	64	0	12	20	44	0	208
11:00	0	0	0	0	49	26	58	0	19	21	58	0	231
11:15	0	0	0	0	43	46	58	0	10	30	40	0	227
11:30	0	0	0	0	46	26	51	0	10	26	48	0	207
11:45	0	0	0	0	49	36	72	0	9	20	40	0	226
12:00	0	0	0	0	84	48	76	0	8	17	44	0	277
12:15	0	0	0	0	80	32	85	0	14	22	39	0	272
12:30	0	0	0	0	92	44	123	0	19	22	60	0	360
12:45	0	0	0	0	79	47	109	0	24	26	63	0	348
13:00	0	0	0	0	65	58	110	0	22	22	64	0	341
13:15	0	0	0	0	82	45	107	0	20	24	50	0	328
13:30	0	0	0	0	94	32	133	0	17	18	24	0	318
13:45	0	0	0	0	88	48	101	0	24	28	74	0	363
14:00	0	0	0	0	96	34	143	0	19	13	30	0	335
14:15	0	0	0	0	91	41	135	0	16	26	65	0	374
14:30	0	0	0	0	97	37	145	0	25	18	39	0	361
14:45	0	0	0	0	112	57	142	0	40	28	45	0	424
15:00	0	0	0	0	156	62	146	0	13	15	46	0	438
15:15	0	0	0	0	141	64	164	0	33	21	40	0	463
15:30	0	0	0	0	133	80	134	0	32	27	56	0	462
15:45	0	0	0	0	108	49	90	0	25	15	35	0	322
16:00	0	0	0	0	104	55	138	0	20	18	35	0	370
16:15	0	0	0	0	101	71	98	0	15	11	34	0	330
16:30	0	0	0	0	88	81	71	0	19	16	48	0	323
16:45	0	0	0	0	64	73	81	0	21	30	40	0	309
17:00	0	0	0	0	80	65	111	0	28	37	45	0	366
17:15	0	0	0	0	80	71	76	0	33	44	41	0	345
17:30	0	0	0	0	62	67	62	0	21	38	45	0	295
17:45	0	0	0	0	50	59	56	0	17	30	44	0	256

Conteo PR-6693 – PR-696

Beginning of Period	Movement												TOTAL
	S-L	S-T	S-R	E-L	E-T	E-R	N-L	N-T	N-R	W-L	W-T	W-R	
06:00	36	23						80	8	18		43	208
06:15	47	29						92	12	23		60	263
06:30	41	57						121	15	45		53	332
06:45	39	87						125	16	39		53	359
07:00	24	77						169	34	70		50	424
07:15	39	113						94	13	47		57	363
07:30	49	127						119	30	62		66	453
07:45	53	81						101	26	50		114	425
08:00	55	75						79	23	54		121	407
08:15	68	42						55	20	33		143	361
08:30	41	48						56	26	28		81	280
08:45	51	43						54	29	18		102	297
09:00	49	55						54	28	26		96	308
09:15	43	53						70	21	25		90	302
09:30	39	53						57	16	31		51	247
09:45	39	53						65	22	13		59	251
10:00	34	59						58	13	22		51	237
10:15	40	50						58	24	22		29	223
10:30	50	60						87	21	39		44	301
10:45	46	64						56	19	46		45	276
11:00	45	76						59	33	22		46	281
11:15	50	65						50	31	28		50	274
11:30	47	75						70	26	28		60	306
11:45	62	79						89	20	22		82	354
12:00	105	189						132	38	19		80	563
12:15	71	168						142	35	15		97	528
12:30	106	161						155	40	13		137	612
12:45	80	164						150	44	20		124	582
13:00	90	151						150	35	22		114	562
13:15	101	179						108	28	24		102	542
13:30	80	144						158	35	29		120	566
13:45	98	192						153	37	32		96	608
14:00	94	176						230	44	24		143	711
14:15	89	155						195	35	25		134	633
14:30	104	130						244	38	11		156	683
14:45	115	139						190	47	19		142	652
15:00	191	159						159	37	12		148	706
15:15	150	131						145	46	17		123	612
15:30	146	164						150	66	19		112	657
15:45	109	132						146	47	13		84	531
16:00	130	145						137	32	28		116	588
16:15	123	156						143	48	14		92	576
16:30	132	169						140	41	18		73	573
16:45	101	157						116	42	20		90	526
17:00	102	137						159	37	14		134	583
17:15	119	139						137	30	15		101	541
17:30	108	114						126	19	14		86	467
17:45	89	108						108	15	11		80	411

APÉNDICE 2:

Resultados corridas de aaSIDRA

```
                Akcelik & Associates Pty Ltd - aaSIDRA 2.1.0.346
               ----------------------------------------------------
               Traffic Consulting Group
               Carlos M. Contreras                 User ID: M0276
               Licence Type: Multi Computer

               Time and Date of Analysis    3:34 PM,  1 Dec 2004

 Filename: C:\My Projects\Dorado-noviembre-2004-Dorado Office
Park\0104amsem.OUT

 PR-693 con Efron Ave.
 Condicion futura, 2007, Hora pico AM, semaforo
 Intersection ID:    01


 RUN INFORMATION
 ---------------
 Variable cycle time run: "Optimum" cycle time =  60 s

 * Basic Parameters:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   Default Values File No. 30
   Peak flow period (for performance): 15 minutes
   Unit time (for volumes): 60 minutes (Total Flow Period)
   Specified performance measure for "best" cycle time in variable run -
      Delay
   Delay definition: Control delay
                     Geometric delay included
   aaSIDRA Standard Delay and Queue models used
   Level of Service based on: Delay (HCM method)
   Queue definition: Cycle average queue, Average

 * No. of Main (Timing-Capacity) Iterations =  4
   Comparison of last two iterations:
     Difference in intersection degree of satn =  0.3 %
     Largest difference in eff. green times =  1 secs
     (max. value for stopping = 2 secs)
   Information on Previous Iteration:
     Cycle Time =  60
     Phase Times: 0,  10,  30
     Critical Movements: 1, 4, 10

 * If an "optimum" cycle time solution is adopted for actuated signal
purposes
   ensure that vehicle-actuated settings reflect this solution in real
life.
   Consider using the "sensitivity analysis" facility to optimise maximum
   green settings for actuated signals.

 * Degree of saturation of non-critical movement   12  is
   greater than the critical movement degrees of saturation
   because movement is specified as Undetected or Continuous type.

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 PR-693 con Efron Ave.
 Condicion futura, 2007, Hora pico AM, semaforo
 Intersection ID:    01
            Fixed-Time Signals, Cycle Time =  60
```

Table S.0 - TRAFFIC FLOW DATA

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Flow Factor
VEHICLES Demand flows in veh/hour as used by the program								
South: Efron Avenue								
1	207	6	0	0	0	0	1.00	1.00
3	0	0	0	0	206	6	1.00	1.00
East: PR-693 Este								
4	209	6	0	0	0	0	1.00	1.00
5	0	0	365	11	0	0	1.00	1.00
West: PR-693 Oeste								
10	0	0	415	13	0	0	1.00	1.00
12	0	0	0	0	758	23	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

PR-693 con Efron Ave.
Condicion futura, 2007, Hora pico AM, semaforo
Intersection ID: 01
Fixed-Time Signals, Cycle Time = 60

Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS

Mov No.	Mov Typ	PHASE MATRIX First Green Fr To Op Pr	PHASE MATRIX Second Green Fr To Op Pr	Lost Tim 1st Grn	Lost Tim 2nd Grn	Req.Mov.Time 1st Grn	Req.Mov.Time 2nd Grn	Eff. Grn 1st Grn	Eff. Grn 2nd Grn
South: Efron Avenue									
1 L		A D		4		10.0Min		6	
3 R	(Un2)*	A F	F A R	4	14	23.9	15.9	27	15
East: PR-693 Este									
4 L		D F		4		13.9		17	
5 T		D A		4		20.0Min		46	
West: PR-693 Oeste									
10 T		*F A		4		18.9		25	
12 R	(Und)	D F R	F D	9	4	10.0Min	35.4	12	35

Current Phase Sequence No.: 8
Input phase sequence: A D F
Output phase sequence: A D F

```
 ---------------------------------------------------------------------------
---
   *  Critical Movement/Green Period

 Movement Types:                                Under heading 'Op':
   Ped  Pedestrian                                L   "Left" turns are opposed
   Dum  Dummy                                     R   "Right" turns are opposed
   Und  Undetected in both green periods          LR  "Left and Right" opposed
   Un1  Undetected in 1st green period            C   "Constant" saturation
flow
   Un2  Undetected in 2nd green period

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____

 PR-693 con Efron Ave.
 Condicion futura, 2007, Hora pico AM, semaforo
 Intersection ID:    01
             Fixed-Time Signals, Cycle Time =  60


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
----
  Mov      Dem           Satn Flow   Flow Ratio  Total Prac. Prac. Lane
Deg.
  No.      Flow         -----------   ---------   Cap. Deg.  Spare Util
Satn
           (veh    HV    1st   2nd    1st   2nd  (veh  Satn  Cap.
            /h)    (%)   Grn   Grn    Grn   Grn   /h)   xp    (%)   (%)
x
 ---------------------------------------------------------------------------
----
 South: Efron Avenue
    1 L     213    2.8  4242        0.050         424  0.90    79   100
0.502
    3 R     212    2.8   660   500  0.299 0.029   422  0.90    79   100
0.502
 ---------------------------------------------------------------------------
----
 East: PR-693 Este
    4 L     215    2.8  1441<       0.149         408  0.90    71   100
0.527
    5 T     376    2.9  1914        0.196        1467  0.90   251   100
0.256
 ---------------------------------------------------------------------------
----
 West: PR-693 Oeste
   10 T     428    3.0  1912        0.224         797  0.90    68   100
0.537
   12 R     781    2.9   913  1630< 0.000 0.479  1133  0.90    31   100
0.689*
 ---------------------------------------------------------------------------
----
   <  Reduced saturation flow due to a short lane effect

   Degree of saturation of non-critical movement   12  is
   greater than the critical movement degrees of saturation
   because movement is specified as Undetected or Continuous type.

_____________________________________________________________________________
____

 PR-693 con Efron Ave.
 Condicion futura, 2007, Hora pico AM, semaforo
```

Intersection ID: 01
Fixed-Time Signals, Cycle Time = 60

Table S.3 - INTERSECTION PARAMETERS

Crit Mov No.	App. & Turn	Green Period	Phases Fr	Phases To	Adjusted Lost Time	Adjusted Flow Ratio	Required Grn Time Ratio	Required Movement Time
3	S_R	1st	A	F	4	0.299	0.332	23.9
10	W_T		F	A	4	0.224	0.249	18.9
				Total:	8	0.523	0.581	42.9

Cycle Time:

Minimum	Maximum	Practical	Chosen
30	150	30	60

(Variable cycle times: Program-determined)

Intersection Level of Service	=	B
Worst movement Level of Service	=	C
Average intersection delay (s)	=	14.6
Largest average movement delay (s)	=	27.8
Largest cycle-average queue, mean (m)	=	12
Performance Index	=	46.16
Degree of saturation (highest)	=	0.689
Practical Spare Capacity (lowest)	=	31 %
Effective intersection capacity, (veh/h)	=	3229
Total vehicle flow (veh/h)	=	2225
Total person flow (pers/h)	=	3338
Total vehicle delay (veh-h/h)	=	9.00
Total person delay (pers-h/h)	=	13.50
Total effective vehicle stops (veh/h)	=	1575
Total effective person stops (pers/h)	=	2362
Total vehicle travel (veh-km/h)	=	1353.9
Total cost ($/h)	=	992.96
Total fuel (L/h)	=	162.6
Total CO2 (kg/h)	=	407.06

PR-693 con Efron Ave.
Condicion futura, 2007, Hora pico AM, semaforo
Intersection ID: 01
Fixed-Time Signals, Cycle Time = 60

Table S.4 - PHASE INFORMATION

Phase No.	Change Time	Green Start	Displayed Green	Grn+Intgrn Secs	Prop.
A	0	4	6	10	0.167
D	10	14	17	21	0.350
F	31	35	25	29	0.483

Current Phase Sequence No.: 8
Input phase sequence: A D F
Output phase sequence: A D F

PR-693 con Efron Ave.
Condicion futura, 2007, Hora pico AM, semaforo
Intersection ID: 01
Fixed-Time Signals, Cycle Time = 60

Table S.5 - MOVEMENT PERFORMANCE

Mov No.	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Cycle (vehs)	Queue Aver. (m)	Perf. Index	Aver. Speed (km/h)
South: Efron Avenue									
1 L	1.65	2.47	27.8	0.89	0.83	1.1	8	5.92	34.0
3 R	1.17	1.75	19.8	0.81	0.88	1.1	8	5.01	38.8
East: PR-693 Este									
4 L	1.66	2.49	27.8	0.86	0.80	1.2	8	5.94	34.0
5 T	0.23	0.34	2.2	0.31	0.25	0.2	2	4.78	55.9
West: PR-693 Oeste									
10 T	1.71	2.57	14.4	0.80	0.69	1.7	12	9.40	43.0
12 R	2.58	3.88	11.9	0.60	0.83	0.9	7	15.10	45.2

PR-693 con Efron Ave.
Condicion futura, 2007, Hora pico AM, semaforo
Intersection ID: 01
Fixed-Time Signals, Cycle Time = 60

Table S.6 - INTERSECTION PERFORMANCE

Total Flow (veh/h)	Deg. Satn x	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue (m)	Perf. Index	Aver. Speed (km/h)
South: Efron Avenue									
425	0.502	2.82	4.22	23.8	0.85	0.85	8	10.93	36.2
East: PR-693 Este									
591	0.527	1.89	2.83	11.5	0.51	0.45	8	10.72	45.3
West: PR-693 Oeste									
1209	0.689	4.30	6.44	12.8	0.67	0.78	12	24.50	44.4
ALL VEHICLES:									
2225	0.689	9.00	13.50	14.6	0.66	0.71	12	46.16	42.8
INTERSECTION (persons):									
3338	0.689		13.50	14.6	0.66	0.71		46.16	42.8

Queue values in this table are mean cycle-average queue (metres).

PR-693 con Efron Ave.
Condicion futura, 2007, Hora pico AM, semaforo
Intersection ID: 01
Fixed-Time Signals, Cycle Time = 60

Table S.7 - LANE PERFORMANCE

Lane No.	Mov No.	Effective Green Times (sec) R1	G1	R2	G2	Dem Flow (veh /h)	Cap (veh /h)	Satn x	Aver. Delay (sec)	Eff. Stop Rate	Queue Cycle (vehs)	Queue Aver. (m)	Shrt Lane (m)
South: Efron Avenue													
1 L	1	54	6	0	0	91	182	0.502	38.4	0.77	0.8	5	
2 LR	1, 3	4	17	24	15	334	664	0.502	19.9	0.88	1.1	8	
East: PR-693 Este													
1 L	4	43	17	0	0	215	408	0.527	27.8	0.80	1.2	8	50
2 T	5	14	46	0	0	376	1467	0.256	2.2	0.25	0.2	2	
West: PR-693 Oeste													
1 T	10	35	25	0	0	428	797	0.537	14.4	0.69	1.7	12	
2 R	12	9	12	4	35	781	1134	0.689	11.9	0.83	0.9	7	100

PR-693 con Efron Ave.
Condicion futura, 2007, Hora pico AM, semaforo
Intersection ID: 01
Fixed-Time Signals, Cycle Time = 60

Table S.8A - LANE FLOW AND CAPACITY INFORMATION

Lane No.	Mov No.	Dem Flow (veh/h) Lef	Thru	Rig	Tot	Lane Width (m)	Saturation Flow Adj. (tcu)	Aver Basic (veh)	Aver 1st (veh)	Aver 2nd	End Cap (veh /h)	Tot Cap (veh /h)	Deg. Satn x	Lane Util %
South: Efron Avenue														
1 L	1	91	0	0	91	3.30	1950	1821	0	0	182	0.502		100
2 LR	1, 3	122	0	212	334	3.30	1950	1720	709	60	664	0.502		100
East: PR-693 Este														
1 L	4	215	0	0	215	3.30	1950	1441<	0	0	408	0.527		100

```
  2 T      5     0  376    0  376  3.30  1950 1914     0    0 1467 0.256
100
 ---------------------------------------------------------------------------
---
  West: PR-693 Oeste
  1 T     10     0  428    0  428  3.30  1950 1912     0    0  797 0.537
100
  2 R     12     0    0  781  781  3.30  1950  913  1630<  60 1134 0.689
100
 ---------------------------------------------------------------------------
---
   <  Reduced saturation flow due to a short lane effect

   Basic Saturation Flow in this table is adjusted for lane width, approach
   grade, parking manoeuvres and number of buses stopping.  Saturation flow
   scale applies if specified.

_____________________________________________________________________________
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 PR-693 con Efron Ave.
 Condicion futura, 2007, Hora pico AM, semaforo
 Intersection ID:    01
            Fixed-Time Signals, Cycle Time =  60


 Table S.8B - SCATS MF PARAMETER
 ---------------------------------------------------------
  Lane   Mov  Stopline Capacity  SCATS  SCATS   Deg.  Lane
  No.    No.    Flow   (veh/h)   Satn    MF     Satn  Util.
             (veh/h)            Flow             x     %
 ---------------------------------------------------------
  South: Efron Avenue
  1 L      1      91     182     1857   1114   0.502   100
  2 LR     1,    334     664     1857     NA   0.502   100
           3
 ---------------------------------------------------------
  East: PR-693 Este
  1 L      4     215     408     1857   1503   0.527   100
  2 T      5     376    1467     1950   1794   0.256   100
 ---------------------------------------------------------
  West: PR-693 Oeste
  1 T     10     428     797     1950   1681   0.537   100
  2 R     12     781    1134     1857     NA   0.689   100
 ---------------------------------------------------------
   NA Not Applicable - SCATS MF was not calculated for this lane due to one
      of the following reasons:
       - the lane is not controlled by signals (slip or continuous lane)
       - two movements share this lane and do not run in the same phases

   STOPLINE FLOW: Departure flow rate in veh/h as measured at the stop
line.
   This cannot exceed capacity.

   SCATS SATURATION FLOW: This allows for lane width, approach grade and
   turning vehicles.  Saturation flow scale applies if specified.
   The effects of heavy vehicles, parking manoeuvres, number of buses
   stopping and conflicting pedestrian volume are not included.

   SCATS MF: This emulates the MF (Maximum Flow) parameter used in the
SCATS
   control system. It is calculated from the SCATS SATURATION FLOW
parameter.

   DEG. SATN: The Demand (Arrival) Flow Rate may exceed the Stopline Flow
```

Rate, therefore x > 1 is possible.

PR-693 con Efron Ave.
Condicion futura, 2007, Hora pico AM, semaforo
Intersection ID: 01
Fixed-Time Signals, Cycle Time = 60

Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY

Mov No.	Mov Typ	Dem Flow (veh /h)	Total Cap. (veh /h)	Lane Util (%)	Deg. Satn x	Eff. Grn 1st Grn	Eff. Grn 2nd Grn	Aver. Delay (sec)	Eff. Stop Rate	Cycle Average Queue (veh)	Perf. Index
South: Efron Avenue											
1	L	213	424	100	0.502	6		27.8	0.83	1.1	5.92
3	R (Un2)	212	422	100	0.502	27*	15	19.8	0.88	1.1	5.01
East: PR-693 Este											
4	L	215	408<	100	0.527	17		27.8	0.80	1.2	5.94
5	T	376	1467	100	0.256	46		2.2	0.25	0.2	4.78
West: PR-693 Oeste											
10	T	428	797	100	0.537	25*		14.4	0.69	1.7	9.40
12	R (Und)	781	1133<	100	0.689*	12	35	11.9	0.83	0.9	15.10

< Reduced capacity due to a short lane effect
* Maximum degree of saturation, or critical green periods

PR-693 con Efron Ave.
Condicion futura, 2007, Hora pico AM, semaforo
Intersection ID: 01
Fixed-Time Signals, Cycle Time = 60

Table S.14 - SUMMARY OF INPUT AND OUTPUT DATA

Lane No.	Demand Flow (veh/h) L	T	R	Tot	%HV	Adj. Basic Satf.	Eff Grn (secs) 1st	2nd	Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
South: Efron Avenue												
1 L	91			91	3	1950	6		0.502	38.4	5	
2 LR	122		212	334	3	1950	17	15	0.502	19.9	8	

```
        213    0  212   425    3                 0.502   23.8     8
 ---------------------------------------------------------------------------
  East: PR-693 Este
 1 L     215             215    3  1950   17      0.527   27.8     8    50
 2 T          376        376    3  1950   46      0.256    2.2     2
        ---------------------------------------------------------------------
        215  376    0   591    3                 0.527   11.5     8
 ---------------------------------------------------------------------------
  West: PR-693 Oeste
 1 T          428        428    3  1950   25      0.537   14.4    12
 2 R               781   781    3  1950   12  35  0.689   11.9     7   100
        ---------------------------------------------------------------------
          0  428  781  1209    3                 0.689   12.8    12
 ===========================================================================
  ALL VEHICLES          Total   %       Cycle      Max   Aver.   Max
                        Flow   HV       Time        X    Delay  Queue
                        2225    3         60      0.689   14.6    12
 ===========================================================================
 Total flow period = 60 minutes.  Peak flow period = 15 minutes.

 Queue values in this table are mean cycle-average queue (metres).

 Note: Basic Saturation Flows (in through car units) have been adjusted for
       grade, lane widths, parking manoeuvres and bus stops.
```

```
 PR-693 con Efron Ave.
 Condicion futura, 2007, Hora pico AM, semaforo
 Intersection ID:    01
            Fixed-Time Signals, Cycle Time =  60


 Table S.15 - CAPACITY AND LEVEL OF SERVICE
 ---------------------------------------------------------------------------
---
  Mov     Mov    Green Time  Total  Total    Deg.   Aver.   LOS  Longest
Queue
  No.     Typ    Ratio (g/C) Flow    Cap.     of    Delay         Cycle
Aver.
                ------------ (veh   (veh     Satn                 (vehs)
(m)
                 1st   2nd     /h)    /h)    (v/c)  (sec)
                 grn   grn
 ---------------------------------------------------------------------------
---
 South: Efron Avenue
    1 L        0.100           213    424   0.502    27.8    C      1.1
8
    3 R  (Un2) 0.450* 0.250    212    422   0.502    19.8    B      1.1
8
               ------------------------------------------------------------
---
                               425          0.502    23.8    C      1.1
8
 ---------------------------------------------------------------------------
---
 East: PR-693 Este
    4 L        0.283           215    408<  0.527    27.8    C      1.2
8
    5 T        0.767           376   1467   0.256     2.2    A      0.2
2
               ------------------------------------------------------------
---
```

```
                                591          0.527    11.5    B      1.2
8
 ---------------------------------------------------------------------------
---
 West: PR-693 Oeste
   10 T        0.417*          428    797   0.537    14.4    B      1.7
12
   12 R  (Und) 0.200  0.583    781   1133<  0.689*   11.9    B      0.9
7
               ------------------------------------------------------------
---
                               1209          0.689    12.8    B      1.7
12
 ---------------------------------------------------------------------------
---
   ALL VEHICLES:               2225          0.689    14.6    B      1.7
12
 ---------------------------------------------------------------------------
---
   INTERSECTION (persons):     3338                   14.6           1.7
12
 ---------------------------------------------------------------------------
---
      Level of Service calculations are based on
      average control delay including geometric delay (HCM criteria),
      independent of the current delay definition used.
      For the criteria, refer to the "Level of Service" topic in the
      aaSIDRA Output Guide or the Output section of the on-line help.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods

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 PR-693 con Efron Ave.
 Condicion futura, 2007, Hora pico AM, semaforo
 Intersection ID:    01


 Table S.21 - VARIABLE CYCLE TIME RESULTS
 ---------------------------------------------
    Performance         Smallest       Cycle
      Measure            Value         Time
 ---------------------------------------------
   Degree of Satn        0.689           60
   Average Delay          14.6           60
   Stop Rate              0.69           80
   Max. Queue for
         Any Movement      1.7           60
   Perf. Index            46.2           60
   Cost                  993.0           60
 ---------------------------------------------

    Performance         Largest        Cycle
      Measure            Value         Time
 ---------------------------------------------
   Eff. Inters. Cap.      3229           60
   Prac. Spare Cap.         31           60
 ---------------------------------------------

   If an "optimum" cycle time solution is adopted for actuated signal
purposes
   ensure that vehicle-actuated settings reflect this solution in real
life.
```

Consider using the "sensitivity analysis" facility to optimise maximum green settings for actuated signals.

PR-693 con Efron Ave.
Condicion futura, 2007, Hora pico AM, semaforo
Intersection ID: 01
Fixed-Time Signals, Cycle Time = 60

Table D.0 - GEOMETRIC DELAY DATA

From Approach	To Approach	Negn Radius (m)	Negn Speed (km/h)	Negn Dist. (m)	Appr. Dist. (m)	Downstream Distance (m)
South: Efron Avenue						
	East	10.0	20.2	15.7	500	107
	West	8.4	18.9	13.2	500	105
East: PR-693 Este						
	South	8.4	18.9	13.2	500	105
	West	S	60.0	13.2	500	109
West: PR-693 Oeste						
	South	20.0	26.2	31.4	500	117
	East	S	60.0	13.2	500	109

Downstream Distance calculated by aaSIDRA

Downstream distance is distance travelled from the stopline until exit cruise speed is reached (includes negotiation distance). Acceleration distance is weighted for light and heavy vehicles. The same distance applies for both stopped and unstopped vehicles.

PR-693 con Efron Ave.
Condicion futura, 2007, Hora pico AM, semaforo
Intersection ID: 01
Fixed-Time Signals, Cycle Time = 60

Table D.1 - LANE DELAYS

Lane No.	Mov No.	Deg. Satn x	Stop-line Delay 1st d1	2nd d2	Total dSL	Acc. Dec. dn	Queuing Total dq	MvUp dqm	Stopd (Idle) di	Geom dig	Control dic
South: Efron Avenue											
1 L	1	0.502	29.9	0.0	29.9	3.8	26.1	0.0	26.1	8.4	38.4
2 LR	1, 3	0.502	11.5	0.0	11.5	3.3	8.3	0.7	7.6	8.4 8.3	19.9
East: PR-693 Este											
1 L	4	0.527	19.4	0.0	19.4	3.3	16.1	0.0	16.1	8.4	27.8
2 T	5	0.256	2.2	0.0	2.2	2.7	0.0	0.0	0.0	0.0	2.2

```
 ---------------------------------------------------------------------------
-
  West: PR-693 Oeste
  1 T     10  0.537  14.4   0.0  14.4   6.9   7.5   0.0   7.5   0.0   14.4
  2 R     12  0.689   4.3   0.0   4.3   3.0   1.5   0.7   0.8   7.7   11.9
 ---------------------------------------------------------------------------
-
   dn is average stop-start delay for all vehicles queued and unqueued

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 PR-693 con Efron Ave.
 Condicion futura, 2007, Hora pico AM, semaforo
 Intersection ID:    01
            Fixed-Time Signals, Cycle Time =  60


 Table D.3A - LANE QUEUES (veh)
 ---------------------------------------------------------------------------
-
         Deg.  Ovrfl. Average (veh)          Percentile (veh)
Queue
  Lane   Satn  Queue -----------------  ----------------------------
Stor.
  No.      x    No     Nc1   Nc2    Nc    70%   85%   90%   95%   98%
Ratio
 ---------------------------------------------------------------------------
-
  South: Efron Avenue
  1 L   0.502   0.0    0.8   0.0   0.8    1.0   1.4   1.8   2.6   3.1
0.02
  2 LR  0.502   0.0    1.1   0.0   1.1    1.4   2.0   2.5   3.5   4.1
0.06
 ---------------------------------------------------------------------------
-
  East: PR-693 Este
  1 L   0.527   0.0    1.2   0.0   1.2    1.5   2.1   2.7   3.7   4.4
0.46
  2 T   0.256   0.0    0.2   0.0   0.2    0.3   0.4   0.6   0.9   1.0
0.03
 ---------------------------------------------------------------------------
-
  West: PR-693 Oeste
  1 T   0.537   0.0    1.7   0.0   1.7    2.1   3.1   3.9   5.0   5.8
0.08
  2 R   0.689   0.0    0.9   0.0   0.9    1.2   1.7   2.2   3.1   3.6
0.40
 ---------------------------------------------------------------------------
-

      Values printed in this table are cycle-average queues (vehicles).

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 PR-693 con Efron Ave.
 Condicion futura, 2007, Hora pico AM, semaforo
 Intersection ID:    01
            Fixed-Time Signals, Cycle Time =  60


 Table D.3B - LANE QUEUES (metres)
 ---------------------------------------------------------------------------
-
```

Lane No.	Deg. Satn x	Ovrfl. Queue No	Average (metres) Nc1	Nc2	Nc	Percentile (metres) 70%	85%	90%	95%	98%	Queue Stor. Ratio
South: Efron Avenue											
1 L	0.502	0	5	0	5	7	10	13	19	22	0.02
2 LR	0.502	0	8	0	8	10	14	18	25	29	0.06
East: PR-693 Este											
1 L	0.527	0	8	0	8	10	15	19	27	31	0.46
2 T	0.256	0	2	0	2	2	3	4	6	8	0.03
West: PR-693 Oeste											
1 T	0.537	0	12	0	12	15	22	28	36	42	0.08
2 R	0.689	0	7	0	7	8	12	16	22	26	0.40

Values printed in this table are cycle-average queues (metres).

PR-693 con Efron Ave.
Condicion futura, 2007, Hora pico AM, semaforo
Intersection ID: 01

Table V.21 - INTERSECTION SUMMARY FOR VARIABLE CYCLE TIME

Cycle Time (sec)	Eff. Int. Cap.	Intersn Deg. of Satn	Prac. Spare Cap.	Aver. Delay (sec)	Stop Rate	Longest Queue (veh)	Perf. Index	Cost Total $/h	Unsett
60	3229	0.689	31	14.6	0.71	1.7	46.2	993.0	
70	3159	0.704	28	15.3	0.69	1.7	46.9	1002.5	
80	3083	0.722	25	16.7	0.69	1.8	48.7	1025.2	
90	3009	0.740	22	18.9	0.71	2.4	51.5	1060.7	
100	2949	0.755	19	21.0	0.72	3.0	54.2	1095.0	
110	2858	0.779	16	23.0	0.73	3.5	56.8	1128.2	
120	2599	0.856	5	25.5	0.73	3.7	60.0	1167.6	*
130	2225	1.000	-10	28.0	0.74	5.3	63.3	1210.5	
140	2225	1.000	-10	31.1	0.75	6.1	67.2	1260.2	
150	2225	1.000	-10	33.9	0.75	6.8	70.8	1306.6	

* UNSETTLED RESULTS - Solution for this case has some uncertainty.
Refer to the HELP system or the User Guide for further information.

```
--- End of aaSIDRA Output ---

C:\My Projects\Dorado-noviembre-2004-Dorado Office Park\0104amsem.OUT
Produced by aaSIDRA 2.1.0.346
Copyright 2000-2004
Akcelik & Associates Pty Ltd

Generated   3:34 PM,  1 Dec 2004
```

```
                Akcelik & Associates Pty Ltd - aaSIDRA 2.1.0.346
               ---------------------------------------------------
               Traffic Consulting Group
               Carlos M. Contreras                 User ID: m0276
               Licence Type: Multi Computer

               Time and Date of Analysis    7:30 AM,  2 Dec 2004

 Filename: E:\My Projects\Dorado-noviembre-2004-Dorado Office
Park\0104pmsem.OUT

 PR-693 con Efron Ave.
 Condicion futura, 2007, Hora picoPAM, semaforo
 Intersection ID:    01


 RUN INFORMATION
 ---------------
 Variable cycle time run: "Optimum" cycle time =  60 s

 * Basic Parameters:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   Default Values File No. 30
   Peak flow period (for performance): 15 minutes
   Unit time (for volumes): 60 minutes (Total Flow Period)
   Specified performance measure for "best" cycle time in variable run -
      Delay
   Delay definition: Control delay
                     Geometric delay included
   aaSIDRA Standard Delay and Queue models used
   Level of Service based on: Delay (HCM method)
   Queue definition: Cycle average queue, Average

 * No. of Main (Timing-Capacity) Iterations =  3
   Comparison of last two iterations:
     Difference in intersection degree of satn =  0.0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * If an "optimum" cycle time solution is adopted for actuated signal
purposes
   ensure that vehicle-actuated settings reflect this solution in real
life.
   Consider using the "sensitivity analysis" facility to optimise maximum
   green settings for actuated signals.

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 PR-693 con Efron Ave.
 Condicion futura, 2007, Hora picoPAM, semaforo
 Intersection ID:    01
            Fixed-Time Signals, Cycle Time =  60


 Table S.0 - TRAFFIC FLOW DATA
 ---------------------------------------------------------------------------
        Mov              Left       Through       Right     Flow   Peak
        No.           ---------    ---------    ---------   Scale  Flow
                       LV    HV     LV    HV     LV    HV          Factor
 ---------------------------------------------------------------------------
```

```
VEHICLES       Demand flows in veh/hour as used by the program
South: Efron Avenue
         1           545    17      0     0      0     0   1.00   1.00
         3             0     0      0     0    608    19   1.00   1.00
---------------------------------------------------------------------
East: PR-693 Este
         4           251     8      0     0      0     0   1.00   1.00
         5             0     0    468    14      0     0   1.00   1.00
---------------------------------------------------------------------
West: PR-693 Oeste
        10             0     0    326    10      0     0   1.00   1.00
        12             0     0      0     0    327    10   1.00   1.00
---------------------------------------------------------------------
Based on unit time =  60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.
```

```
PR-693 con Efron Ave.
Condicion futura, 2007, Hora picoPAM, semaforo
Intersection ID:    01
            Fixed-Time Signals, Cycle Time =  60


Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS
-------------------------------------------------------------------------
---
  Mov     Mov    P H A S E  M A T R I X    Lost Tim  Req.Mov.Time     Eff.
Grn
  No.     Typ  First Green   Second Green  --------  ------------     -----
---
               ------------  ------------  1st  2nd  1st      2nd     1st
2nd
               Fr To Op Pr   Fr To Op Pr   Grn  Grn  Grn      Grn     Grn
Grn
-------------------------------------------------------------------------
---
South: Efron Avenue
    1 L        A  D                        4        19.1              20
    3 R  (Un2)*A  F          F  A  R       4   13   32.9     15.7     37
6
-------------------------------------------------------------------------
---
East: PR-693 Este
    4 L        D  F                        4        13.5              13
    5 T        D  A                        4        20.8              32
-------------------------------------------------------------------------
---
West: PR-693 Oeste
   10 T       *F  A                        4        15.7              15
   12 R  (Und) D  F  R       F  D          11    4   10.0Min  20.0Min   6
39
-------------------------------------------------------------------------
---
   Current Phase Sequence No.: 8
   Input phase sequence: A  D  F
   Output phase sequence: A  D  F
-------------------------------------------------------------------------
---
   *  Critical Movement/Green Period

Movement Types:                            Under heading 'Op':
  Ped  Pedestrian                            L   "Left" turns are opposed
  Dum  Dummy                                 R   "Right" turns are opposed
```

```
   Und  Undetected in both green periods      LR  "Left and Right" opposed
   Un1  Undetected in 1st green period        C   "Constant" saturation
flow
   Un2  Undetected in 2nd green period

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 PR-693 con Efron Ave.
 Condicion futura, 2007, Hora picoPAM, semaforo
 Intersection ID:    01
            Fixed-Time Signals, Cycle Time =  60


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
----
  Mov      Dem           Satn Flow   Flow Ratio  Total Prac. Prac. Lane
Deg.
  No.      Flow         -----------   ---------   Cap. Deg.  Spare Util
Satn
           (veh    HV    1st   2nd    1st   2nd  (veh  Satn  Cap.
            /h)    (%)   Grn   Grn    Grn   Grn   /h)   xp    (%)   (%)
x
 ---------------------------------------------------------------------------
----
 South: Efron Avenue
    1 L     562    3.0  2485        0.226         828  0.90    33   100
0.678
    3 R     627    3.0  1369   802  0.434 0.041   924  0.90    33   100
0.678
 ---------------------------------------------------------------------------
----
 East: PR-693 Este
    4 L     259    3.1  1817        0.143         394  0.90    37   100
0.658
    5 T     482    2.9  1914        0.252        1021  0.90    91   100
0.472
 ---------------------------------------------------------------------------
----
 West: PR-693 Oeste
   10 T     336    3.0  1913        0.176         478  0.90    28   100
0.703*
   12 R     337    3.0   904  1578< 0.000 0.214  1116  0.90   198   100
0.302
 ---------------------------------------------------------------------------
----
   <  Reduced saturation flow due to a short lane effect

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 PR-693 con Efron Ave.
 Condicion futura, 2007, Hora picoPAM, semaforo
 Intersection ID:    01
            Fixed-Time Signals, Cycle Time =  60


 Table S.3 - INTERSECTION PARAMETERS
 ---------------------------------------------------------------------------
    Crit App.  Green   Phases   Adjusted    Adjusted   Required   Required
    Mov   &    Period  ------     Lost        Flow     Grn Time   Movement
    No.  Turn          Fr  To     Time        Ratio     Ratio       Time
 ---------------------------------------------------------------------------
      3  S_R    1st    A   F        4        0.434      0.482       32.9
```

```
    10  W_T           F   A        4        0.176      0.195       15.7
                                  ----       ------     ------     ------
                           Total:    8        0.610      0.678       48.7
-----------------------------------------------------------------------------

   Cycle Time:
     Minimum   Maximum   Practical   Chosen
        30       150         30         60
     (Variable cycle times: Program-determined)

   Intersection Level of Service             =         B
   Worst movement Level of Service           =         C
   Average intersection delay (s)            =      18.7
   Largest average movement delay (s)        =      33.3
   Largest cycle-average queue, mean (m)     =        16
   Performance Index                         =     60.85
   Degree of saturation (highest)            =     0.703
   Practical Spare Capacity (lowest)         =        28 %
   Effective intersection capacity, (veh/h)  =      3705
   Total vehicle flow (veh/h)                =      2603
   Total person flow (pers/h)                =      3905
   Total vehicle delay (veh-h/h)             =     13.53
   Total person delay (pers-h/h)             =     20.30
   Total effective vehicle stops (veh/h)     =      2085
   Total effective person stops (pers/h)     =      3127
   Total vehicle travel (veh-km/h)           =    1577.0
   Total cost ($/h)                          =   1244.22
   Total fuel (L/h)                          =     200.9
   Total CO2 (kg/h)                          =    502.97
```

```
PR-693 con Efron Ave.
Condicion futura, 2007, Hora picoPAM, semaforo
Intersection ID:    01
            Fixed-Time Signals, Cycle Time =  60


Table S.4 - PHASE INFORMATION
-------------------------------------------------
   Phase    Change   Green  Displayed  Grn+Intgrn
    No.      Time    Start    Green    Secs  Prop.
-------------------------------------------------
    A          0       4        20      24  0.400
    D         24      28        13      17  0.283
    F         41      45        15      19  0.317
-------------------------------------------------
  Current Phase Sequence No.: 8
  Input phase sequence: A  D  F
  Output phase sequence: A  D  F
```

```
PR-693 con Efron Ave.
Condicion futura, 2007, Hora picoPAM, semaforo
Intersection ID:    01
            Fixed-Time Signals, Cycle Time =  60


Table S.5 - MOVEMENT PERFORMANCE
-----------------------------------------------------------------------------
  Mov      Total    Total   Aver.  Prop.  Eff. Longest Queue  Perf.  Aver.
  No.      Delay    Delay   Delay Queued  Stop  Cycle Aver.   Index  Speed
```

	(veh-h/h)	(pers-h/h)	(sec)		Rate	(vehs)	(m)		(km/h)
South: Efron Avenue									
1 L	3.89	5.83	24.9	0.86	0.88	2.2	16	14.84	35.6
3 R	2.80	4.21	16.1	0.69	0.90	1.7	12	13.60	41.6
East: PR-693 Este									
4 L	2.39	3.59	33.3	0.97	0.86	1.8	13	8.02	31.3
5 T	1.27	1.90	9.5	0.67	0.59	1.3	9	8.98	47.6
West: PR-693 Oeste									
10 T	2.24	3.36	24.0	0.97	0.86	2.2	16	9.49	36.1
12 R	0.94	1.40	10.0	0.39	0.70	0.2	2	5.92	47.0

PR-693 con Efron Ave.
Condicion futura, 2007, Hora picoPAM, semaforo
Intersection ID: 01
Fixed-Time Signals, Cycle Time = 60

Table S.6 - INTERSECTION PERFORMANCE

Total Flow (veh/h)	Deg. Satn x	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue (m)	Perf. Index	Aver. Speed (km/h)
South: Efron Avenue									
1189	0.678	6.69	10.04	20.3	0.77	0.89	16	28.44	38.6
East: PR-693 Este									
741	0.658	3.66	5.49	17.8	0.77	0.68	13	17.00	40.3
West: PR-693 Oeste									
673	0.703	3.18	4.77	17.0	0.68	0.78	16	15.41	40.9
ALL VEHICLES:									
2603	0.703	13.53	20.30	18.7	0.75	0.80	16	60.85	39.6
INTERSECTION (persons):									
3905	0.703		20.30	18.7	0.75	0.80		60.85	39.6

Queue values in this table are mean cycle-average queue (metres).

PR-693 con Efron Ave.
Condicion futura, 2007, Hora picoPAM, semaforo
Intersection ID: 01
Fixed-Time Signals, Cycle Time = 60

Table S.7 - LANE PERFORMANCE

Lane	Mov	Effective Red and Green Times (sec)	Dem Flow (veh	Cap (veh	Deg. Satn	Aver. Delay	Eff. Stop	Queue Cycle	Queue Aver.	Shrt Lane

```
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)  Rate  (vehs) (m)
(m)
 ---------------------------------------------------------------------------
----
  South: Efron Avenue
  1 L      1   40  20    0   0    411  606 0.678   28.1  0.87   2.2   16
  2 LR     1,   4  35   15   6    778 1147 0.678   16.1  0.90   1.7   12
           3
 ---------------------------------------------------------------------------
----
  East: PR-693 Este
  1 L      4   47  13    0   0    259  394 0.658   33.3  0.86   1.8   13
50
  2 T      5   28  32    0   0    482 1021 0.472    9.5  0.59   1.3    9
 ---------------------------------------------------------------------------
----
  West: PR-693 Oeste
  1 T     10   45  15    0   0    336  478 0.703   24.0  0.86   2.2   16
  2 R     12   11   6    4  39    337 1116 0.302   10.0  0.70   0.2    2
100
 ---------------------------------------------------------------------------
----


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 PR-693 con Efron Ave.
 Condicion futura, 2007, Hora picoPAM, semaforo
 Intersection ID:    01
             Fixed-Time Signals, Cycle Time =  60


 Table S.8A - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
---
                                        Saturation Flow  End  Tot
  Lane   Mov    Dem Flow (veh/h)   Lane   Adj. Aver Aver  Cap  Cap  Deg.
Lane
  No.    No.  -------------------  Width Basic 1st  2nd  (veh (veh  Satn
Util
               Lef Thru  Rig  Tot   (m)  (tcu) (veh)(veh)  /h)  /h)   x
%
 ---------------------------------------------------------------------------
---
  South: Efron Avenue
  1 L      1   411    0    0  411  3.30  1950 1818     0    0  606 0.678
100
  2 LR     1,  151    0  627  778  3.30  1950 1813   893   60 1147 0.678
100
           3
 ---------------------------------------------------------------------------
---
  East: PR-693 Este
  1 L      4   259    0    0  259  3.30  1950 1817     0    0  394 0.658
100
  2 T      5     0  482    0  482  3.30  1950 1914     0    0 1021 0.472
100
 ---------------------------------------------------------------------------
---
  West: PR-693 Oeste
  1 T     10     0  336    0  336  3.30  1950 1913     0    0  478 0.703
100
  2 R     12     0    0  337  337  3.30  1950  904  1578<  60 1116 0.302
100
```


< Reduced saturation flow due to a short lane effect

Basic Saturation Flow in this table is adjusted for lane width, approach grade, parking manoeuvres and number of buses stopping. Saturation flow scale applies if specified.

PR-693 con Efron Ave.
Condicion futura, 2007, Hora picoPAM, semaforo
Intersection ID: 01
Fixed-Time Signals, Cycle Time = 60

Table S.8B - SCATS MF PARAMETER

Lane No.	Mov No.	Stopline Flow (veh/h)	Capacity (veh/h)	SCATS Satn Flow	SCATS MF	Deg. Satn x	Lane Util. %
South: Efron Avenue							
1 L	1	411	606	1857	1548	0.678	100
2 LR	1, 3	778	1147	1857	NA	0.678	100
East: PR-693 Este							
1 L	4	259	394	1857	1420	0.658	100
2 T	5	482	1021	1950	1733	0.472	100
West: PR-693 Oeste							
1 T	10	336	478	1950	1539	0.703	100
2 R	12	337	1116	1857	NA	0.302	100

NA Not Applicable - SCATS MF was not calculated for this lane due to one of the following reasons:
- the lane is not controlled by signals (slip or continuous lane)
- two movements share this lane and do not run in the same phases

STOPLINE FLOW: Departure flow rate in veh/h as measured at the stop line.
This cannot exceed capacity.

SCATS SATURATION FLOW: This allows for lane width, approach grade and turning vehicles. Saturation flow scale applies if specified.
The effects of heavy vehicles, parking manoeuvres, number of buses stopping and conflicting pedestrian volume are not included.

SCATS MF: This emulates the MF (Maximum Flow) parameter used in the SCATS control system. It is calculated from the SCATS SATURATION FLOW parameter.

DEG. SATN: The Demand (Arrival) Flow Rate may exceed the Stopline Flow Rate, therefore x > 1 is possible.

PR-693 con Efron Ave.
Condicion futura, 2007, Hora picoPAM, semaforo
Intersection ID: 01
Fixed-Time Signals, Cycle Time = 60

Table S.12A - FUEL CONSUMPTION, EMISSIONS AND COST - TOTAL

Mov No.	Fuel Total L/h	Cost Total $/h	HC Total kg/h	CO Total kg/h	NOX Total kg/h	CO2 Total kg/h
South: Efron Avenue						
1 L	45.8	294.32	0.199	9.31	0.271	114.6
3 R	48.6	288.34	0.207	10.10	0.295	121.7
	94.4	582.66	0.405	19.42	0.566	236.3
East: PR-693 Este						
4 L	22.0	151.57	0.097	4.36	0.127	55.1
5 T	32.6	194.11	0.131	5.81	0.186	81.5
	54.6	345.69	0.228	10.17	0.312	136.6
West: PR-693 Oeste						
10 T	27.4	175.07	0.118	5.52	0.161	68.7
12 R	24.5	140.81	0.101	4.90	0.148	61.4
	52.0	315.88	0.219	10.42	0.310	130.1
INTERSECTION:	200.9	1244.22	0.852	40.00	1.189	503.0

PARAMETERS USED IN COST CALCULATIONS

Pump price of fuel ($/L)	=	0.900
Fuel resource cost factor	=	0.50
Ratio of running cost to fuel cost	=	3.0
Average income ($/h)	=	27.00
Time value factor	=	0.60
Average occupancy (persons/veh)	=	1.5
Light vehicle mass (1000 kg)	=	1.4
Heavy vehicle mass (1000 kg)	=	11.0
Light vehicle idle fuel rate (L/h)	=	1.350
Heavy vehicle idle fuel rate (L/h)	=	2.000

The idle fuel and vehicle mass parameters given above are the default values (data given in RIDES may override some of these parameters).

PR-693 con Efron Ave.
Condicion futura, 2007, Hora picoPAM, semaforo
Intersection ID: 01
Fixed-Time Signals, Cycle Time = 60

Table S.14 - SUMMARY OF INPUT AND OUTPUT DATA

Lane No.	Demand Flow (veh/h) L	T	R	Tot	%HV	Adj. Basic Satf.	Eff Grn (secs) 1st	2nd	Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
South: Efron Avenue												
1 L	411			411	3	1950	20		0.678	28.1	16	
2 LR	151		627	778	3	1950	35	6	0.678	16.1	12	

```
         ---------------------------------------------------------------
         562    0  627  1189    3                 0.678   20.3    16
 ----------------------------------------------------------------------------
  East: PR-693 Este
 1 L     259             259    3  1950   13      0.658   33.3    13    50
 2 T          482        482    3  1950   32      0.472    9.5     9
         ---------------------------------------------------------------
         259  482    0   741    3                 0.658   17.8    13
 ----------------------------------------------------------------------------
  West: PR-693 Oeste
 1 T          336        336    3  1950   15      0.703   24.0    16
 2 R               337   337    3  1950    6  39  0.302   10.0     2   100
         ---------------------------------------------------------------
           0  336  337   673    3                 0.703   17.0    16
 ============================================================================
  ALL VEHICLES          Total   %       Cycle      Max   Aver.   Max
                        Flow   HV       Time        X    Delay  Queue
                        2603    3         60      0.703   18.7    16
 ============================================================================
 Total flow period = 60 minutes.  Peak flow period = 15 minutes.

 Queue values in this table are mean cycle-average queue (metres).

 Note: Basic Saturation Flows (in through car units) have been adjusted for
       grade, lane widths, parking manoeuvres and bus stops.
```

```
 PR-693 con Efron Ave.
 Condicion futura, 2007, Hora picoPAM, semaforo
 Intersection ID:    01
             Fixed-Time Signals, Cycle Time =  60


 Table S.15 - CAPACITY AND LEVEL OF SERVICE
 ----------------------------------------------------------------------------
---
  Mov     Mov    Green Time  Total  Total    Deg.   Aver.   LOS  Longest
Queue
  No.     Typ    Ratio (g/C) Flow    Cap.     of    Delay         Cycle
Aver.
                ------------ (veh   (veh     Satn                 (vehs)
(m)
                 1st   2nd     /h)    /h)    (v/c)  (sec)
                 grn   grn
 ----------------------------------------------------------------------------
---
 South: Efron Avenue
    1 L        0.333           562    828   0.678    24.9    C      2.2
16
    3 R  (Un2) 0.617* 0.100    627    924   0.678    16.1    B      1.7
12
                ---------------------------------------------------------
---
                              1189          0.678    20.3    C      2.2
16
 ----------------------------------------------------------------------------
---
 East: PR-693 Este
    4 L        0.217           259    394   0.658    33.3    C      1.8
13
    5 T        0.533           482   1021   0.472     9.5    A      1.3
9
```

```
                 ------------------------------------------------------------
---
                                741          0.658    17.8    B      1.8
13
 ---------------------------------------------------------------------------
---
 West: PR-693 Oeste
   10 T        0.250*          336    478   0.703*   24.0    C      2.2
16
   12 R  (Und) 0.100  0.650    337   1116<  0.302    10.0    A      0.2
2
                 ------------------------------------------------------------
---
                                673          0.703    17.0    B      2.2
16
 ---------------------------------------------------------------------------
---
   ALL VEHICLES:               2603          0.703    18.7    B      2.2
16
 ---------------------------------------------------------------------------
---
   INTERSECTION (persons):     3905                   18.7           2.2
16
 ---------------------------------------------------------------------------
---
      Level of Service calculations are based on
      average control delay including geometric delay (HCM criteria),
      independent of the current delay definition used.
      For the criteria, refer to the "Level of Service" topic in the
      aaSIDRA Output Guide or the Output section of the on-line help.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
```

PR-693 con Efron Ave.
Condicion futura, 2007, Hora picoPAM, semaforo
Intersection ID: 01

Table S.21 - VARIABLE CYCLE TIME RESULTS

Performance Measure	Smallest Value	Cycle Time
Degree of Satn	0.703	60
Average Delay	18.7	60
Stop Rate	0.80	60
Max. Queue for Any Movement	2.2	60
Perf. Index	60.8	60
Cost	1244.2	60

Performance Measure	Largest Value	Cycle Time
Eff. Inters. Cap.	3705	60
Prac. Spare Cap.	28	60

If an "optimum" cycle time solution is adopted for actuated signal purposes

ensure that vehicle-actuated settings reflect this solution in real life.

Consider using the "sensitivity analysis" facility to optimise maximum green settings for actuated signals.

PR-693 con Efron Ave.
Condicion futura, 2007, Hora picoPAM, semaforo
Intersection ID: 01
Fixed-Time Signals, Cycle Time = 60

Table D.0 - GEOMETRIC DELAY DATA

From Approach	To Approach	Negn Radius (m)	Negn Speed (km/h)	Negn Dist. (m)	Appr. Dist. (m)	Downstream Distance (m)
South: Efron Avenue						
	East	10.0	20.2	15.7	500	107
	West	8.4	18.9	13.2	500	105
East: PR-693 Este						
	South	8.4	18.9	13.2	500	105
	West	S	60.0	13.2	500	109
West: PR-693 Oeste						
	South	20.0	26.2	31.4	500	117
	East	S	60.0	13.2	500	109

Downstream Distance calculated by aaSIDRA

Downstream distance is distance travelled from the stopline until exit cruise speed is reached (includes negotiation distance). Acceleration distance is weighted for light and heavy vehicles. The same distance applies for both stopped and unstopped vehicles.

PR-693 con Efron Ave.
Condicion futura, 2007, Hora picoPAM, semaforo
Intersection ID: 01
Fixed-Time Signals, Cycle Time = 60

Table D.1 - LANE DELAYS

Lane No.	Mov No.	Deg. Satn x	Delay (seconds/veh) Stop-line Delay 1st d1	2nd d2	Total dSL	Acc. Dec. dn	Queuing Total dq	MvUp dqm	Stopd (Idle) di	Geom dig	Control dic
South: Efron Avenue											
1 L	1	0.678	19.1	0.6	19.7	3.6	16.1	0.3	15.8	8.4	28.1
2 LR	1, 3	0.678	7.8	0.0	7.8	2.8	5.0	1.2	3.9	8.4	16.1
										8.3	
East: PR-693 Este											
1 L	4	0.658	24.2	0.6	24.9	3.7	21.1	0.5	20.6	8.4	33.3

```
  2 T      5  0.472   9.5   0.0   9.5   5.7   3.8   0.0   3.8   0.0    9.5
 ---------------------------------------------------------------------------
_
  West: PR-693 Oeste
  1 T     10  0.703  22.9   1.1  24.0   8.3  15.8   0.7  15.1   0.0   24.0
  2 R     12  0.302   2.3   0.0   2.3   2.0   0.7   0.1   0.6   7.7   10.0
 ---------------------------------------------------------------------------
_
   dn is average stop-start delay for all vehicles queued and unqueued
```

```
 PR-693 con Efron Ave.
 Condicion futura, 2007, Hora picoPAM, semaforo
 Intersection ID:    01
            Fixed-Time Signals, Cycle Time =  60


 Table D.2 - LANE STOPS
 -------------------------------------------------------
                                                  Queue
        Deg.  -- Effective Stop Rate --   Prop. Move-up
 Lane   Satn              Geom. Overall  Queued  Rate
 No.      x    he1   he2   hig     h       pq     hqm
 -------------------------------------------------------
  South: Efron Avenue
  1 L   0.678  0.79  0.02  0.06   0.87    0.918   0.03
  2 LR  0.678  0.63  0.06  0.21   0.90    0.693   0.24
 -------------------------------------------------------
  East: PR-693 Este
  1 L   0.658  0.80  0.03  0.02   0.86    0.966   0.06
  2 T   0.472  0.59  0.00  0.00   0.59    0.668   0.00
 -------------------------------------------------------
  West: PR-693 Oeste
  1 T   0.703  0.82  0.05  0.00   0.86    0.965   0.08
  2 R   0.302  0.33  0.00  0.37   0.70    0.391   0.02
 -------------------------------------------------------
   hig is the average value for all movements in a shared lane
   hqm is average queue move-up rate for all vehicles queued and unqueued
```

```
 PR-693 con Efron Ave.
 Condicion futura, 2007, Hora picoPAM, semaforo
 Intersection ID:    01
            Fixed-Time Signals, Cycle Time =  60


 Table D.3A - LANE QUEUES (veh)
 ---------------------------------------------------------------------------
_
        Deg.  Ovrfl. Average (veh)          Percentile (veh)
Queue
  Lane   Satn  Queue -----------------  ----------------------------
Stor.
  No.      x    No     Nc1   Nc2    Nc    70%   85%   90%   95%   98%
Ratio
 ---------------------------------------------------------------------------
_
  South: Efron Avenue
  1 L   0.678   0.1    2.2   0.1   2.2    2.8   4.0   4.9   6.2   7.1
0.10
```

```
  2 LR  0.678   0.0    1.7   0.0   1.7    2.1   3.0   3.8   5.0   5.8
0.11
 ---------------------------------------------------------------------------
_
  East: PR-693 Este
  1 L   0.658   0.1    1.7   0.0   1.8    2.2   3.2   4.0   5.2   6.0
0.65
  2 T   0.472   0.0    1.3   0.0   1.3    1.6   2.3   2.9   4.0   4.7
0.08
 ---------------------------------------------------------------------------
_
  West: PR-693 Oeste
  1 T   0.703   0.1    2.1   0.1   2.2    2.8   4.0   4.9   6.2   7.1
0.08
  2 R   0.302   0.0    0.2   0.0   0.2    0.3   0.4   0.6   0.9   1.0
0.15
 ---------------------------------------------------------------------------
_

      Values printed in this table are cycle-average queues (vehicles).

_______________________________________________________________________________
____

 PR-693 con Efron Ave.
 Condicion futura, 2007, Hora picoPAM, semaforo
 Intersection ID:    01
            Fixed-Time Signals, Cycle Time =  60


 Table D.3B - LANE QUEUES (metres)
 ---------------------------------------------------------------------------
_
         Deg.  Ovrfl. Average (metres)       Percentile (metres)
Queue
  Lane   Satn  Queue -----------------  ----------------------------
Stor.
  No.      x    No     Nc1   Nc2    Nc    70%   85%   90%   95%   98%
Ratio
 ---------------------------------------------------------------------------
_
  South: Efron Avenue
  1 L   0.678     1     16     0    16     20    28    35    44    51
0.10
  2 LR  0.678     0     12     0    12     15    22    27    36    41
0.11
 ---------------------------------------------------------------------------
_
  East: PR-693 Este
  1 L   0.658     0     13     0    13     16    23    29    38    43
0.65
  2 T   0.472     0      9     0     9     11    17    21    29    33
0.08
 ---------------------------------------------------------------------------
_
  West: PR-693 Oeste
  1 T   0.703     1     15     1    16     20    28    35    44    51
0.08
  2 R   0.302     0      2     0     2      2     3     4     6     7
0.15
 ---------------------------------------------------------------------------
_

      Values printed in this table are cycle-average queues (metres).
```

PR-693 con Efron Ave.
Condicion futura, 2007, Hora picoPAM, semaforo
Intersection ID: 01
Fixed-Time Signals, Cycle Time = 60

Table D.4 - MOVEMENT SPEEDS (km/h)

Mov No.	App. Speeds Cruise	App. Speeds Negn	Exit Speeds Negn	Exit Speeds Cruise	Queue Move-up 1st Grn	Queue Move-up 2nd Grn	Av. Section Spd Running	Av. Section Spd Overall
South: Efron Avenue								
1	60.0	18.9	18.9	60.0	35.9	0.0	44.2	35.6
3	60.0	20.2	20.2	60.0		12.7	44.9	41.6
East: PR-693 Este								
4	60.0	18.9	18.9	60.0	26.6		44.6	31.3
5	60.0	60.0	60.0	60.0			51.9	47.6
West: PR-693 Oeste								
10	60.0	60.0	60.0	60.0	29.4		48.2	36.1
12	60.0	26.2	26.2	60.0	12.8		47.6	47.0

"Running Speed" is the average speed excluding stopped periods.

PR-693 con Efron Ave.
Condicion futura, 2007, Hora picoPAM, semaforo
Intersection ID: 01
Fixed-Time Signals, Cycle Time = 60

Table D.5 - PROGRESSION FACTORS & ACTUATED SIGNAL PARAMETERS

Mov No.	Control	Coord.	Arrival Type	Delay Prog. Factor	Queue Prog. Factor	Disp. Grn. Settings 1st Grn Gmin	1st Grn Gmax	2nd Grn Gmin	2nd Grn Gmax
South: Efron Avenue									
1	FT	No	3	1.000	1.000	6	NA		
3	FT	No	3	1.000	1.000	6	NA	6	NA
East: PR-693 Este									
4	FT	No	3	1.000	1.000	6	NA		
5	FT	No	3	1.000	1.000	6	NA		
West: PR-693 Oeste									
10	FT	No	3	1.000	1.000	6	NA		
12	FT	No	3	1.000	1.000	6	NA	6	NA

PR-693 con Efron Ave.
Condicion futura, 2007, Hora picoPAM, semaforo

Intersection ID: 01

Table V.21 - INTERSECTION SUMMARY FOR VARIABLE CYCLE TIME

Cycle Time (sec)	Eff. Int. Cap.	Intersn Deg. of Satn	Prac. Spare Cap.	Aver. Delay (sec)	Stop Rate	Longest Queue (veh)	Perf. Index	Cost Total $/h	Unsett
60	3705	0.703	28	18.7	0.80	2.2	60.8	1244.2	
70	3587	0.726	24	20.8	0.81	2.7	63.9	1283.5	
80	3408	0.764	18	23.3	0.81	3.3	67.7	1331.0	
90	3291	0.791	14	26.4	0.82	3.9	72.3	1390.1	
100	3112	0.836	8	30.5	0.84	5.1	78.5	1469.2	
110	3053	0.853	6	35.8	0.86	7.4	86.3	1569.9	
120	2949	0.883	2	40.8	0.87	9.2	93.9	1667.8	
130	2528	1.030	-13	53.2	0.91	13.1	112.3	1907.8	*
140	2345	1.110	-19	69.2	0.95	18.9	135.9	2214.0	*
150	2605	0.999	-10	50.6	0.88	12.3	108.1	1852.4	*

* UNSETTLED RESULTS - Solution for this case has some uncertainty.
Refer to the HELP system or the User Guide for further information.

--- End of aaSIDRA Output ---

E:\My Projects\Dorado-noviembre-2004-Dorado Office Park\0104pmsem.OUT
Produced by aaSIDRA 2.1.0.346
Copyright 2000-2004
Akcelik & Associates Pty Ltd

Generated 7:30 AM, 2 Dec 2004

```
                Akcelik & Associates Pty Ltd - aaSIDRA 2.1.0.346
               ---------------------------------------------------
               Traffic Consulting Group
               Carlos M. Contreras                 User ID: M0276
               Licence Type: Multi Computer

               Time and Date of Analysis    3:37 PM,  1 Dec 2004

 Filename: C:\My Projects\Dorado-noviembre-2004-Dorado Office
Park\0204amsem.OUT

 Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
 Condicion de futura, 2007, Hora Pico AM, semaforo
 Intersection ID:    02


 RUN INFORMATION
 ---------------
 Variable cycle time run: "Optimum" cycle time =  60 s

 * Basic Parameters:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   Default Values File No. 30
   Peak flow period (for performance): 15 minutes
   Unit time (for volumes): 60 minutes (Total Flow Period)
   Specified performance measure for "best" cycle time in variable run -
      Delay
   Delay definition: Control delay
                     Geometric delay included
   aaSIDRA Standard Delay and Queue models used
   Level of Service based on: Delay (HCM method)
   Queue definition: Cycle average queue, Average

 * No. of Main (Timing-Capacity) Iterations =  3
   Comparison of last two iterations:
     Difference in intersection degree of satn =  0.0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * If an "optimum" cycle time solution is adopted for actuated signal
purposes
   ensure that vehicle-actuated settings reflect this solution in real
life.
   Consider using the "sensitivity analysis" facility to optimise maximum
   green settings for actuated signals.

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 Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
 Condicion de futura, 2007, Hora Pico AM, semaforo
 Intersection ID:    02
            Fixed-Time Signals, Cycle Time =  60


 Table S.0 - TRAFFIC FLOW DATA
 ---------------------------------------------------------------------------
        Mov              Left       Through       Right     Flow   Peak
        No.           ---------    ---------    ---------   Scale  Flow
                       LV    HV     LV    HV     LV    HV          Factor
 ---------------------------------------------------------------------------
```

```
VEHICLES       Demand flows in veh/hour as used by the program
South: Ave Efron sur
         1            92     3      0     0      0     0   1.00   1.00
         2             0     0    318    10      0     0   1.00   1.00
         3             0     0      0     0    172     5   1.00   1.00
-----------------------------------------------------------------------
East: Ent. Dorado Office Park
         4            32     1      0     0      0     0   1.00   1.00
         5             0     0      5     1      0     0   1.00   1.00
         6             0     0      0     0     21     1   1.00   1.00
-----------------------------------------------------------------------
North: Ave. Efron Norte
         7           257     8      0     0      0     0   1.00   1.00
         8             0     0    519    16      0     0   1.00   1.00
         9             0     0      0     0     29     1   1.00   1.00
-----------------------------------------------------------------------
West: Paseo del Plata
        10            29     1      0     0      0     0   1.00   1.00
        11             0     0      5     1      0     0   1.00   1.00
        12             0     0      0     0     50     2   1.00   1.00
-----------------------------------------------------------------------
Based on unit time =  60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.
```

```
Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
Condicion de futura, 2007, Hora Pico AM, semaforo
Intersection ID:    02
            Fixed-Time Signals, Cycle Time =  60
```

Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS

```
-------------------------------------------------------------------------------
  Mov     Mov    P H A S E  M A T R I X    Lost Tim  Req.Mov.Time     Eff.
Grn
  No.     Typ  First Green   Second Green  --------  ------------     -----
---
               ------------  ------------  1st  2nd  1st      2nd     1st
2nd
               Fr To Op Pr   Fr To Op Pr   Grn  Grn  Grn      Grn     Grn
Grn
-------------------------------------------------------------------------------
---
 South: Ave Efron sur
    1 L        G  E                        4        10.0Min           11
    2 T        H  B                        4        13.3              16
    3 R  (Un2)*H  B          B  H  R       4    9   13.3     27.0     16
31
-------------------------------------------------------------------------------
---
 East: Ent. Dorado Office Park
    4 L        B  G  L                     4        10.0Min            6
    5 T        B  G                        4        10.0Min            6
    6 R  (Un1) G  B  R       B  G          11    4   20.0Min  10.0Min  39
6
-------------------------------------------------------------------------------
---
 North: Ave. Efron Norte
    7 L       *G  H                        4        19.5              26
    8 T        E  B                        4        13.8              31
    9 R  (Un2) E  B          B  E  R       4    6   13.0     20.0Min  31
19
```

```
 ---------------------------------------------------------------------------
---
 West: Paseo del Plata
   10 L        B  G  L                      4        10.0Min            6
   11 T        B  G                         4        10.0Min            6
   12 R  (Un1) G  B  R      *B  G           9    4   20.0Min  10.0Min  41
6
 ---------------------------------------------------------------------------
---
   Current Phase Sequence No.: 8
   Input phase sequence: G  E  H  B
   Output phase sequence: G  E  H  B
 ---------------------------------------------------------------------------
---
   *  Critical Movement/Green Period

 Movement Types:                             Under heading 'Op':
   Ped  Pedestrian                             L   "Left" turns are opposed
   Dum  Dummy                                  R   "Right" turns are opposed
   Und  Undetected in both green periods       LR  "Left and Right" opposed
   Un1  Undetected in 1st green period         C   "Constant" saturation
flow
   Un2  Undetected in 2nd green period

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 Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
 Condicion de futura, 2007, Hora Pico AM, semaforo
 Intersection ID:    02
            Fixed-Time Signals, Cycle Time =  60


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
----
  Mov      Dem           Satn Flow   Flow Ratio  Total Prac. Prac. Lane
Deg.
  No.      Flow         -----------   ---------   Cap. Deg.  Spare Util
Satn
           (veh    HV    1st   2nd    1st   2nd  (veh  Satn  Cap.
            /h)    (%)   Grn   Grn    Grn   Grn   /h)   xp    (%)   (%)
x
 ---------------------------------------------------------------------------
----
 South: Ave Efron sur
    1 L      95    3.2  1816        0.052         333  0.90   215   100
0.285
    2 T     328    3.0  2346        0.140         626  0.90    72   100
0.524
    3 R     177    2.8     0   654  0.140 0.270   338  0.90    72   100
0.523
 ---------------------------------------------------------------------------
----
 East: Ent. Dorado Office Park
    4 L      33    3.0  1830        0.018         183  0.90   399   100
0.180
    5 T       6   16.7   830        0.007          83  0.90  1145   100
0.072
    6 R      22    4.5   279  1227  0.000 0.018   304  0.90  1144   100
0.072
 ---------------------------------------------------------------------------
----
 North: Ave. Efron Norte
```

```
    7 L     265    3.0  1137<       0.233         493  0.90    67   100
0.538*
    8 T     535    3.0  3625        0.148        1873  0.90   215   100
0.286
    9 R      30    3.3   190    21  0.158 0.000   105  0.90   214   100
0.286
 ---------------------------------------------------------------------------
----
 West: Paseo del Plata
   10 L      30    3.3  1883        0.016         188  0.90   465   100
0.159
   11 T       6   16.7   535        0.011          54  0.90   703    70
0.112
   12 R      52    3.8   458  1503  0.000 0.035   463  0.90   702    70
0.112
 ---------------------------------------------------------------------------
----


_____________________________________________________________________________
____

 Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
 Condicion de futura, 2007, Hora Pico AM, semaforo
 Intersection ID:    02
            Fixed-Time Signals, Cycle Time =  60


 Table S.3 - INTERSECTION PARAMETERS
 ---------------------------------------------------------------------------
    Crit App.  Green   Phases   Adjusted    Adjusted   Required   Required
    Mov   &    Period  ------     Lost        Flow     Grn Time   Movement
    No.  Turn          Fr  To     Time        Ratio     Ratio       Time
 ---------------------------------------------------------------------------
      7  N_L           G   H        4        0.233      0.259       19.5
      3  S_R    1st    H   B        4        0.140      0.155       13.3
     12  W_R    2nd    B   G       10           -          -        10.0Min
                                   ----       ------     ------     ------
                           Total:   18        0.373      0.414       42.9
 ---------------------------------------------------------------------------
   -  Flow ratio not used for cycle time calculations and
      the adjusted lost time equals the required movement time
      (=Min or Max as shown in Table S.1)

    Cycle Time:
      Minimum   Maximum   Practical   Chosen
         30       150         31         60
      (Variable cycle times: Program-determined)

    Intersection Level of Service             =         B
    Worst movement Level of Service           =         D
    Average intersection delay (s)            =      16.6
    Largest average movement delay (s)        =      36.5
    Largest cycle-average queue, mean (m)     =        11
    Performance Index                         =     34.84
    Degree of saturation (highest)            =     0.538
    Practical Spare Capacity (lowest)         =        67 %
    Effective intersection capacity, (veh/h)  =      2936
    Total vehicle flow (veh/h)                =      1579
    Total person flow (pers/h)                =      2369
    Total vehicle delay (veh-h/h)             =      7.29
    Total person delay (pers-h/h)             =     10.94
    Total effective vehicle stops (veh/h)     =      1062
    Total effective person stops (pers/h)     =      1593
    Total vehicle travel (veh-km/h)           =     957.2
    Total cost ($/h)                          =    725.75
```

Total fuel (L/h) = 117.0
Total CO2 (kg/h) = 292.85

Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
Condicion de futura, 2007, Hora Pico AM, semaforo
Intersection ID: 02
Fixed-Time Signals, Cycle Time = 60

Table S.4 - PHASE INFORMATION

Phase No.	Change Time	Green Start	Displayed Green	Grn+Int Secs	grn Prop.
G	0	4	11	15	0.250
E	15	19	11	15	0.250
H	30	34	16	20	0.333
B	50	54	6	10	0.167

Current Phase Sequence No.: 8
Input phase sequence: G E H B
Output phase sequence: G E H B

Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
Condicion de futura, 2007, Hora Pico AM, semaforo
Intersection ID: 02
Fixed-Time Signals, Cycle Time = 60

Table S.5 - MOVEMENT PERFORMANCE

Mov No.	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue Cycle (vehs)	Longest Queue Aver. (m)	Perf. Index	Aver. Speed (km/h)
South: Ave Efron sur									
1 L	0.84	1.26	31.9	0.90	0.77	0.6	5	2.84	32.0
2 T	1.70	2.55	18.6	0.88	0.73	1.5	11	8.03	39.6
3 R	0.84	1.26	17.1	0.77	0.81	0.6	4	3.84	40.9
East: Ent. Dorado Office Park									
4 L	0.34	0.50	36.5	0.95	0.72	0.3	2	1.06	30.0
5 T	0.02	0.03	10.6	0.74	0.53	0.1	1	0.11	46.0
6 R	0.12	0.17	18.9	0.74	0.71	0.1	1	0.49	39.5
North: Ave. Efron Norte									
7 L	1.50	2.26	20.4	0.70	0.78	0.9	7	6.24	38.5
8 T	1.30	1.95	8.7	0.60	0.51	0.7	5	9.53	48.4
9 R	0.14	0.21	16.9	0.60	0.78	0.7	5	0.64	41.0
West: Paseo del Plata									
10 L	0.30	0.46	36.4	0.95	0.71	0.2	2	0.96	30.1
11 T	0.01	0.01	4.8	0.53	0.36	0.1	1	0.09	52.2
12 R	0.19	0.28	13.1	0.53	0.72	0.1	1	0.99	44.2

Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
Condicion de futura, 2007, Hora Pico AM, semaforo
Intersection ID: 02
Fixed-Time Signals, Cycle Time = 60

Table S.6 - INTERSECTION PERFORMANCE

Total Flow (veh/h)	Deg. Satn x	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue (m)	Perf. Index	Aver. Speed (km/h)
South: Ave Efron sur									
600	0.524	3.38	5.07	20.3	0.85	0.76	11	14.71	38.5
East: Ent. Dorado Office Park									
61	0.180	0.47	0.70	27.6	0.85	0.70	2	1.66	34.1
North: Ave. Efron Norte									
830	0.538	2.94	4.41	12.8	0.63	0.61	7	16.42	44.5
West: Paseo del Plata									
88	0.159	0.50	0.75	20.5	0.67	0.69	2	2.04	38.4
ALL VEHICLES:									
1579	0.538	7.29	10.94	16.6	0.73	0.67	11	34.84	41.2
INTERSECTION (persons):									
2369	0.538		10.94	16.6	0.73	0.67		34.84	41.2

Queue values in this table are mean cycle-average queue (metres).

Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
Condicion de futura, 2007, Hora Pico AM, semaforo
Intersection ID: 02
Fixed-Time Signals, Cycle Time = 60

Table S.7 - LANE PERFORMANCE

Lane No.	Mov No.	Effective Green Times (sec) R1	G1	R2	G2	Dem Flow (veh /h)	Cap (veh /h)	Deg. Satn x	Aver. Delay (sec)	Eff. Stop Rate	Queue Cycle (vehs)	Queue Aver. (m)	Shrt Lane (m)
South: Ave Efron sur													
1 L	1	49	11	0	0	95	333	0.285	31.9	0.77	0.6	5	50
2 T	2	44	16	0	0	267	510	0.524	20.9	0.75	1.5	11	
3 TR	2, 3	9	10	25	16	238	453	0.524	14.9	0.75	0.6	4	
East: Ent. Dorado Office Park													
1 L	4	54	6	0	0	33	183	0.180	36.5	0.72	0.3	2	
2 TR	5, 6	11	12	31	6	28	387	0.072	17.1	0.67	0.1	1	

```
 ---------------------------------------------------------------------------
----
  North: Ave. Efron Norte
  1 L      7   34  26    0   0    265  493 0.538   20.4  0.78   0.9    7
50
  2 T      8   29  31    0   0    282  988 0.286    8.9  0.51   0.7    5
  3 TR     8,  22  31    6   1    283  990 0.286    9.4  0.54   0.7    5
           9
 ---------------------------------------------------------------------------
----
  West: Paseo del Plata
  1 L     10,  54   6    0   0     30  188 0.159   36.4  0.71   0.2    2
          11
  2 TR    11,   9  25   20   6     58  517 0.112   12.3  0.68   0.1    1
          12
 ---------------------------------------------------------------------------
----
```

```
 Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
 Condicion de futura, 2007, Hora Pico AM, semaforo
 Intersection ID:    02
            Fixed-Time Signals, Cycle Time =  60


 Table S.8A - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
---
                                          Saturation Flow  End  Tot
  Lane   Mov    Dem Flow (veh/h)   Lane   Adj. Aver Aver  Cap  Cap  Deg.
Lane
  No.    No.  -------------------  Width Basic 1st  2nd  (veh (veh  Satn
Util
               Lef Thru  Rig  Tot   (m)  (tcu) (veh)(veh)  /h)  /h)   x
%
 ---------------------------------------------------------------------------
---
  South: Ave Efron sur
  1 L      1    95    0    0   95  3.30  1950 1816     0    0  333 0.285
100
  2 T      2     0  267    0  267  3.30  1950 1912     0    0  510 0.524
100
  3 TR     2,    0   61  177  238  3.30  1950  960  1101   60  453 0.524
100
           3
 ---------------------------------------------------------------------------
---
  East: Ent. Dorado Office Park
  1 L      4    33    0    0   33  3.30  1950 1830     0  132* 183 0.180
100
  2 TR     5,    0    6   22   28  3.30  1950 1041  1790   60  387 0.072
100
           6
 ---------------------------------------------------------------------------
---
  North: Ave. Efron Norte
  1 L      7   265    0    0  265  3.30  1950 1137<    0    0  493 0.538
100
  2 T      8     0  282    0  282  3.30  1950 1913     0    0  988 0.286
100
  3 TR     8,    0  253   30  283  3.30  1950 1902   427   60  990 0.286
100
           9
```

```
 ---------------------------------------------------------------------------
---
  West: Paseo del Plata
  1 L     10,   30    0    0   30  3.30  1950 1883     0  132* 188 0.159
100
          11
  2 TR    11,    0    6   52   58  3.30  1950  808  1802   60  517 0.112
70P
          12
 ---------------------------------------------------------------------------
---
   <  Reduced saturation flow due to a short lane effect
   *  Large end capacity has resulted in a saturation flow which is
      larger than the full unopposed saturation flow
   P  Lane under-utilisation found by the "Program"

   Basic Saturation Flow in this table is adjusted for lane width, approach
   grade, parking manoeuvres and number of buses stopping.  Saturation flow
   scale applies if specified.

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 Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
 Condicion de futura, 2007, Hora Pico AM, semaforo
 Intersection ID:    02
            Fixed-Time Signals, Cycle Time =  60


 Table S.8B - SCATS MF PARAMETER
 ----------------------------------------------------------
  Lane   Mov  Stopline Capacity  SCATS  SCATS   Deg.  Lane
  No.    No.    Flow   (veh/h)   Satn    MF     Satn  Util.
             (veh/h)            Flow             x     %
 ----------------------------------------------------------
  South: Ave Efron sur
  1 L      1      95     333     1857   1362   0.285   100
  2 T      2     267     510     1950   1560   0.524   100
  3 TR     2,    238     453     1880     NA   0.524   100
           3
 ----------------------------------------------------------
  East: Ent. Dorado Office Park
  1 L      4      33     183     1857   1114   0.180   100
  2 TR     5,     28     387     1876     NA   0.072   100
           6
 ----------------------------------------------------------
  North: Ave. Efron Norte
  1 L      7     265     493     1857   1610   0.538   100
  2 T      8     282     988     1950   1727   0.286   100
  3 TR     8,    283     990     1940     NA   0.286   100
           9
 ----------------------------------------------------------
  West: Paseo del Plata
  1 L     10,     30     188     1857   1114   0.159   100
          11
  2 TR    11,     58     517     1866     NA   0.112    70P
          12
 ----------------------------------------------------------
   NA Not Applicable - SCATS MF was not calculated for this lane due to one
      of the following reasons:
       - the lane is not controlled by signals (slip or continuous lane)
       - two movements share this lane and do not run in the same phases
   P  Lane under-utilisation found by the "Program"
```

STOPLINE FLOW: Departure flow rate in veh/h as measured at the stop line.
This cannot exceed capacity.

SCATS SATURATION FLOW: This allows for lane width, approach grade and turning vehicles. Saturation flow scale applies if specified. The effects of heavy vehicles, parking manoeuvres, number of buses stopping and conflicting pedestrian volume are not included.

SCATS MF: This emulates the MF (Maximum Flow) parameter used in the SCATS control system. It is calculated from the SCATS SATURATION FLOW parameter.

DEG. SATN: The Demand (Arrival) Flow Rate may exceed the Stopline Flow Rate, therefore x > 1 is possible.

Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
Condicion de futura, 2007, Hora Pico AM, semaforo
Intersection ID: 02
Fixed-Time Signals, Cycle Time = 60

Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY

Mov No.	Mov Typ	Dem Flow (veh/h)	Total Cap. (veh/h)	Lane Util (%)	Deg. Satn x	Eff. Grn 1st Grn	Eff. Grn 2nd Grn	Aver. Delay (sec)	Eff. Stop Rate	Cycle Average Queue (veh)	Perf. Index
South: Ave Efron sur											
1	L	95	333	100	0.285	11		31.9	0.77	0.6	2.84
2	T	328	626	100	0.524	16		18.6	0.73	1.5	8.03
3	R (Un2)	177	338	100	0.523	16*	31	17.1	0.81	0.6	3.84
East: Ent. Dorado Office Park											
4	L	33	183	100	0.180	6		36.5	0.72	0.3	1.06
5	T	6	83	100	0.072	6		10.6	0.53	0.1	0.11
6	R (Un1)	22	304	100	0.072	39	6	18.9	0.71	0.1	0.49
North: Ave. Efron Norte											
7	L	265	493<	100	0.538*	26*		20.4	0.78	0.9	6.24
8	T	535	1873	100	0.286	31		8.7	0.51	0.7	9.53
9	R (Un2)	30	105	100	0.286	31	19	16.9	0.78	0.7	0.64
West: Paseo del Plata											

```
   10 L          30   188   100  0.159    6        36.4  0.71    0.2
0.96
   11 T           6    54    70  0.112    6         4.8  0.36    0.1
0.09
   12 R  (Un1)   52   463    70  0.112   41    6*  13.1  0.72    0.1
0.99
 ---------------------------------------------------------------------------
--
   <  Reduced capacity due to a short lane effect
   *  Maximum degree of saturation, or critical green periods

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 Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
 Condicion de futura, 2007, Hora Pico AM, semaforo
 Intersection ID:    02
            Fixed-Time Signals, Cycle Time =  60


 Table S.14 - SUMMARY OF INPUT AND OUTPUT DATA
 ---------------------------------------------------------------------------
  Lane   Demand Flow (veh/h)       Adj.  Eff Grn   Deg   Aver. Longest Shrt
  No.   --------------------  %HV  Basic  (secs)   Sat   Delay  Queue  Lane
           L    T    R   Tot       Satf. 1st 2nd    x    (sec)   (m)   (m)
 ---------------------------------------------------------------------------
  South: Ave Efron sur
 1 L      95              95    3  1950   11      0.285   31.9     5    50
 2 T          267        267    3  1950   16      0.524   20.9    11
 3 TR          61  177   238    3  1950   10  16  0.524   14.9     4
         -------------------------------------------------------------------
          95  328  177   600    3                 0.524   20.3    11
 ---------------------------------------------------------------------------
  East: Ent. Dorado Office Park
 1 L      33              33    3  1950    6      0.180   36.5     2
 2 TR           6   22    28    7  1950   12   6  0.072   17.1     1
         -------------------------------------------------------------------
          33    6   22    61    5                 0.180   27.6     2
 ---------------------------------------------------------------------------
  North: Ave. Efron Norte
 1 L     265             265    3  1950   26      0.538   20.4     7    50
 2 T          282        282    3  1950   31      0.286    8.9     5
 3 TR         253   30   283    3  1950   31   1  0.286    9.4     5
         -------------------------------------------------------------------
         265  535   30   830    3                 0.538   12.8     7
 ---------------------------------------------------------------------------
  West: Paseo del Plata
 1 L      30              30    3  1950    6      0.159   36.4     2
 2 TR           6   52    58    5  1950   25   6  0.112   12.3     1
         -------------------------------------------------------------------
          30    6   52    88    5                 0.159   20.5     2
 ===========================================================================
  ALL VEHICLES          Total   %       Cycle      Max   Aver.   Max
                        Flow   HV       Time        X    Delay  Queue
                        1579    3         60      0.538   16.6    11
 ===========================================================================
 Total flow period = 60 minutes.  Peak flow period = 15 minutes.

 Queue values in this table are mean cycle-average queue (metres).

 Note: Basic Saturation Flows (in through car units) have been adjusted for
       grade, lane widths, parking manoeuvres and bus stops.

_____________________________________________________________________________
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```

Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
Condicion de futura, 2007, Hora Pico AM, semaforo
Intersection ID: 02
Fixed-Time Signals, Cycle Time = 60

Table S.15 - CAPACITY AND LEVEL OF SERVICE

Mov No.	Mov Typ	Green Time Ratio (g/C) 1st grn	2nd grn	Total Flow (veh/h)	Total Cap. (veh/h)	Deg. of Satn (v/c)	Aver. Delay (sec)	LOS	Longest Queue (vehs)	Aver. (m)
South: Ave Efron sur										
1	L	0.183		95	333	0.285	31.9	C	0.6	5
2	T	0.267		328	626	0.524	18.6	B	1.5	11
3	R (Un2)	0.267*	0.517	177	338	0.523	17.1	B	0.6	4
				600		0.524	20.3	C	1.5	11
East: Ent. Dorado Office Park										
4	L	0.100		33	183	0.180	36.5	D	0.3	2
5	T	0.100		6	83	0.072	10.6	B	0.1	1
6	R (Un1)	0.650	0.100	22	304	0.072	18.9	B	0.1	1
				61		0.180	27.6	C	0.3	2
North: Ave. Efron Norte										
7	L	0.433*		265	493<	0.538*	20.4	C	0.9	7
8	T	0.517		535	1873	0.286	8.7	A	0.7	5
9	R (Un2)	0.517	0.317	30	105	0.286	16.9	B	0.7	5
				830		0.538	12.8	B	0.9	7
West: Paseo del Plata										
10	L	0.100		30	188	0.159	36.4	D	0.2	2
11	T	0.100		6	54	0.112	4.8	A	0.1	1

```
   12 R  (Un1) 0.683  0.100*    52    463   0.112    13.1    B      0.1
1
               ------------------------------------------------------------
---
                                88          0.159    20.5    C      0.2
2
 ---------------------------------------------------------------------------
---
   ALL VEHICLES:              1579          0.538    16.6    B      1.5
11
 ---------------------------------------------------------------------------
---
   INTERSECTION (persons):    2369                   16.6           1.5
11
 ---------------------------------------------------------------------------
---
      Level of Service calculations are based on
      average control delay including geometric delay (HCM criteria),
      independent of the current delay definition used.
      For the criteria, refer to the "Level of Service" topic in the
      aaSIDRA Output Guide or the Output section of the on-line help.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
```

Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
Condicion de futura, 2007, Hora Pico AM, semaforo
Intersection ID: 02

Table S.21 - VARIABLE CYCLE TIME RESULTS

Performance Measure	Smallest Value	Cycle Time
Degree of Satn	0.538	60
Average Delay	16.6	60
Stop Rate	0.67	110
Max. Queue for Any Movement	1.5	60
Perf. Index	34.8	60
Cost	725.7	60

Performance Measure	Largest Value	Cycle Time
Eff. Inters. Cap.	2936	60
Prac. Spare Cap.	67	60

If an "optimum" cycle time solution is adopted for actuated signal purposes
ensure that vehicle-actuated settings reflect this solution in real life.
Consider using the "sensitivity analysis" facility to optimise maximum green settings for actuated signals.

Ave. Efron con Entrada Paseo del Plata y Dorado Office Park

Condicion de futura, 2007, Hora Pico AM, semaforo
Intersection ID: 02
Fixed-Time Signals, Cycle Time = 60

Table D.0 - GEOMETRIC DELAY DATA

From Approach	To Approach	Negn Radius (m)	Negn Speed (km/h)	Negn Dist. (m)	Appr. Dist. (m)	Downstream Distance (m)
South: Ave Efron sur						
	East	10.0	20.2	15.7	500	107
	North	S	60.0	18.5	500	109
	West	11.9	21.6	18.8	500	109
East: Ent. Dorado Office Park						
	South	14.2	23.1	22.3	500	111
	North	10.0	20.2	15.7	500	107
	West	S	60.0	22.8	500	109
North: Ave. Efron Norte						
	South	S	60.0	18.5	500	109
	East	12.4	21.9	19.5	500	109
	West	10.0	20.2	15.7	500	107
West: Paseo del Plata						
	South	10.0	20.2	15.7	500	107
	East	S	60.0	22.8	500	109
	North	13.8	22.8	21.7	500	111

Downstream Distance calculated by aaSIDRA

Downstream distance is distance travelled from the stopline until exit cruise speed is reached (includes negotiation distance). Acceleration distance is weighted for light and heavy vehicles. The same distance applies for both stopped and unstopped vehicles.

Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
Condicion de futura, 2007, Hora Pico AM, semaforo
Intersection ID: 02
Fixed-Time Signals, Cycle Time = 60

Table D.1 - LANE DELAYS

Lane No.	Mov No.	Deg. Satn x	Stop-line Delay 1st d1	2nd d2	Total dSL	Acc. Dec. dn	Queuing Total dq	MvUp dqm	Stopd (Idle) di	Geom dig	Control dic
South: Ave Efron sur											
1 L	1	0.285	23.8	0.0	23.8	3.9	19.9	0.0	19.9	8.2	31.9
2 T	2	0.524	20.9	0.0	20.9	7.7	13.1	0.0	13.1	0.0	20.9
3 TR	2, 3	0.524	8.8	0.0	8.8	4.0	4.9	0.0	4.9	0.0	14.9
										8.3	
East: Ent. Dorado Office Park											
1 L	4	0.180	28.5	0.0	28.5	4.3	24.2	0.0	24.2	8.0	36.5

```
  2 TR     5, 0.072  10.6   0.0  10.6   3.7   7.0   0.0   7.0   0.0   17.1
           6                                                     8.3
 ---------------------------------------------------------------------------
_
  North: Ave. Efron Norte
  1 L      7  0.538  12.3   0.0  12.3   3.1   9.2   0.0   9.2   8.1   20.4
  2 T      8  0.286   8.9   0.0   8.9   5.2   3.7   0.0   3.7   0.0    8.9
  3 TR     8, 0.286   8.6   0.0   8.6   4.8   3.7   0.2   3.6   0.0    9.4
           9                                                     8.3
 ---------------------------------------------------------------------------
_
  West: Paseo del Plata
  1 L     10, 0.159  28.4   0.0  28.4   4.2  24.1   0.0  24.1   8.0   36.4
          11                                                     0.0
  2 TR    11, 0.112   4.8   0.0   4.8   2.4   2.5   0.0   2.5   0.0   12.3
          12                                                     8.3
 ---------------------------------------------------------------------------
_
   dn is average stop-start delay for all vehicles queued and unqueued

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 Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
 Condicion de futura, 2007, Hora Pico AM, semaforo
 Intersection ID:    02
            Fixed-Time Signals, Cycle Time =  60


 Table D.3A - LANE QUEUES (veh)
 ---------------------------------------------------------------------------
_
         Deg.  Ovrfl. Average (veh)          Percentile (veh)
Queue
  Lane   Satn  Queue -----------------  ----------------------------
Stor.
  No.      x    No     Nc1   Nc2    Nc    70%   85%   90%   95%   98%
Ratio
 ---------------------------------------------------------------------------
_
  South: Ave Efron sur
  1 L   0.285   0.0    0.6   0.0   0.6    0.8   1.2   1.5   2.2   2.6
0.22
  2 T   0.524   0.0    1.5   0.0   1.5    1.9   2.8   3.5   4.7   5.4
0.06
  3 TR  0.524   0.0    0.6   0.0   0.6    0.7   1.1   1.4   2.1   2.5
0.03
 ---------------------------------------------------------------------------
_
  East: Ent. Dorado Office Park
  1 L   0.180   0.0    0.3   0.0   0.3    0.3   0.5   0.7   1.0   1.2
0.01
  2 TR  0.072   0.0    0.1   0.0   0.1    0.1   0.2   0.2   0.3   0.4
0.00
 ---------------------------------------------------------------------------
_
  North: Ave. Efron Norte
  1 L   0.538   0.0    0.9   0.0   0.9    1.1   1.7   2.2   3.1   3.6
0.46
  2 T   0.286   0.0    0.7   0.0   0.7    0.9   1.3   1.7   2.4   2.9
0.04
  3 TR  0.286   0.0    0.7   0.0   0.7    0.9   1.3   1.6   2.4   2.8
0.04
 ---------------------------------------------------------------------------
_
```

```
  West: Paseo del Plata
  1 L   0.159   0.0    0.2   0.0   0.2    0.3   0.5   0.6   0.9   1.1
0.01
  2 TR  0.112   0.0    0.1   0.0   0.1    0.1   0.2   0.2   0.3   0.4
0.01
 ---------------------------------------------------------------------------
-

      Values printed in this table are cycle-average queues (vehicles).

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 Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
 Condicion de futura, 2007, Hora Pico AM, semaforo
 Intersection ID:    02
            Fixed-Time Signals, Cycle Time =  60


 Table D.3B - LANE QUEUES (metres)
 ---------------------------------------------------------------------------
-
         Deg.  Ovrfl. Average (metres)       Percentile (metres)
Queue
  Lane   Satn  Queue ----------------  ----------------------------
Stor.
  No.      x    No     Nc1   Nc2    Nc    70%   85%   90%   95%   98%
Ratio
 ---------------------------------------------------------------------------
-
  South: Ave Efron sur
  1 L   0.285     0      5     0     5      6     9    11    16    19
0.22
  2 T   0.524     0     11     0    11     14    20    25    34    39
0.06
  3 TR  0.524     0      4     0     4      5     8    10    15    18
0.03
 ---------------------------------------------------------------------------
-
  East: Ent. Dorado Office Park
  1 L   0.180     0      2     0     2      2     4     5     7     9
0.01
  2 TR  0.072     0      1     0     1      1     1     2     2     3
0.00
 ---------------------------------------------------------------------------
-
  North: Ave. Efron Norte
  1 L   0.538     0      7     0     7      8    12    16    22    26
0.46
  2 T   0.286     0      5     0     5      6    10    12    18    21
0.04
  3 TR  0.286     0      5     0     5      6     9    12    17    20
0.04
 ---------------------------------------------------------------------------
-
  West: Paseo del Plata
  1 L   0.159     0      2     0     2      2     3     4     7     8
0.01
  2 TR  0.112     0      1     0     1      1     1     1     2     3
0.01
 ---------------------------------------------------------------------------
-

      Values printed in this table are cycle-average queues (metres).
```

Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
Condicion de futura, 2007, Hora Pico AM, semaforo
Intersection ID: 02

Table V.21 - INTERSECTION SUMMARY FOR VARIABLE CYCLE TIME

Cycle Time (sec)	Eff. Int. Cap.	Intersn Deg. of Satn	Prac. Spare Cap.	Aver. Delay (sec)	Stop Rate	Longest Queue (veh)	Perf. Index	Cost Total $/h	Unsett
60	2936	0.538	67	16.6	0.67	1.5	34.8	725.7	
70	2836	0.557	62	18.3	0.67	1.9	36.2	744.2	
80	2740	0.576	56	20.4	0.68	2.2	38.2	769.4	
90	2648	0.596	51	22.9	0.69	2.5	40.5	798.9	
100	2561	0.617	46	24.7	0.68	2.9	42.0	818.1	*
110	2478	0.637	41	26.2	0.67	3.2	43.2	834.1	*
120	2401	0.658	37	28.9	0.68	3.6	45.7	866.6	
130	2326	0.679	33	31.3	0.68	3.9	47.8	893.9	
140	2056	0.768	17	33.9	0.69	3.9	50.2	924.3	*
150	1945	0.812	11	37.2	0.70	4.2	53.1	961.9	*

* UNSETTLED RESULTS - Solution for this case has some uncertainty.
Refer to the HELP system or the User Guide for further information.

--- End of aaSIDRA Output ---

C:\My Projects\Dorado-noviembre-2004-Dorado Office Park\0204amsem.OUT
Produced by aaSIDRA 2.1.0.346
Copyright 2000-2004
Akcelik & Associates Pty Ltd

Generated 3:37 PM, 1 Dec 2004

```
                Akcelik & Associates Pty Ltd - aaSIDRA 2.1.0.346
               ---------------------------------------------------
               Traffic Consulting Group
               Carlos M. Contreras                 User ID: M0276
               Licence Type: Multi Computer

               Time and Date of Analysis    3:38 PM,  1 Dec 2004

 Filename: C:\My Projects\Dorado-noviembre-2004-Dorado Office
Park\0204pmsem.OUT

 Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
 Condicion de futura, 2007, Hora Pico PM, semaforo
 Intersection ID:    02


 RUN INFORMATION
 ---------------
 Variable cycle time run: "Optimum" cycle time =  60 s

 * Basic Parameters:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   Default Values File No. 30
   Peak flow period (for performance): 15 minutes
   Unit time (for volumes): 60 minutes (Total Flow Period)
   Specified performance measure for "best" cycle time in variable run -
      Delay
   Delay definition: Control delay
                     Geometric delay included
   aaSIDRA Standard Delay and Queue models used
   Level of Service based on: Delay (HCM method)
   Queue definition: Cycle average queue, Average

 * No. of Main (Timing-Capacity) Iterations =  2
   Comparison of last two iterations:
     Difference in intersection degree of satn =  0.0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * If an "optimum" cycle time solution is adopted for actuated signal
purposes
   ensure that vehicle-actuated settings reflect this solution in real
life.
   Consider using the "sensitivity analysis" facility to optimise maximum
   green settings for actuated signals.

 * Phasing reduced by aaSIDRA (phase E  deleted)
   See phase matrix (Table S.1)

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 Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
 Condicion de futura, 2007, Hora Pico PM, semaforo
 Intersection ID:    02
            Fixed-Time Signals, Cycle Time =  60


 Table S.0 - TRAFFIC FLOW DATA
 ---------------------------------------------------------------------------
        Mov              Left       Through       Right     Flow   Peak
```

```
       No.           ---------    ---------    ---------   Scale  Flow
                      LV    HV     LV    HV     LV    HV          Factor
 ---------------------------------------------------------------------
 VEHICLES       Demand flows in veh/hour as used by the program
 South: Ave Efron sur
         1            87     3      0     0      0     0   1.00   1.00
         2             0     0    501    16      0     0   1.00   1.00
         3             0     0      0     0     33     1   1.00   1.00
 ---------------------------------------------------------------------
 East: Ent. Dorado Office Park
         4           303     9      0     0      0     0   1.00   1.00
         5             0     0      5     1      0     0   1.00   1.00
         6             0     0      0     0    202     6   1.00   1.00
 ---------------------------------------------------------------------
 North: Ave. Efron Norte
         7            49     2      0     0      0     0   1.00   1.00
         8             0     0    629    19      0     0   1.00   1.00
         9             0     0      0     0     58     2   1.00   1.00
 ---------------------------------------------------------------------
 West: Paseo del Plata
        10           184     6      0     0      0     0   1.00   1.00
        11             0     0      5     1      0     0   1.00   1.00
        12             0     0      0     0    226     7   1.00   1.00
 ---------------------------------------------------------------------
 Based on unit time =  60 minutes.
 Flow Scale and Peak Hour Factor effects included in flow values.
```

```
 Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
 Condicion de futura, 2007, Hora Pico PM, semaforo
 Intersection ID:    02
            Fixed-Time Signals, Cycle Time =  60
```

Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS

```
 ---------------------------------------------------------------------------
---
  Mov     Mov    P H A S E  M A T R I X    Lost Tim  Req.Mov.Time     Eff.
Grn
  No.     Typ  First Green   Second Green  --------  ------------     -----
---
               ------------  ------------  1st  2nd  1st      2nd     1st
2nd
               Fr To Op Pr   Fr To Op Pr   Grn  Grn  Grn      Grn     Grn
Grn
 ---------------------------------------------------------------------------
---
 South: Ave Efron sur
    1 L       *G  H                        4        10.0Min            6
    2 T        H  B                        4        13.6              18
    3 R  (Un2) H  B          B  H  R       4    5   13.7     20.0Min  18
33
 ---------------------------------------------------------------------------
---
 East: Ent. Dorado Office Park
    4 L       *B  G  L                     4        20.6              24
    5 T        B  G                        4        10.0Min           24
    6 R  (Un1) G  B  R       B  G         11    4   20.0Min  10.0Min  21
24
 ---------------------------------------------------------------------------
---
 North: Ave. Efron Norte
    7 L        G  H                        4        10.0Min            6
```

```
    8 T        H  B                          4        16.3              18
    9 R  (Un2)*H  B          B  H  R         4    6   16.3     27.2     18
32
 ---------------------------------------------------------------------------
---
 West: Paseo del Plata
   10 L        B  G  L                       4        13.9              24
   11 T        B  G                          4        10.3              24
   12 R  (Un1) G  B  R       B  G           13    4   20.0Min  10.0Min  19
24
 ---------------------------------------------------------------------------
---
   Current Phase Sequence No.: 8
   Input phase sequence: G  E  H  B
   Output phase sequence: G  H  B
 ---------------------------------------------------------------------------
---
   *  Critical Movement/Green Period

 Movement Types:                              Under heading 'Op':
   Ped  Pedestrian                              L   "Left" turns are opposed
   Dum  Dummy                                   R   "Right" turns are opposed
   Und  Undetected in both green periods        LR  "Left and Right" opposed
   Un1  Undetected in 1st green period          C   "Constant" saturation
flow
   Un2  Undetected in 2nd green period

   Phasing reduced by aaSIDRA (phase E  deleted)
   See phase matrix above

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 Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
 Condicion de futura, 2007, Hora Pico PM, semaforo
 Intersection ID:    02
             Fixed-Time Signals, Cycle Time =  60


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
----
  Mov      Dem           Satn Flow   Flow Ratio  Total Prac. Prac. Lane
Deg.
  No.      Flow         -----------   ---------   Cap. Deg.  Spare Util
Satn
           (veh    HV    1st   2nd    1st   2nd  (veh  Satn  Cap.
            /h)    (%)   Grn   Grn    Grn   Grn   /h)   xp    (%)   (%)
x
 ---------------------------------------------------------------------------
----
 South: Ave Efron sur
    1 L      90    3.3  1814        0.050         181  0.90    81   100
0.496
    2 T     517    3.1  3602        0.144        1081  0.90    88   100
0.478
    3 R      34    2.9   212    14  0.160 0.000    71  0.90    89   100
0.477
 ---------------------------------------------------------------------------
----
 East: Ent. Dorado Office Park
    4 L     312    2.9  1253        0.249         501  0.90    45   100
0.623*
    5 T       6   16.7    72        0.083          29  0.90   332   100
0.208
```

```
    6 R     208    2.9   867  1752  0.000 0.119  1004  0.90   335   100
0.207
 ---------------------------------------------------------------------------
----
 North: Ave. Efron Norte
    7 L      51    3.9  1807        0.028         181  0.90   219   100
0.282
    8 T     648    2.9  3524        0.184        1057  0.90    47   100
0.613
    9 R      60    3.3   290    21  0.184 0.318    98  0.90    47   100
0.611
 ---------------------------------------------------------------------------
----
 West: Paseo del Plata
   10 L     190    3.2  1282        0.148         513  0.90   143   100
0.371
   11 T       6   16.7    63        0.095          25  0.90   278    64
0.238
   12 R     233    3.0   878  1758  0.000 0.133   981  0.90   279    64
0.237
 ---------------------------------------------------------------------------
----
```

```
 Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
 Condicion de futura, 2007, Hora Pico PM, semaforo
 Intersection ID:    02
            Fixed-Time Signals, Cycle Time =  60
```

Table S.3 - INTERSECTION PARAMETERS

Crit Mov No.	App. & Turn	Green Period	Phases Fr	Phases To	Adjusted Lost Time	Adjusted Flow Ratio	Required Grn Time Ratio	Required Movement Time
1	S_L		G	H	10	-	-	10.0Min
9	N_R	1st	H	B	4	0.184	0.204	16.3
4	E_L		B	G	4	0.249	0.277	20.6
				Total:	18	0.433	0.481	46.9

- Flow ratio not used for cycle time calculations and the adjusted lost time equals the required movement time (=Min or Max as shown in Table S.1)

Cycle Time:

Minimum	Maximum	Practical	Chosen
30	150	35	60

(Variable cycle times: Program-determined)

Intersection Level of Service	=	B
Worst movement Level of Service	=	D
Average intersection delay (s)	=	19.7
Largest average movement delay (s)	=	38.1
Largest cycle-average queue, mean (m)	=	14
Performance Index	=	56.89
Degree of saturation (highest)	=	0.623
Practical Spare Capacity (lowest)	=	45 %
Effective intersection capacity, (veh/h)	=	3783
Total vehicle flow (veh/h)	=	2355
Total person flow (pers/h)	=	3533
Total vehicle delay (veh-h/h)	=	12.87

```
   Total person delay (pers-h/h)             =     19.30
   Total effective vehicle stops (veh/h)     =      1804
   Total effective person stops (pers/h)     =      2706
   Total vehicle travel (veh-km/h)           =    1428.2
   Total cost ($/h)                          =   1143.41
   Total fuel (L/h)                          =     183.4
   Total CO2 (kg/h)                          =    459.13
```

```
Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
Condicion de futura, 2007, Hora Pico PM, semaforo
Intersection ID:    02
            Fixed-Time Signals, Cycle Time =  60
```

Table S.4 - PHASE INFORMATION

Phase No.	Change Time	Green Start	Displayed Green	Grn+Int Secs	grn Prop.
G	0	4	6	10	0.167
H	10	14	18	22	0.367
B	32	36	24	28	0.467

```
  Phasing reduced by aaSIDRA (phase E  deleted)
  See phase matrix (Table S.1)
  Current Phase Sequence No.: 8
  Input phase sequence: G  E  H  B
  Output phase sequence: G  H  B
```

```
Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
Condicion de futura, 2007, Hora Pico PM, semaforo
Intersection ID:    02
            Fixed-Time Signals, Cycle Time =  60
```

Table S.5 - MOVEMENT PERFORMANCE

Mov No.	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue Cycle (vehs)	Longest Queue Aver. (m)	Perf. Index	Aver. Speed (km/h)
South: Ave Efron sur									
1 L	0.95	1.43	38.1	0.99	0.77	0.7	5	2.99	29.4
2 T	2.65	3.97	18.5	0.86	0.73	1.4	10	12.61	39.8
3 R	0.25	0.37	26.1	0.86	0.82	1.4	10	0.91	34.9
East: Ent. Dorado Office Park									
4 L	2.10	3.15	24.3	0.85	0.84	1.4	10	8.12	36.1
5 T	0.00	0.00	1.8	0.35	0.21	0.1	1	0.07	55.4
6 R	0.58	0.87	10.1	0.35	0.73	0.1	1	3.62	46.9
North: Ave. Efron Norte									
7 L	0.53	0.79	37.2	0.96	0.74	0.4	3	1.66	29.7
8 T	3.49	5.23	19.4	0.91	0.78	2.0	14	16.33	39.1
9 R	0.45	0.67	27.0	0.91	0.84	1.8	13	1.65	34.5
West: Paseo del Plata									
10 L	1.17	1.75	22.1	0.75	0.79	0.7	5	4.67	37.4

```
   11 T     0.00     0.01     2.5   0.41  0.29    0.2     1    0.08   54.7
   12 R     0.70     1.04    10.8   0.41  0.74    0.2     1    4.16   46.2
 ---------------------------------------------------------------------------
```

```
 Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
 Condicion de futura, 2007, Hora Pico PM, semaforo
 Intersection ID:    02
            Fixed-Time Signals, Cycle Time =  60


 Table S.6 - INTERSECTION PERFORMANCE
 ---------------------------------------------------------------------------
  Total   Deg.   Total    Total   Aver.  Prop.  Eff. Longest Perf.   Aver.
  Flow    Satn   Delay    Delay   Delay Queued  Stop  Queue  Index   Speed
 (veh/h)   x   (veh-h/h)(pers-h/h)(sec)          Rate   (m)          (km/h)
 ---------------------------------------------------------------------------
 South: Ave Efron sur
   641   0.496    3.85     5.77    21.6   0.88  0.74    10   16.52    37.7
 ---------------------------------------------------------------------------
 East: Ent. Dorado Office Park
   526   0.623    2.69     4.03    18.4   0.65  0.79    10   11.82    39.9
 ---------------------------------------------------------------------------
 North: Ave. Efron Norte
   759   0.613    4.46     6.70    21.2   0.91  0.78    14   19.64    37.9
 ---------------------------------------------------------------------------
 West: Paseo del Plata
   429   0.371    1.87     2.80    15.7   0.56  0.76     5    8.91    41.9
 ---------------------------------------------------------------------------
 ALL VEHICLES:
  2355   0.623   12.87    19.30    19.7   0.78  0.77    14   56.89    39.0
 ---------------------------------------------------------------------------
 INTERSECTION (persons):
  3533   0.623            19.30    19.7   0.78  0.77         56.89    39.0
 ---------------------------------------------------------------------------
 Queue values in this table are mean cycle-average queue (metres).
```

```
 Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
 Condicion de futura, 2007, Hora Pico PM, semaforo
 Intersection ID:    02
            Fixed-Time Signals, Cycle Time =  60


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
----
              Effective Red and   Dem                           Q u e u e
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Eff.  Cycle Aver.
Shrt
  Lane   Mov  -----------------  (veh (veh  Satn  Delay  Stop  -----------
Lane
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)  Rate  (vehs) (m)
(m)
 ---------------------------------------------------------------------------
----
  South: Ave Efron sur
  1 L      1   54   6    0   0     90  181 0.496   38.1  0.77   0.7    5
50
  2 T      2   42  18    0   0    274  573 0.478   19.0  0.73   1.4   10
  3 TR     2,  36  18    5   1    277  578 0.478   18.9  0.74   1.4   10
```

```
          3
 ---------------------------------------------------------------------------
----
  East: Ent. Dorado Office Park
  1 L      4   36  24    0   0    312  501 0.622   24.3  0.84   1.4   10
  2 TR     5,  11  20    5  24    214 1033 0.207    9.8  0.72   0.1    1
           6
 ---------------------------------------------------------------------------
----
  North: Ave. Efron Norte
  1 L      7   54   6    0   0     51  181 0.282   37.2  0.74   0.4    3
50
  2 T      8   42  18    0   0    352  574 0.613   20.0  0.78   2.0   14
  3 TR     8,  35  18    6   1    356  581 0.613   20.1  0.79   1.8   13
           9
 ---------------------------------------------------------------------------
----
  West: Paseo del Plata
  1 L     10,  36  24    0   0    190  513 0.370   22.1  0.79   0.7    5
          11
  2 TR    11,  13  18    5  24    239 1007 0.237   10.5  0.73   0.2    1
          12
 ---------------------------------------------------------------------------
----


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 Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
 Condicion de futura, 2007, Hora Pico PM, semaforo
 Intersection ID:    02
             Fixed-Time Signals, Cycle Time =  60


 Table S.8A - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
---
                                          Saturation Flow  End  Tot
  Lane   Mov    Dem Flow (veh/h)   Lane   Adj. Aver Aver  Cap  Cap  Deg.
Lane
  No.    No.  -------------------  Width Basic 1st  2nd  (veh (veh  Satn
Util
               Lef Thru  Rig  Tot    (m)  (tcu) (veh)(veh)  /h)  /h)   x
%
 ---------------------------------------------------------------------------
---
  South: Ave Efron sur
  1 L      1    90    0    0   90  3.30  1950 1814     0    0  181 0.496
100
  2 T      2     0  274    0  274  3.30  1950 1912     0    0  573 0.478
100
  3 TR     2,    0  243   34  277  3.30  1950 1900   504   60  578 0.478
100
           3
 ---------------------------------------------------------------------------
---
  East: Ent. Dorado Office Park
  1 L      4   312    0    0  312  3.30  1950 1253     0  132  501 0.622
100
  2 TR     5,    0    6  208  214  3.30  1950  918  1818   60 1033 0.207
100
           6
 ---------------------------------------------------------------------------
---
  North: Ave. Efron Norte
```

```
  1 L      7    51    0    0   51  3.30  1950 1807     0    0  181 0.282
100
  2 T      8     0  352    0  352  3.30  1950 1914     0    0  574 0.613
100
  3 TR     8,    0  296   60  356  3.30  1950 1896   729   60  581 0.613
100
           9
 ---------------------------------------------------------------------------
---
  West: Paseo del Plata
  1 L     10,  190    0    0  190  3.30  1950 1282     0  132  513 0.370
100
          11
  2 TR    11,    0    6  233  239  3.30  1950  934  1817   60 1007 0.237
64P
          12
 ---------------------------------------------------------------------------
---
   P  Lane under-utilisation found by the "Program"

   Basic Saturation Flow in this table is adjusted for lane width, approach
   grade, parking manoeuvres and number of buses stopping.  Saturation flow
   scale applies if specified.

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 Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
 Condicion de futura, 2007, Hora Pico PM, semaforo
 Intersection ID:    02
             Fixed-Time Signals, Cycle Time =  60


 Table S.8B - SCATS MF PARAMETER
 ---------------------------------------------------------
  Lane   Mov  Stopline Capacity  SCATS  SCATS   Deg.  Lane
  No.    No.    Flow   (veh/h)   Satn    MF     Satn  Util.
              (veh/h)            Flow             x     %
 ---------------------------------------------------------
  South: Ave Efron sur
  1 L      1      90     181     1857   1114   0.496   100
  2 T      2     274     573     1950   1595   0.478   100
  3 TR     2,    277     578     1938     NA   0.478   100
           3
 ---------------------------------------------------------
  East: Ent. Dorado Office Park
  1 L      4     312     501     1857   1592   0.622   100
  2 TR     5,    214    1033     1860     NA   0.207   100
           6
 ---------------------------------------------------------
  North: Ave. Efron Norte
  1 L      7      51     181     1857   1114   0.282   100
  2 T      8     352     574     1950   1595   0.613   100
  3 TR     8,    356     581     1934     NA   0.613   100
           9
 ---------------------------------------------------------
  West: Paseo del Plata
  1 L     10,    190     513     1857   1592   0.370   100
          11
  2 TR    11,    239    1007     1859     NA   0.237    64P
          12
 ---------------------------------------------------------
   NA Not Applicable - SCATS MF was not calculated for this lane due to one
      of the following reasons:
       - the lane is not controlled by signals (slip or continuous lane)
```

- two movements share this lane and do not run in the same phases
P Lane under-utilisation found by the "Program"

STOPLINE FLOW: Departure flow rate in veh/h as measured at the stop line.
This cannot exceed capacity.

SCATS SATURATION FLOW: This allows for lane width, approach grade and turning vehicles. Saturation flow scale applies if specified.
The effects of heavy vehicles, parking manoeuvres, number of buses stopping and conflicting pedestrian volume are not included.

SCATS MF: This emulates the MF (Maximum Flow) parameter used in the SCATS
control system. It is calculated from the SCATS SATURATION FLOW parameter.

DEG. SATN: The Demand (Arrival) Flow Rate may exceed the Stopline Flow Rate, therefore x > 1 is possible.

Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
Condicion de futura, 2007, Hora Pico PM, semaforo
Intersection ID: 02
Fixed-Time Signals, Cycle Time = 60

Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY

Mov No.	Mov Typ	Dem Flow (veh/h)	Total Cap. (veh/h)	Lane Util (%)	Deg. Satn x	Eff. Grn 1st Grn	Eff. Grn 2nd Grn	Aver. Delay (sec)	Eff. Stop Rate	Cycle Average Queue (veh)	Perf. Index
South: Ave Efron sur											
1	L	90	181	100	0.496	6*		38.1	0.77	0.7	2.99
2	T	517	1081	100	0.478	18		18.5	0.73	1.4	12.61
3	R (Un2)	34	71	100	0.477	18	33	26.1	0.82	1.4	0.91
East: Ent. Dorado Office Park											
4	L	312	501	100	0.623*	24*		24.3	0.84	1.4	8.12
5	T	6	29	100	0.208	24		1.8	0.21	0.1	0.07
6	R (Un1)	208	1004	100	0.207	21	24	10.1	0.73	0.1	3.62
North: Ave. Efron Norte											
7	L	51	181	100	0.282	6		37.2	0.74	0.4	1.66
8	T	648	1057	100	0.613	18		19.4	0.78	2.0	16.33
9	R (Un2)	60	98	100	0.611	18*	32	27.0	0.84	1.8	1.65

```
 ---------------------------------------------------------------------------
--
 West: Paseo del Plata
   10 L         190   513   100  0.371   24        22.1  0.79    0.7
4.67
   11 T           6    25    64  0.238   24         2.5  0.29    0.2
0.08
   12 R  (Un1)  233   981    64  0.237   19   24   10.8  0.74    0.2
4.16
 ---------------------------------------------------------------------------
--
   *  Maximum degree of saturation, or critical green periods

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 Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
 Condicion de futura, 2007, Hora Pico PM, semaforo
 Intersection ID:    02
            Fixed-Time Signals, Cycle Time =  60


 Table S.14 - SUMMARY OF INPUT AND OUTPUT DATA
 ---------------------------------------------------------------------------
  Lane   Demand Flow (veh/h)       Adj.  Eff Grn   Deg   Aver. Longest Shrt
  No.   --------------------  %HV  Basic  (secs)   Sat   Delay  Queue  Lane
           L    T    R   Tot       Satf. 1st 2nd    x    (sec)   (m)   (m)
 ---------------------------------------------------------------------------
  South: Ave Efron sur
 1 L      90              90    3  1950    6      0.496   38.1     5    50
 2 T          274        274    3  1950   18      0.478   19.0    10
 3 TR         243   34   277    3  1950   18   1  0.478   18.9    10
         ------------------------------------------------------------------
          90  517   34   641    3                 0.496   21.6    10
 ---------------------------------------------------------------------------
  East: Ent. Dorado Office Park
 1 L     312             312    3  1950   24      0.622   24.3    10
 2 TR          6  208   214    3  1950   20  24  0.207    9.8     1
         ------------------------------------------------------------------
         312    6  208   526    3                 0.622   18.4    10
 ---------------------------------------------------------------------------
  North: Ave. Efron Norte
 1 L      51              51    4  1950    6      0.282   37.2     3    50
 2 T          352        352    3  1950   18      0.613   20.0    14
 3 TR         296   60   356    3  1950   18   1  0.613   20.1    13
         ------------------------------------------------------------------
          51  648   60   759    3                 0.613   21.2    14
 ---------------------------------------------------------------------------
  West: Paseo del Plata
 1 L     190             190    3  1950   24      0.370   22.1     5
 2 TR          6  233   239    3  1950   18  24  0.237   10.5     1
         ------------------------------------------------------------------
         190    6  233   429    3                 0.370   15.7     5
 ===========================================================================
  ALL VEHICLES          Total   %       Cycle      Max   Aver.   Max
                        Flow   HV       Time        X    Delay  Queue
                        2355    3         60      0.623   19.7    14
 ===========================================================================
 Total flow period = 60 minutes.  Peak flow period = 15 minutes.

 Queue values in this table are mean cycle-average queue (metres).

 Note: Basic Saturation Flows (in through car units) have been adjusted for
       grade, lane widths, parking manoeuvres and bus stops.
```

Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
Condicion de futura, 2007, Hora Pico PM, semaforo
Intersection ID: 02
Fixed-Time Signals, Cycle Time = 60

Table S.15 - CAPACITY AND LEVEL OF SERVICE

Mov No.	Mov Typ	Green Time Ratio (g/C) 1st grn	2nd grn	Total Flow (veh/h)	Total Cap. (veh/h)	Deg. of Satn (v/c)	Aver. Delay (sec)	LOS	Longest Queue Cycle (vehs)	Aver. (m)
South: Ave Efron sur										
1	L	0.100*		90	181	0.496	38.1	D	0.7	5
2	T	0.300		517	1081	0.478	18.5	B	1.4	10
3	R (Un2)	0.300	0.550	34	71	0.477	26.1	C	1.4	10
				641		0.496	21.6	C	1.4	10
East: Ent. Dorado Office Park										
4	L	0.400*		312	501	0.623*	24.3	C	1.4	10
5	T	0.400		6	29	0.208	1.8	A	0.1	1
6	R (Un1)	0.350	0.400	208	1004	0.207	10.1	B	0.1	1
				526		0.623	18.4	B	1.4	10
North: Ave. Efron Norte										
7	L	0.100		51	181	0.282	37.2	D	0.4	3
8	T	0.300		648	1057	0.613	19.4	B	2.0	14
9	R (Un2)	0.300*	0.533	60	98	0.611	27.0	C	1.8	13
				759		0.613	21.2	C	2.0	14
West: Paseo del Plata										
10	L	0.400		190	513	0.371	22.1	C	0.7	5

```
   11 T        0.400             6     25   0.238     2.5    A      0.2
1
   12 R  (Un1) 0.317  0.400    233    981   0.237    10.8    B      0.2
1
               ------------------------------------------------------------
---
                                429          0.371    15.7    B      0.7
5
 ---------------------------------------------------------------------------
---
   ALL VEHICLES:               2355          0.623    19.7    B      2.0
14
 ---------------------------------------------------------------------------
---
   INTERSECTION (persons):     3533                   19.7           2.0
14
 ---------------------------------------------------------------------------
---
      Level of Service calculations are based on
      average control delay including geometric delay (HCM criteria),
      independent of the current delay definition used.
      For the criteria, refer to the "Level of Service" topic in the
      aaSIDRA Output Guide or the Output section of the on-line help.
   *  Maximum v/c ratio, or critical green periods

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 Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
 Condicion de futura, 2007, Hora Pico PM, semaforo
 Intersection ID:    02


 Table S.21 - VARIABLE CYCLE TIME RESULTS
 -------------------------------------------
    Performance         Smallest       Cycle
      Measure            Value         Time
 -------------------------------------------
   Degree of Satn        0.561          130
   Average Delay          19.7           60
   Stop Rate              0.76          110
   Max. Queue for
         Any Movement      2.0           60
   Perf. Index            56.9           60
   Cost                 1143.4           60
 -------------------------------------------

    Performance         Largest        Cycle
      Measure            Value         Time
 -------------------------------------------
   Eff. Inters. Cap.      4197          130
   Prac. Spare Cap.         60          130
 -------------------------------------------

   If an "optimum" cycle time solution is adopted for actuated signal
purposes
   ensure that vehicle-actuated settings reflect this solution in real
life.
   Consider using the "sensitivity analysis" facility to optimise maximum
   green settings for actuated signals.

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Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
Condicion de futura, 2007, Hora Pico PM, semaforo
Intersection ID: 02
Fixed-Time Signals, Cycle Time = 60

Table D.0 - GEOMETRIC DELAY DATA

From Approach	To Approach	Negn Radius (m)	Negn Speed (km/h)	Negn Dist. (m)	Appr. Dist. (m)	Downstream Distance (m)
South: Ave Efron sur						
	East	10.0	20.2	15.7	500	107
	North	S	60.0	18.5	500	109
	West	11.9	21.6	18.8	500	109
East: Ent. Dorado Office Park						
	South	14.2	23.1	22.3	500	111
	North	10.0	20.2	15.7	500	107
	West	S	60.0	22.8	500	109
North: Ave. Efron Norte						
	South	S	60.0	18.5	500	109
	East	12.4	21.9	19.5	500	109
	West	10.0	20.2	15.7	500	107
West: Paseo del Plata						
	South	10.0	20.2	15.7	500	107
	East	S	60.0	22.8	500	109
	North	13.8	22.8	21.7	500	111

Downstream Distance calculated by aaSIDRA

Downstream distance is distance travelled from the stopline until exit cruise speed is reached (includes negotiation distance). Acceleration distance is weighted for light and heavy vehicles. The same distance applies for both stopped and unstopped vehicles.

Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
Condicion de futura, 2007, Hora Pico PM, semaforo
Intersection ID: 02
Fixed-Time Signals, Cycle Time = 60

Table D.1 - LANE DELAYS

Lane No.	Mov No.	Deg. Satn x	Delay (seconds/veh) Stop-line Delay 1st d1	2nd d2	Total dSL	Acc. Dec. dn	Queuing Total dq	MvUp dqm	Stopd (Idle) di	Geom dig	Control dic
South: Ave Efron sur											
1 L	1	0.496	29.9	0.0	29.9	4.2	25.7	0.0	25.7	8.2	38.1
2 T	2	0.478	19.0	0.0	19.0	7.4	11.6	0.0	11.6	0.0	19.0
3 TR	2, 3	0.478	17.8	0.0	17.8	6.9	10.9	0.1	10.8	0.0	18.9
										8.3	
East: Ent. Dorado Office Park											

```
  1 L      4  0.622  16.1   0.1  16.2   3.9  12.4   0.1  12.3   8.0   24.3
  2 TR     5, 0.207   1.8   0.0   1.8   1.5   0.5   0.0   0.5   0.0    9.8
           6                                                     8.3
 ---------------------------------------------------------------------------
_
  North: Ave. Efron Norte
  1 L      7  0.282  29.0   0.0  29.0   4.2  24.9   0.0  24.9   8.1   37.2
  2 T      8  0.613  20.0   0.0  20.0   7.8  12.2   0.0  12.2   0.0   20.0
  3 TR     8, 0.613  18.7   0.0  18.7   7.1  11.6   0.2  11.4   0.0   20.1
           9                                                     8.3
 ---------------------------------------------------------------------------
_
  West: Paseo del Plata
  1 L     10, 0.370  14.1   0.0  14.1   3.3  10.8   0.0  10.8   8.0   22.1
          11                                                     0.0
  2 TR    11, 0.237   2.5   0.0   2.5   1.7   0.9   0.0   0.9   0.0   10.5
          12                                                     8.3
 ---------------------------------------------------------------------------
_
   dn is average stop-start delay for all vehicles queued and unqueued

_____________________________________________________________________________
____

 Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
 Condicion de futura, 2007, Hora Pico PM, semaforo
 Intersection ID:    02
            Fixed-Time Signals, Cycle Time =  60


 Table D.3A - LANE QUEUES (veh)
 ---------------------------------------------------------------------------
_
         Deg.  Ovrfl. Average (veh)          Percentile (veh)
Queue
  Lane   Satn  Queue -----------------  ----------------------------
Stor.
  No.      x    No     Nc1   Nc2    Nc    70%   85%   90%   95%   98%
Ratio
 ---------------------------------------------------------------------------
_
  South: Ave Efron sur
  1 L   0.496   0.0    0.7   0.0   0.7    1.0   1.4   1.8   2.6   3.1
0.24
  2 T   0.478   0.0    1.4   0.0   1.4    1.8   2.6   3.3   4.4   5.2
0.06
  3 TR  0.478   0.0    1.4   0.0   1.4    1.7   2.5   3.2   4.3   4.9
0.06
 ---------------------------------------------------------------------------
_
  East: Ent. Dorado Office Park
  1 L   0.622   0.0    1.4   0.0   1.4    1.8   2.6   3.2   4.4   5.0
0.07
  2 TR  0.207   0.0    0.1   0.0   0.1    0.1   0.2   0.3   0.4   0.5
0.01
 ---------------------------------------------------------------------------
_
  North: Ave. Efron Norte
  1 L   0.282   0.0    0.4   0.0   0.4    0.5   0.8   1.0   1.5   1.8
0.13
  2 T   0.613   0.0    2.0   0.0   2.0    2.4   3.5   4.3   5.6   6.4
0.08
  3 TR  0.613   0.0    1.8   0.0   1.8    2.3   3.3   4.1   5.3   6.2
0.08
```

```
 ---------------------------------------------------------------------------
-
  West: Paseo del Plata
  1 L   0.370   0.0    0.7   0.0   0.7    0.9   1.4   1.8   2.6   3.0
0.04
  2 TR  0.237   0.0    0.2   0.0   0.2    0.2   0.3   0.4   0.6   0.8
0.02
 ---------------------------------------------------------------------------
-

      Values printed in this table are cycle-average queues (vehicles).

_____________________________________________________________________________
____

 Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
 Condicion de futura, 2007, Hora Pico PM, semaforo
 Intersection ID:    02
            Fixed-Time Signals, Cycle Time =  60


 Table D.3B - LANE QUEUES (metres)
 ---------------------------------------------------------------------------
-
         Deg.  Ovrfl. Average (metres)       Percentile (metres)
Queue
  Lane   Satn  Queue ----------------  ----------------------------
Stor.
  No.      x    No     Nc1   Nc2    Nc    70%   85%   90%   95%   98%
Ratio
 ---------------------------------------------------------------------------
-
  South: Ave Efron sur
  1 L   0.496     0      5     0     5      7    10    13    19    22
0.24
  2 T   0.478     0     10     0    10     13    19    24    32    37
0.06
  3 TR  0.478     0     10     0    10     12    18    23    31    36
0.06
 ---------------------------------------------------------------------------
-
  East: Ent. Dorado Office Park
  1 L   0.622     0     10     0    10     13    18    23    31    36
0.07
  2 TR  0.207     0      1     0     1      1     2     2     3     4
0.01
 ---------------------------------------------------------------------------
-
  North: Ave. Efron Norte
  1 L   0.282     0      3     0     3      4     6     7    11    13
0.13
  2 T   0.613     0     14     0    14     17    25    31    40    46
0.08
  3 TR  0.613     0     13     0    13     17    24    30    38    44
0.08
 ---------------------------------------------------------------------------
-
  West: Paseo del Plata
  1 L   0.370     0      5     0     5      7    10    13    19    22
0.04
  2 TR  0.237     0      1     0     1      2     2     3     5     6
0.02
 ---------------------------------------------------------------------------
-
```

Values printed in this table are cycle-average queues (metres).

Ave. Efron con Entrada Paseo del Plata y Dorado Office Park
Condicion de futura, 2007, Hora Pico PM, semaforo
Intersection ID: 02

Table V.21 - INTERSECTION SUMMARY FOR VARIABLE CYCLE TIME

Cycle Time (sec)	Eff. Int. Cap.	Intersn Deg. of Satn	Prac. Spare Cap.	Aver. Delay (sec)	Stop Rate	Longest Queue (veh)	Perf. Index	Cost Unsett Total $/h
60	3783	0.623	45	19.7	0.77	2.0	56.9	1143.4
70	3953	0.596	51	21.4	0.76	2.2	59.0	1171.5
80	3979	0.592	52	23.5	0.76	2.5	61.9	1208.1
90	4071	0.578	56	25.3	0.76	2.7	64.2	1238.5
100	4069	0.579	56	27.5	0.76	3.0	67.1	1276.0
110	4143	0.568	58	29.4	0.76	3.2	69.5	1307.9
120	4126	0.571	58	31.6	0.76	3.5	72.4	1344.9
130	4197	0.561	60	33.4	0.76	3.8	74.7	1375.7
140	4091	0.576	56	36.0	0.76	4.2	78.2	1421.3
150	4084	0.577	56	37.9	0.76	4.4	80.7	1453.6

--- End of aaSIDRA Output ---

C:\My Projects\Dorado-noviembre-2004-Dorado Office Park\0204pmsem.OUT
Produced by aaSIDRA 2.1.0.346
Copyright 2000-2004
Akcelik & Associates Pty Ltd

Generated 3:38 PM, 1 Dec 2004

```
                Akcelik & Associates Pty Ltd - aaSIDRA 2.1.0.346
               ---------------------------------------------------
               Traffic Consulting Group
               Carlos M. Contreras                 User ID: M0276
               Licence Type: Multi Computer

               Time and Date of Analysis    2:41 PM,  1 Dec 2004

 Filename: C:\My Projects\Dorado-noviembre-2004-Dorado Office
Park\0304amse.OUT

 PR-696 con Ave. Efron
 Condicion futura, 2007, Hora pico AM, semaforo
 Intersection ID:    03


 RUN INFORMATION
 ---------------
 Variable cycle time run: "Optimum" cycle time =  60 s

 * Basic Parameters:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   Default Values File No. 30
   Peak flow period (for performance): 15 minutes
   Unit time (for volumes): 60 minutes (Total Flow Period)
   Specified performance measure for "best" cycle time in variable run -
      Delay
   Delay definition: Control delay
                     Geometric delay included
   aaSIDRA Standard Delay and Queue models used
   Level of Service based on: Delay (HCM method)
   Queue definition: Cycle average queue, Average

 * No. of Main (Timing-Capacity) Iterations =  3
   Comparison of last two iterations:
     Difference in intersection degree of satn =  0.0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * If an "optimum" cycle time solution is adopted for actuated signal
purposes
   ensure that vehicle-actuated settings reflect this solution in real
life.
   Consider using the "sensitivity analysis" facility to optimise maximum
   green settings for actuated signals.

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 PR-696 con Ave. Efron
 Condicion futura, 2007, Hora pico AM, semaforo
 Intersection ID:    03
            Fixed-Time Signals, Cycle Time =  60


 Table S.0 - TRAFFIC FLOW DATA
 ---------------------------------------------------------------------------
       Mov              Left       Through       Right     Flow   Peak
       No.           ---------    ---------    ---------   Scale  Flow
                      LV    HV     LV    HV     LV    HV          Factor
 ---------------------------------------------------------------------------
```

```
VEHICLES       Demand flows in veh/hour as used by the program
East: PR-696 Este
         4             0     0    213     7      0     0   1.00   1.00
         6             0     0      0     0    230     7   1.00   1.00
-----------------------------------------------------------------------
North: Ave. Efron
         7           549    17      0     0      0     0   1.00   1.00
         9             0     0      0     0     46     1   1.00   1.00
-----------------------------------------------------------------------
West: PR-696 Oeste
        10           243     8      0     0      0     0   1.00   1.00
        11             0     0    556    17      0     0   1.00   1.00
-----------------------------------------------------------------------
Based on unit time =  60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.
```

```
PR-696 con Ave. Efron
Condicion futura, 2007, Hora pico AM, semaforo
Intersection ID:    03
            Fixed-Time Signals, Cycle Time =  60


Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS
-------------------------------------------------------------------------------
  Mov     Mov    P H A S E  M A T R I X    Lost Tim  Req.Mov.Time     Eff.
Grn
  No.     Typ  First Green   Second Green  --------  ------------     -----
---
               ------------  ------------  1st  2nd  1st      2nd     1st
2nd
               Fr To Op Pr   Fr To Op Pr   Grn  Grn  Grn      Grn     Grn
Grn
-------------------------------------------------------------------------------
---
East: PR-696 Este
    4 T       *J  F                        4        11.7              12
    6 R  (Un2) J  F          F  J  R       4   10   10.8     20.0Min  12
34
-------------------------------------------------------------------------------
---
North: Ave. Efron
    7 L        A  J                        4        15.1              17
    9 R  (Un1) J  A  R      *A  J         10    4   28.2     15.2     29
17
-------------------------------------------------------------------------------
---
West: PR-696 Oeste
   10 L       *F  A                        4        16.5              19
   11 T        J  A                        4        24.0              35
-------------------------------------------------------------------------------
---
   Current Phase Sequence No.: 9
   Input phase sequence: J  F  A
   Output phase sequence: J  F  A
-------------------------------------------------------------------------------
---
   *  Critical Movement/Green Period

Movement Types:                            Under heading 'Op':
   Ped  Pedestrian                           L   "Left" turns are opposed
   Dum  Dummy                                R   "Right" turns are opposed
```

```
   Und  Undetected in both green periods      LR  "Left and Right" opposed
   Un1  Undetected in 1st green period        C   "Constant" saturation
flow
   Un2  Undetected in 2nd green period
```

```
 PR-696 con Ave. Efron
 Condicion futura, 2007, Hora pico AM, semaforo
 Intersection ID:    03
            Fixed-Time Signals, Cycle Time =  60


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
----
  Mov      Dem           Satn Flow   Flow Ratio  Total Prac. Prac. Lane
Deg.
  No.      Flow         -----------   ---------   Cap. Deg.  Spare Util
Satn
           (veh    HV    1st   2nd    1st   2nd  (veh  Satn  Cap.
            /h)    (%)   Grn   Grn    Grn   Grn   /h)   xp    (%)   (%)
x
 ---------------------------------------------------------------------------
----
 East: PR-696 Este
    4 T     220    3.2  1910        0.115         382  0.90    56   100
0.576
    6 R     237    3.0   956<  928< 0.248 0.000   717  0.90   172   100
0.331
 ---------------------------------------------------------------------------
----
 North: Ave. Efron
    7 L     566    3.0  3394        0.167         962  0.90    53   100
0.589
    9 R      47    2.1    20   248  0.273 0.168    80  0.90    53   100
0.588
 ---------------------------------------------------------------------------
----
 West: PR-696 Oeste
   10 L     251    3.2  1337<       0.188         423  0.90    52   100
0.593*
   11 T     573    3.0  1913        0.300        1116  0.90    75   100
0.513
 ---------------------------------------------------------------------------
----
```

```
 PR-696 con Ave. Efron
 Condicion futura, 2007, Hora pico AM, semaforo
 Intersection ID:    03
            Fixed-Time Signals, Cycle Time =  60


 Table S.3 - INTERSECTION PARAMETERS
 ---------------------------------------------------------------------------
    Crit App.  Green   Phases   Adjusted    Adjusted   Required   Required
    Mov   &    Period  ------     Lost        Flow     Grn Time   Movement
    No.  Turn          Fr  To     Time        Ratio     Ratio       Time
 ---------------------------------------------------------------------------
      4  E_T           J   F        4        0.115      0.128       11.7
     10  W_L           F   A        4        0.188      0.209       16.5
```

```
     9  N_R    2nd    A   J        4        0.168      0.186       15.2
                                   ----     ------     ------     ------
                            Total:  12        0.470      0.523       43.4
-----------------------------------------------------------------------------

   Cycle Time:
     Minimum   Maximum   Practical   Chosen
        30       150         30         60
     (Variable cycle times: Program-determined)

   Intersection Level of Service             =         B
   Worst movement Level of Service           =         C
   Average intersection delay (s)            =      19.1
   Largest average movement delay (s)        =      28.4
   Largest cycle-average queue, mean (m)     =        12
   Performance Index                         =     44.45
   Degree of saturation (highest)            =     0.593
   Practical Spare Capacity (lowest)         =        52 %
   Effective intersection capacity, (veh/h)  =      3195
   Total vehicle flow (veh/h)                =      1894
   Total person flow (pers/h)                =      2841
   Total vehicle delay (veh-h/h)             =     10.07
   Total person delay (pers-h/h)             =     15.10
   Total effective vehicle stops (veh/h)     =      1382
   Total effective person stops (pers/h)     =      2073
   Total vehicle travel (veh-km/h)           =    1148.2
   Total cost ($/h)                          =    907.62
   Total fuel (L/h)                          =     144.2
   Total CO2 (kg/h)                          =    361.02
```

```
PR-696 con Ave. Efron
Condicion futura, 2007, Hora pico AM, semaforo
Intersection ID:    03
            Fixed-Time Signals, Cycle Time =  60


Table S.4 - PHASE INFORMATION
-------------------------------------------------
   Phase    Change   Green  Displayed  Grn+Intgrn
    No.      Time    Start    Green    Secs  Prop.
-------------------------------------------------
    J          0       4        12      16  0.267
    F         16      20        19      23  0.383
    A         39      43        17      21  0.350
-------------------------------------------------
  Current Phase Sequence No.: 9
  Input phase sequence: J  F  A
  Output phase sequence: J  F  A
```

```
PR-696 con Ave. Efron
Condicion futura, 2007, Hora pico AM, semaforo
Intersection ID:    03
            Fixed-Time Signals, Cycle Time =  60


Table S.5 - MOVEMENT PERFORMANCE
-----------------------------------------------------------------------------
  Mov      Total    Total   Aver.  Prop.  Eff. Longest Queue  Perf.  Aver.
  No.      Delay    Delay   Delay Queued  Stop  Cycle Aver.   Index  Speed
```

		(veh-h/h)	(pers-h/h)	(sec)		Rate	(vehs)	(m)		(km/h)
East: PR-696 Este										
4	T	1.50	2.24	24.5	0.95	0.78	1.5	11	6.17	35.9
6	R	0.64	0.95	9.7	0.31	0.72	0.1	1	4.07	47.3
North: Ave. Efron										
7	L	4.46	6.69	28.4	0.91	0.83	1.7	12	15.99	33.8
9	R	0.37	0.55	28.2	0.91	0.84	1.7	12	1.32	33.8
West: PR-696 Oeste										
10	L	1.83	2.74	26.2	0.84	0.80	1.3	9	6.74	34.9
11	T	1.28	1.92	8.0	0.64	0.57	1.3	9	10.16	49.1

PR-696 con Ave. Efron
Condicion futura, 2007, Hora pico AM, semaforo
Intersection ID: 03
Fixed-Time Signals, Cycle Time = 60

Table S.6 - INTERSECTION PERFORMANCE

Total Flow (veh/h)	Deg. Satn x	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue (m)	Perf. Index	Aver. Speed (km/h)
East: PR-696 Este									
457	0.576	2.13	3.20	16.8	0.62	0.75	11	10.24	41.0
North: Ave. Efron									
613	0.589	4.83	7.24	28.3	0.91	0.83	12	17.31	33.8
West: PR-696 Oeste									
824	0.593	3.11	4.67	13.6	0.70	0.64	9	16.90	43.7
ALL VEHICLES:									
1894	0.593	10.07	15.10	19.1	0.75	0.73	12	44.45	39.3
INTERSECTION (persons):									
2841	0.593		15.10	19.1	0.75	0.73		44.45	39.3

Queue values in this table are mean cycle-average queue (metres).

PR-696 con Ave. Efron
Condicion futura, 2007, Hora pico AM, semaforo
Intersection ID: 03
Fixed-Time Signals, Cycle Time = 60

Table S.7 - LANE PERFORMANCE

Lane	Mov	Effective Red and Green Times (sec)	Dem Flow (veh	Cap (veh	Deg. Satn	Aver. Delay	Eff. Stop	Queue Cycle	Queue Aver.	Shrt Lane

```
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)  Rate  (vehs) (m)
(m)
 ---------------------------------------------------------------------------
----
  East: PR-696 Este
  1 T      4   48  12    0   0    220  382 0.576   24.5  0.78   1.5   11
  2 R      6    4  12   10  34    237  717 0.331    9.7  0.72   0.1    1
50
 ---------------------------------------------------------------------------
----
  North: Ave. Efron
  1 L      7   43  17    0   0    303  515 0.589   28.7  0.83   1.7   12
  2 LR     7,  10   1   32  17    310  526 0.589   28.0  0.84   1.7   12
           9
 ---------------------------------------------------------------------------
----
  West: PR-696 Oeste
  1 L     10   41  19    0   0    251  423 0.593   26.2  0.80   1.3    9
50
  2 T     11   25  35    0   0    573 1116 0.513    8.0  0.57   1.3    9
 ---------------------------------------------------------------------------
----


____

 PR-696 con Ave. Efron
 Condicion futura, 2007, Hora pico AM, semaforo
 Intersection ID:    03
            Fixed-Time Signals, Cycle Time =  60


 Table S.8A - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
---
                                        Saturation Flow  End  Tot
  Lane   Mov    Dem Flow (veh/h)   Lane   Adj. Aver Aver  Cap  Cap  Deg.
Lane
  No.    No.  -------------------  Width Basic 1st  2nd  (veh (veh  Satn
Util
               Lef Thru  Rig  Tot   (m)  (tcu) (veh)(veh)  /h)  /h)   x
%
 ---------------------------------------------------------------------------
---
  East: PR-696 Este
  1 T      4     0  220    0  220  3.30  1950 1910     0    0  382 0.576
100
  2 R      6     0    0  237  237  3.30  1950  956<  928<  60  717 0.331
100
 ---------------------------------------------------------------------------
---
  North: Ave. Efron
  1 L      7   303    0    0  303  3.30  1950 1818     0    0  515 0.589
100
  2 LR     7,  263    0   47  310  3.30  1950  644  1820   60  526 0.589
100
           9
 ---------------------------------------------------------------------------
---
  West: PR-696 Oeste
  1 L     10   251    0    0  251  3.30  1950 1337<    0    0  423 0.593
100
  2 T     11     0  573    0  573  3.30  1950 1913     0    0 1116 0.513
100
```


< Reduced saturation flow due to a short lane effect

Basic Saturation Flow in this table is adjusted for lane width, approach grade, parking manoeuvres and number of buses stopping. Saturation flow scale applies if specified.

PR-696 con Ave. Efron
Condicion futura, 2007, Hora pico AM, semaforo
Intersection ID: 03
Fixed-Time Signals, Cycle Time = 60

Table S.8B - SCATS MF PARAMETER

Lane No.	Mov No.	Stopline Flow (veh/h)	Capacity (veh/h)	SCATS Satn Flow	SCATS MF	Deg. Satn x	Lane Util. %
East: PR-696 Este							
1 T	4	220	382	1950	1463	0.576	100
2 R	6	237	717	1857	1435	0.331	100
North: Ave. Efron							
1 L	7	303	515	1857	1503	0.589	100
2 LR	7, 9	310	526	1857	NA	0.589	100
West: PR-696 Oeste							
1 L	10	251	423	1857	1534	0.593	100
2 T	11	573	1116	1950	1750	0.513	100

NA Not Applicable - SCATS MF was not calculated for this lane due to one of the following reasons:
- the lane is not controlled by signals (slip or continuous lane)
- two movements share this lane and do not run in the same phases

STOPLINE FLOW: Departure flow rate in veh/h as measured at the stop line.
This cannot exceed capacity.

SCATS SATURATION FLOW: This allows for lane width, approach grade and turning vehicles. Saturation flow scale applies if specified.
The effects of heavy vehicles, parking manoeuvres, number of buses stopping and conflicting pedestrian volume are not included.

SCATS MF: This emulates the MF (Maximum Flow) parameter used in the SCATS control system. It is calculated from the SCATS SATURATION FLOW parameter.

DEG. SATN: The Demand (Arrival) Flow Rate may exceed the Stopline Flow Rate, therefore x > 1 is possible.

PR-696 con Ave. Efron
Condicion futura, 2007, Hora pico AM, semaforo
Intersection ID: 03
Fixed-Time Signals, Cycle Time = 60

Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY

Mov No.	Mov Typ	Dem Flow (veh /h)	Total Cap. (veh /h)	Lane Util (%)	Deg. Satn x	Eff. Grn 1st Grn	Eff. Grn 2nd Grn	Aver. Delay (sec)	Eff. Stop Rate	Cycle Average Queue (veh)	Perf. Index
East: PR-696 Este											
4	T	220	382	100	0.576	12*		24.5	0.78	1.5	6.17
6	R (Un2)	237	717<	100	0.331	12	34	9.7	0.72	0.1	4.07
North: Ave. Efron											
7	L	566	962	100	0.589	17		28.4	0.83	1.7	15.99
9	R (Un1)	47	80	100	0.588	29	17*	28.2	0.84	1.7	1.32
West: PR-696 Oeste											
10	L	251	423<	100	0.593*	19*		26.2	0.80	1.3	6.74
11	T	573	1116	100	0.513	35		8.0	0.57	1.3	10.16

< Reduced capacity due to a short lane effect
* Maximum degree of saturation, or critical green periods

PR-696 con Ave. Efron
Condicion futura, 2007, Hora pico AM, semaforo
Intersection ID: 03
Fixed-Time Signals, Cycle Time = 60

Table S.14 - SUMMARY OF INPUT AND OUTPUT DATA

Lane No.	Demand Flow (veh/h) L	T	R	Tot	%HV	Adj. Basic Satf.	Eff Grn (secs) 1st	2nd	Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
East: PR-696 Este												
1 T		220		220	3	1950	12		0.576	24.5	11	
2 R			237	237	3	1950	12	34	0.331	9.7	1	50
	0	220	237	457	3				0.576	16.8	11	
North: Ave. Efron												
1 L	303			303	3	1950	17		0.589	28.7	12	
2 LR	263		47	310	3	1950	1	17	0.589	28.0	12	
	566	0	47	613	3				0.589	28.3	12	
West: PR-696 Oeste												

```
 1 L     251             251    3  1950   19      0.593   26.2     9    50
 2 T          573        573    3  1950   35      0.513    8.0     9
         ---------------------------------------------------------------
         251  573    0   824    3                 0.593   13.6     9
 ==========================================================================
  ALL VEHICLES          Total   %       Cycle      Max   Aver.   Max
                        Flow   HV       Time        X    Delay  Queue
                        1894    3         60      0.593   19.1    12
 ==========================================================================
 Total flow period = 60 minutes.  Peak flow period = 15 minutes.

 Queue values in this table are mean cycle-average queue (metres).

 Note: Basic Saturation Flows (in through car units) have been adjusted for
       grade, lane widths, parking manoeuvres and bus stops.

_____________________________________________________________________________
____

 PR-696 con Ave. Efron
 Condicion futura, 2007, Hora pico AM, semaforo
 Intersection ID:    03
            Fixed-Time Signals, Cycle Time =  60


 Table S.15 - CAPACITY AND LEVEL OF SERVICE
 ---------------------------------------------------------------------------
---
  Mov     Mov    Green Time  Total  Total    Deg.   Aver.   LOS  Longest
Queue
  No.     Typ    Ratio (g/C) Flow    Cap.     of    Delay         Cycle
Aver.
                ------------ (veh   (veh     Satn                 (vehs)
(m)
                 1st   2nd     /h)    /h)    (v/c)  (sec)
                 grn   grn
 ---------------------------------------------------------------------------
---
 East: PR-696 Este
    4 T        0.200*          220    382   0.576    24.5    C      1.5
11
    6 R  (Un2) 0.200  0.567    237    717<  0.331     9.7    A      0.1
1
               ------------------------------------------------------------
---
                               457          0.576    16.8    B      1.5
11
 ---------------------------------------------------------------------------
---
 North: Ave. Efron
    7 L        0.283           566    962   0.589    28.4    C      1.7
12
    9 R  (Un1) 0.483  0.283*    47     80   0.588    28.2    C      1.7
12
               ------------------------------------------------------------
---
                               613          0.589    28.3    C      1.7
12
 ---------------------------------------------------------------------------
---
 West: PR-696 Oeste
   10 L        0.317*          251    423<  0.593*   26.2    C      1.3
9
   11 T        0.583           573   1116   0.513     8.0    A      1.3
9
```

```
                 ------------------------------------------------------------
---
                                824          0.593    13.6    B      1.3
9
 ---------------------------------------------------------------------------
---
   ALL VEHICLES:               1894          0.593    19.1    B      1.7
12
 ---------------------------------------------------------------------------
---
   INTERSECTION (persons):     2841                   19.1           1.7
12
 ---------------------------------------------------------------------------
---
      Level of Service calculations are based on
      average control delay including geometric delay (HCM criteria),
      independent of the current delay definition used.
      For the criteria, refer to the "Level of Service" topic in the
      aaSIDRA Output Guide or the Output section of the on-line help.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
```

PR-696 con Ave. Efron
Condicion futura, 2007, Hora pico AM, semaforo
Intersection ID: 03

Table S.21 - VARIABLE CYCLE TIME RESULTS

Performance Measure	Smallest Value	Cycle Time
Degree of Satn	0.593	60
Average Delay	19.1	60
Stop Rate	0.71	100
Max. Queue for Any Movement	1.7	60
Perf. Index	44.4	60
Cost	907.6	60

Performance Measure	Largest Value	Cycle Time
Eff. Inters. Cap.	3195	60
Prac. Spare Cap.	52	60

If an "optimum" cycle time solution is adopted for actuated signal purposes
ensure that vehicle-actuated settings reflect this solution in real life.
Consider using the "sensitivity analysis" facility to optimise maximum green settings for actuated signals.

PR-696 con Ave. Efron
Condicion futura, 2007, Hora pico AM, semaforo
Intersection ID: 03

Fixed-Time Signals, Cycle Time = 60

Table D.0 - GEOMETRIC DELAY DATA

From Approach	To Approach	Negn Radius (m)	Negn Speed (km/h)	Negn Dist. (m)	Appr. Dist. (m)	Downstream Distance (m)
East: PR-696 Este						
	North	10.0	20.2	15.7	500	107
	West	S	60.0	19.5	500	109
North: Ave. Efron						
	East	12.9	22.2	20.3	500	110
	West	10.0	20.2	15.7	500	107
West: PR-696 Oeste						
	East	S	60.0	19.5	500	109
	North	10.6	20.6	16.6	500	107

Downstream Distance calculated by aaSIDRA

Downstream distance is distance travelled from the stopline until exit cruise speed is reached (includes negotiation distance). Acceleration distance is weighted for light and heavy vehicles. The same distance applies for both stopped and unstopped vehicles.

PR-696 con Ave. Efron
Condicion futura, 2007, Hora pico AM, semaforo
Intersection ID: 03
Fixed-Time Signals, Cycle Time = 60

Table D.1 - LANE DELAYS

Lane No.	Mov No.	Deg. Satn x	Stop-line Delay 1st d1	2nd d2	Total dSL	Acc. Dec. dn	Queuing Total dq	MvUp dqm	Stopd (Idle) di	Geom dig	Control dic
			Delay (seconds/veh)								
East: PR-696 Este											
1 T	4	0.576	24.5	0.0	24.5	8.2	16.3	0.0	16.3	0.0	24.5
2 R	6	0.331	1.4	0.0	1.4	1.3	0.3	0.0	0.3	8.3	9.7
North: Ave. Efron											
1 L	7	0.589	20.6	0.0	20.6	4.0	16.6	0.0	16.6	8.1	28.7
2 LR	7, 9	0.589	19.9	0.0	19.9	4.0	15.9	0.3	15.6	8.1 8.3	28.0
West: PR-696 Oeste											
1 L	10	0.593	18.0	0.0	18.0	3.5	14.5	0.0	14.5	8.3	26.2
2 T	11	0.513	8.0	0.0	8.0	5.5	2.6	0.0	2.6	0.0	8.0

dn is average stop-start delay for all vehicles queued and unqueued

PR-696 con Ave. Efron
Condicion futura, 2007, Hora pico AM, semaforo
Intersection ID: 03
Fixed-Time Signals, Cycle Time = 60

Table D.3A - LANE QUEUES (veh)

Lane No.	Deg. Satn x	Ovrfl. Queue No	Average (veh) Nc1	Nc2	Nc	Percentile (veh) 70%	85%	90%	95%	98%	Queue Stor. Ratio
East: PR-696 Este											
1 T	0.576	0.0	1.5	0.0	1.5	1.9	2.7	3.4	4.6	5.3	0.05
2 R	0.331	0.0	0.1	0.0	0.1	0.1	0.2	0.2	0.4	0.4	0.14
North: Ave. Efron											
1 L	0.589	0.0	1.7	0.0	1.7	2.2	3.1	3.9	5.1	5.9	0.07
2 LR	0.589	0.0	1.7	0.0	1.7	2.1	3.1	3.9	5.0	5.8	0.07
West: PR-696 Oeste											
1 L	0.593	0.0	1.3	0.0	1.3	1.6	2.3	2.9	4.0	4.6	0.53
2 T	0.513	0.0	1.3	0.0	1.3	1.6	2.4	3.0	4.0	4.7	0.09

Values printed in this table are cycle-average queues (vehicles).

PR-696 con Ave. Efron
Condicion futura, 2007, Hora pico AM, semaforo
Intersection ID: 03
Fixed-Time Signals, Cycle Time = 60

Table D.3B - LANE QUEUES (metres)

Lane No.	Deg. Satn x	Ovrfl. Queue No	Average (metres) Nc1	Nc2	Nc	Percentile (metres) 70%	85%	90%	95%	98%	Queue Stor. Ratio

```
  East: PR-696 Este
  1 T   0.576     0     11     0    11     13    20    25    33    38
0.05
  2 R   0.331     0      1     0     1      1     1     2     3     3
0.14
 ---------------------------------------------------------------------------
_
  North: Ave. Efron
  1 L   0.589     0     12     0    12     16    22    28    37    42
0.07
  2 LR  0.589     0     12     0    12     15    22    28    36    42
0.07
 ---------------------------------------------------------------------------
_
  West: PR-696 Oeste
  1 L   0.593     0      9     0     9     11    17    21    29    33
0.53
  2 T   0.513     0      9     0     9     12    17    21    29    34
0.09
 ---------------------------------------------------------------------------
_

      Values printed in this table are cycle-average queues (metres).

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 PR-696 con Ave. Efron
 Condicion futura, 2007, Hora pico AM, semaforo
 Intersection ID:    03


 Table V.21 - INTERSECTION SUMMARY FOR VARIABLE CYCLE TIME
 ---------------------------------------------------------------------------
----
        Cycle  Eff.  Intersn  Prac.  Aver.  Stop  Longest  Perf.   Cost
Unsett
        Time   Int.  Deg. of  Spare  Delay  Rate   Queue   Index   Total
        (sec)  Cap.    Satn    Cap.  (sec)         (veh)           $/h
 ---------------------------------------------------------------------------
----
          60   3195   0.593     52    19.1  0.73     1.7    44.4   907.6
          70   3054   0.620     45    21.0  0.72     2.1    46.3   932.6
          80   2878   0.658     37    23.0  0.72     2.4    48.3   958.9
          90   2770   0.684     32    25.2  0.71     2.9    50.6   988.7
         100   2685   0.705     28    27.3  0.71     3.3    52.9  1018.3
         110   2541   0.745     21    29.9  0.71     3.6    55.6  1053.8
         120   2511   0.754     19    32.7  0.71     4.1    58.6  1092.4
         130   2436   0.777     16    35.7  0.72     4.7    61.8  1134.2
         140   2349   0.806     12    38.6  0.72     5.0    64.9  1173.9
         150   2302   0.823      9    41.9  0.73     5.6    68.3  1218.9

                        --- End of aaSIDRA Output ---

 C:\My Projects\Dorado-noviembre-2004-Dorado Office Park\0304amse.OUT
 Produced by aaSIDRA 2.1.0.346
 Copyright 2000-2004
 Akcelik & Associates Pty Ltd

 Generated   2:41 PM,  1 Dec 2004
```

```
                Akcelik & Associates Pty Ltd - aaSIDRA 2.1.0.346
               ---------------------------------------------------
               Traffic Consulting Group
               Carlos M. Contreras                 User ID: M0276
               Licence Type: Multi Computer

               Time and Date of Analysis    2:42 PM,  1 Dec 2004

 Filename: C:\My Projects\Dorado-noviembre-2004-Dorado Office
Park\0304pmse.OUT

 PR-696 con Ave. Efron
 Condicion futura, 2007, Hora pico PM
 Intersection ID:    03


 RUN INFORMATION
 ---------------
 Variable cycle time run: "Optimum" cycle time =  80 s

 * Basic Parameters:
   Intersection Type: Signalised - Actuated Isolated
   Fixed time (pretimed) timing and performance models were used at
   this intersection because all movements were specified as fixed time.
   Driving on the right-hand side of the road
   Input data specified in Metric units
   Default Values File No. 30
   Peak flow period (for performance): 15 minutes
   Unit time (for volumes): 60 minutes (Total Flow Period)
   Specified performance measure for "best" cycle time in variable run -
      Delay
   Delay definition: Control delay
                     Geometric delay included
   aaSIDRA Standard Delay and Queue models used
   Level of Service based on: Delay (HCM method)
   Queue definition: Cycle average queue, Average

 * No. of Main (Timing-Capacity) Iterations =  1
   Comparison of last two iterations:
     Difference in intersection degree of satn =  0.0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * If an "optimum" cycle time solution is adopted for actuated signal
purposes
   ensure that vehicle-actuated settings reflect this solution in real
life.
   Consider using the "sensitivity analysis" facility to optimise maximum
   green settings for actuated signals.

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 PR-696 con Ave. Efron
 Condicion futura, 2007, Hora pico PM
 Intersection ID:    03
            Actuated Isolated Signals, Cycle Time =  80


 Table S.0 - TRAFFIC FLOW DATA
 ---------------------------------------------------------------------------
       Mov              Left       Through       Right     Flow   Peak
       No.           ---------    ---------    ---------   Scale  Flow
```

```
                      LV    HV     LV    HV     LV    HV          Factor
 ---------------------------------------------------------------------
 VEHICLES       Demand flows in veh/hour as used by the program
 East: PR-696 Este
         4             0     0    589    18      0     0   1.00   1.00
         6             0     0      0     0    307    10   1.00   1.00
 ---------------------------------------------------------------------
 North: Ave. Efron
         7           937    29      0     0      0     0   1.00   1.00
         9             0     0      0     0    203     6   1.00   1.00
 ---------------------------------------------------------------------
 West: PR-696 Oeste
        10           102     3      0     0      0     0   1.00   1.00
        11             0     0    167     5      0     0   1.00   1.00
 ---------------------------------------------------------------------
 Based on unit time =  60 minutes.
 Flow Scale and Peak Hour Factor effects included in flow values.
```

```
 PR-696 con Ave. Efron
 Condicion futura, 2007, Hora pico PM
 Intersection ID:    03
            Actuated Isolated Signals, Cycle Time =  80


 Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS
 ---------------------------------------------------------------------------
---
  Mov     Mov    P H A S E  M A T R I X    Lost Tim  Req.Mov.Time     Eff.
Grn
  No.     Typ  First Green   Second Green  --------  ------------     -----
---
               ------------  ------------  1st  2nd  1st      2nd     1st
2nd
               Fr To Op Pr   Fr To Op Pr   Grn  Grn  Grn      Grn     Grn
Grn
 ---------------------------------------------------------------------------
---
 East: PR-696 Este
    4 T       *J  F                         4        32.2              31
    6 R  (Un2) J  F          F  J  R        4    8   21.1     20.0Min  31
37
 ---------------------------------------------------------------------------
---
 North: Ave. Efron
    7 L        A  J                         4        32.2              31
    9 R  (Un1) J  A  R      *A  J          26    4   42.2     32.4     19
31
 ---------------------------------------------------------------------------
---
 West: PR-696 Oeste
   10 L       *F  A                         4        10.0Min            6
   11 T        J  A                         4        20.0Min           41
 ---------------------------------------------------------------------------
---
   Current Phase Sequence No.: 9
   Input phase sequence: J  F  A
   Output phase sequence: J  F  A
 ---------------------------------------------------------------------------
---
   *  Critical Movement/Green Period

 Movement Types:                            Under heading 'Op':
```

```
   Ped  Pedestrian                              L   "Left" turns are opposed
   Dum  Dummy                                   R   "Right" turns are opposed
   Und  Undetected in both green periods        LR  "Left and Right" opposed
   Un1  Undetected in 1st green period          C   "Constant" saturation
flow
   Un2  Undetected in 2nd green period
```

PR-696 con Ave. Efron
Condicion futura, 2007, Hora pico PM
Intersection ID: 03
Actuated Isolated Signals, Cycle Time = 80

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Dem Flow (veh /h)	HV (%)	Satn Flow 1st Grn	Satn Flow 2nd Grn	Flow Ratio 1st Grn	Flow Ratio 2nd Grn	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
East: PR-696 Este											
4 T	607	3.0	1913		0.317		741	0.90	10	100	0.819
6 R	317	3.2	940<	1012<	0.192	0.135	832	0.90	136	100	0.381
North: Ave. Efron											
7 L	966	3.0	3041		0.318		1178	0.90	10	100	0.820*
9 R	209	2.9	95	600	0.182	0.319	255	0.90	10	100	0.819
West: PR-696 Oeste											
10 L	105	2.9	1820		0.058		137	0.90	17	100	0.769
11 T	172	2.9	1914		0.090		981	0.90	413	100	0.175

PR-696 con Ave. Efron
Condicion futura, 2007, Hora pico PM
Intersection ID: 03
Actuated Isolated Signals, Cycle Time = 80

Table S.3 - INTERSECTION PARAMETERS

Crit Mov No.	App. & Turn	Green Period	Phases Fr	Phases To	Adjusted Lost Time	Adjusted Flow Ratio	Required Grn Time Ratio	Required Movement Time

```
     4  E_T           J   F        4        0.317      0.353       32.2
    10  W_L           F   A       10          -          -        10.0Min
     9  N_R    2nd    A   J        4        0.319      0.355       32.4
                                  ----      ------     ------     ------
                         Total:   18        0.637      0.708       74.6
-----------------------------------------------------------------------------
  -  Flow ratio not used for cycle time calculations and
     the adjusted lost time equals the required movement time
     (=Min or Max as shown in Table S.1)

   Cycle Time:
     Minimum   Maximum   Practical   Chosen
        30       150         62         80
     (Variable cycle times: Program-determined)

   Intersection Level of Service             =         C
   Worst movement Level of Service           =         D
   Average intersection delay (s)            =      30.0
   Largest average movement delay (s)        =      53.0
   Largest cycle-average queue, mean (m)     =        35
   Performance Index                         =     71.87
   Degree of saturation (highest)            =     0.820
   Practical Spare Capacity (lowest)         =        10 %
   Effective intersection capacity, (veh/h)  =      2898
   Total vehicle flow (veh/h)                =      2376
   Total person flow (pers/h)                =      3564
   Total vehicle delay (veh-h/h)             =     19.80
   Total person delay (pers-h/h)             =     29.70
   Total effective vehicle stops (veh/h)     =      2139
   Total effective person stops (pers/h)     =      3209
   Total vehicle travel (veh-km/h)           =    1440.6
   Total cost ($/h)                          =   1339.27
   Total fuel (L/h)                          =     198.2
   Total CO2 (kg/h)                          =    496.20
```

```
PR-696 con Ave. Efron
Condicion futura, 2007, Hora pico PM
Intersection ID:    03
            Actuated Isolated Signals, Cycle Time =  80


Table S.4 - PHASE INFORMATION
-------------------------------------------------
   Phase    Change   Green  Displayed  Grn+Intgrn
    No.      Time    Start    Green    Secs  Prop.
-------------------------------------------------
    J          0       4        31      35  0.438
    F         35      39         6      10  0.125
    A         45      49        31      35  0.438
-------------------------------------------------
  Current Phase Sequence No.: 9
  Input phase sequence: J  F  A
  Output phase sequence: J  F  A
```

```
PR-696 con Ave. Efron
Condicion futura, 2007, Hora pico PM
Intersection ID:    03
            Actuated Isolated Signals, Cycle Time =  80
```

Table S.5 - MOVEMENT PERFORMANCE

Mov No.		Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Cycle (vehs)	Queue Aver. (m)	Perf. Index	Aver. Speed (km/h)
East: PR-696 Este										
4	T	4.76	7.13	28.2	0.96	0.94	4.8	34	18.82	33.8
6	R	0.80	1.19	9.0	0.21	0.71	0.1	0	5.30	48.0
North: Ave. Efron										
7	L	9.96	14.95	37.1	0.96	0.99	4.9	35	32.85	29.8
9	R	2.20	3.30	37.9	0.96	1.02	4.9	35	7.21	29.4
West: PR-696 Oeste										
10	L	1.55	2.32	53.0	1.00	0.88	1.3	9	4.43	24.4
11	T	0.53	0.80	11.1	0.57	0.47	0.5	4	3.25	45.9

PR-696 con Ave. Efron
Condicion futura, 2007, Hora pico PM
Intersection ID: 03
Actuated Isolated Signals, Cycle Time = 80

Table S.6 - INTERSECTION PERFORMANCE

Total Flow (veh/h)	Deg. Satn x	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue (m)	Perf. Index	Aver. Speed (km/h)
East: PR-696 Este									
924	0.819	5.55	8.33	21.6	0.71	0.86	34	24.12	37.6
North: Ave. Efron									
1175	0.820	12.17	18.25	37.3	0.96	1.00	35	40.07	29.7
West: PR-696 Oeste									
277	0.769	2.08	3.12	27.0	0.73	0.63	9	7.68	34.4
ALL VEHICLES:									
2376	0.820	19.80	29.70	30.0	0.83	0.90	35	71.87	32.9
INTERSECTION (persons):									
3564	0.820		29.70	30.0	0.83	0.90		71.87	32.9

Queue values in this table are mean cycle-average queue (metres).

PR-696 con Ave. Efron
Condicion futura, 2007, Hora pico PM
Intersection ID: 03
Actuated Isolated Signals, Cycle Time = 80

Table S.7 - LANE PERFORMANCE

Effective Red and Dem Q u e u e

```
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Eff.  Cycle Aver.
Shrt
  Lane   Mov  -----------------  (veh (veh  Satn  Delay  Stop  -----------
Lane
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)  Rate  (vehs) (m)
(m)
 ---------------------------------------------------------------------------
----
  East: PR-696 Este
  1 T      4   49  31    0   0    607  741 0.819   28.2  0.94   4.8   34
  2 R      6    4  31    8  37    317  832 0.381    9.0  0.71   0.1    0
50
 ---------------------------------------------------------------------------
----
  North: Ave. Efron
  1 L      7   49  31    0   0    578  705 0.820   36.7  0.97   4.6   33
  2 LR     7,  26   3   20  31    597  729 0.820   37.8  1.02   4.9   35
           9
 ---------------------------------------------------------------------------
----
  West: PR-696 Oeste
  1 L     10   74   6    0   0    105  137 0.769   53.0  0.88   1.3    9
50
  2 T     11   39  41    0   0    172  981 0.175   11.1  0.47   0.5    4
 ---------------------------------------------------------------------------
----
```

```
 PR-696 con Ave. Efron
 Condicion futura, 2007, Hora pico PM
 Intersection ID:    03
            Actuated Isolated Signals, Cycle Time =  80


 Table S.8A - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
---
                                          Saturation Flow  End  Tot
  Lane   Mov    Dem Flow (veh/h)   Lane   Adj. Aver Aver  Cap  Cap  Deg.
Lane
  No.    No.  -------------------  Width Basic 1st  2nd  (veh (veh  Satn
Util
               Lef Thru  Rig  Tot   (m)  (tcu) (veh)(veh)  /h)  /h)   x
%
 ---------------------------------------------------------------------------
---
  East: PR-696 Este
  1 T      4     0  607    0  607  3.30  1950 1913     0    0  741 0.819
100
  2 R      6     0    0  317  317  3.30  1950  940< 1012<  45  832 0.381
100
 ---------------------------------------------------------------------------
---
  North: Ave. Efron
  1 L      7   578    0    0  578  3.30  1950 1818     0    0  705 0.820
100
  2 LR     7,  388    0  209  597  3.30  1950  639  1819   45  729 0.820
100
           9
 ---------------------------------------------------------------------------
---
  West: PR-696 Oeste
```

```
  1 L     10   105    0    0  105  3.30  1950 1820     0    0  137 0.769
100
  2 T     11     0  172    0  172  3.30  1950 1914     0    0  981 0.175
100
 ---------------------------------------------------------------------------
---
   <  Reduced saturation flow due to a short lane effect

   Basic Saturation Flow in this table is adjusted for lane width, approach
   grade, parking manoeuvres and number of buses stopping.  Saturation flow
   scale applies if specified.

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 PR-696 con Ave. Efron
 Condicion futura, 2007, Hora pico PM
 Intersection ID:    03
            Actuated Isolated Signals, Cycle Time =  80


 Table S.8B - SCATS MF PARAMETER
 ---------------------------------------------------------
  Lane   Mov  Stopline Capacity  SCATS  SCATS   Deg.  Lane
  No.    No.    Flow   (veh/h)   Satn    MF     Satn  Util.
             (veh/h)            Flow             x     %
 ---------------------------------------------------------
  East: PR-696 Este
  1 T      4     607     741     1950   1727   0.819   100
  2 R      6     317     832     1857   1645   0.381   100
 ---------------------------------------------------------
  North: Ave. Efron
  1 L      7     578     705     1857   1645   0.820   100
  2 LR     7,    597     729     1857     NA   0.820   100
           9
 ---------------------------------------------------------
  West: PR-696 Oeste
  1 L     10     105     137     1857   1527   0.769   100
  2 T     11     172     981     1950   1777   0.175   100
 ---------------------------------------------------------
   NA Not Applicable - SCATS MF was not calculated for this lane due to one
      of the following reasons:
       - the lane is not controlled by signals (slip or continuous lane)
       - two movements share this lane and do not run in the same phases

   STOPLINE FLOW: Departure flow rate in veh/h as measured at the stop
line.
   This cannot exceed capacity.

   SCATS SATURATION FLOW: This allows for lane width, approach grade and
   turning vehicles.  Saturation flow scale applies if specified.
   The effects of heavy vehicles, parking manoeuvres, number of buses
   stopping and conflicting pedestrian volume are not included.

   SCATS MF: This emulates the MF (Maximum Flow) parameter used in the
SCATS
   control system. It is calculated from the SCATS SATURATION FLOW
parameter.

   DEG. SATN: The Demand (Arrival) Flow Rate may exceed the Stopline Flow
   Rate, therefore x > 1 is possible.

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```

PR-696 con Ave. Efron
Condicion futura, 2007, Hora pico PM
Intersection ID: 03
Actuated Isolated Signals, Cycle Time = 80

Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY

Mov No.	Mov Typ	Dem Flow (veh /h)	Total Cap. (veh /h)	Lane Util (%)	Deg. Satn x	Eff. Grn 1st Grn	Eff. Grn 2nd Grn	Aver. Delay (sec)	Eff. Stop Rate	Cycle Average Queue (veh)	Perf. Index
East: PR-696 Este											
4	T	607	741	100	0.819	31*		28.2	0.94	4.8	18.82
6	R (Un2)	317	832<	100	0.381	31	37	9.0	0.71	0.1	5.30
North: Ave. Efron											
7	L	966	1178	100	0.820*	31		37.1	0.99	4.9	32.85
9	R (Un1)	209	255	100	0.819	19	31*	37.9	1.02	4.9	7.21
West: PR-696 Oeste											
10	L	105	137	100	0.769	6*		53.0	0.88	1.3	4.43
11	T	172	981	100	0.175	41		11.1	0.47	0.5	3.25

< Reduced capacity due to a short lane effect
* Maximum degree of saturation, or critical green periods

PR-696 con Ave. Efron
Condicion futura, 2007, Hora pico PM
Intersection ID: 03
Actuated Isolated Signals, Cycle Time = 80

Table S.14 - SUMMARY OF INPUT AND OUTPUT DATA

Lane No.	Demand Flow (veh/h) L	T	R	Tot	%HV	Adj. Basic Satf.	Eff Grn (secs) 1st	2nd	Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
East: PR-696 Este												
1 T		607		607	3	1950	31		0.819	28.2	34	
2 R			317	317	3	1950	31	37	0.381	9.0	0	50
	0	607	317	924	3				0.819	21.6	34	
North: Ave. Efron												
1 L	578			578	3	1950	31		0.820	36.7	33	
2 LR	388		209	597	3	1950	3	31	0.820	37.8	35	

```
         ---------------------------------------------------------------
         966    0  209  1175    3                 0.820   37.3    35
 ----------------------------------------------------------------------------
  West: PR-696 Oeste
 1 L     105             105    3  1950    6      0.769   53.0     9    50
 2 T          172        172    3  1950   41      0.175   11.1     4
         ---------------------------------------------------------------
         105  172    0   277    3                 0.769   27.0     9
 ============================================================================
  ALL VEHICLES          Total   %       Cycle      Max   Aver.   Max
                        Flow   HV       Time        X    Delay  Queue
                        2376    3         80      0.820   30.0    35
 ============================================================================
 Total flow period = 60 minutes.  Peak flow period = 15 minutes.

 Queue values in this table are mean cycle-average queue (metres).

 Note: Basic Saturation Flows (in through car units) have been adjusted for
       grade, lane widths, parking manoeuvres and bus stops.

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 PR-696 con Ave. Efron
 Condicion futura, 2007, Hora pico PM
 Intersection ID:    03
            Actuated Isolated Signals, Cycle Time =  80


 Table S.15 - CAPACITY AND LEVEL OF SERVICE
 ----------------------------------------------------------------------------
---
  Mov     Mov    Green Time  Total  Total    Deg.   Aver.   LOS  Longest
Queue
  No.     Typ    Ratio (g/C) Flow    Cap.     of    Delay         Cycle
Aver.
                ------------ (veh   (veh     Satn                 (vehs)
(m)
                1st   2nd     /h)    /h)     (v/c)  (sec)
                grn   grn
 ----------------------------------------------------------------------------
---
 East: PR-696 Este
    4 T        0.387*          607    741   0.819    28.2    C      4.8
34
    6 R  (Un2) 0.387  0.463    317    832<  0.381     9.0    A      0.1
0
               ---------------------------------------------------------
---
                                924          0.819    21.6    C      4.8
34
 ----------------------------------------------------------------------------
---
 North: Ave. Efron
    7 L        0.387           966   1178   0.820*   37.1    D      4.9
35
    9 R  (Un1) 0.237  0.387*   209    255   0.819    37.9    D      4.9
35
               ---------------------------------------------------------
---
                               1175          0.820    37.3    D      4.9
35
 ----------------------------------------------------------------------------
---
 West: PR-696 Oeste
```

```
   10 L        0.075*          105    137   0.769    53.0    D      1.3
9
   11 T        0.512           172    981   0.175    11.1    B      0.5
4
               ------------------------------------------------------------
---
                               277          0.769    27.0    C      1.3
9
 ---------------------------------------------------------------------------
---
   ALL VEHICLES:              2376          0.820    30.0    C      4.9
35
 ---------------------------------------------------------------------------
---
   INTERSECTION (persons):    3564                   30.0           4.9
35
 ---------------------------------------------------------------------------
---
      Level of Service calculations are based on
      average control delay including geometric delay (HCM criteria),
      independent of the current delay definition used.
      For the criteria, refer to the "Level of Service" topic in the
      aaSIDRA Output Guide or the Output section of the on-line help.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
```

PR-696 con Ave. Efron
Condicion futura, 2007, Hora pico PM
Intersection ID: 03

Table S.21 - VARIABLE CYCLE TIME RESULTS

Performance Measure	Smallest Value	Cycle Time
Degree of Satn	0.766	140
Average Delay	30.0	80
Stop Rate	0.82	150
Max. Queue for Any Movement	4.9	80
Perf. Index	71.9	80
Cost	1339.3	80

Performance Measure	Largest Value	Cycle Time
Eff. Inters. Cap.	3102	140
Prac. Spare Cap.	18	140

If an "optimum" cycle time solution is adopted for actuated signal purposes
ensure that vehicle-actuated settings reflect this solution in real life.
Consider using the "sensitivity analysis" facility to optimise maximum green settings for actuated signals.

PR-696 con Ave. Efron
Condicion futura, 2007, Hora pico PM
Intersection ID: 03
Actuated Isolated Signals, Cycle Time = 80

Table D.0 - GEOMETRIC DELAY DATA

From Approach	To Approach	Negn Radius (m)	Negn Speed (km/h)	Negn Dist. (m)	Appr. Dist. (m)	Downstream Distance (m)
East: PR-696 Este						
	North	10.0	20.2	15.7	500	107
	West	S	60.0	19.5	500	109
North: Ave. Efron						
	East	12.9	22.2	20.3	500	110
	West	10.0	20.2	15.7	500	107
West: PR-696 Oeste						
	East	S	60.0	19.5	500	109
	North	10.6	20.6	16.6	500	107

Downstream Distance calculated by aaSIDRA

Downstream distance is distance travelled from the stopline until exit cruise speed is reached (includes negotiation distance). Acceleration distance is weighted for light and heavy vehicles. The same distance applies for both stopped and unstopped vehicles.

PR-696 con Ave. Efron
Condicion futura, 2007, Hora pico PM
Intersection ID: 03
Actuated Isolated Signals, Cycle Time = 80

Table D.1 - LANE DELAYS

Lane No.	Mov No.	Deg. Satn x	Stop-line Delay 1st d1	2nd d2	Total dSL	Acc. Dec. dn	Queuing Total dq	MvUp dqm	Stopd (Idle) di	Geom dig	Control dic
East: PR-696 Este											
1 T	4	0.819	23.9	4.3	28.2	8.2	20.0	0.9	19.0	0.0	28.2
2 R	6	0.381	0.7	0.0	0.7	0.9	0.0	0.0	0.0	8.3	9.0
North: Ave. Efron											
1 L	7	0.820	24.0	4.7	28.6	4.2	24.4	1.0	23.4	8.1	36.7
2 LR	7, 9	0.820	24.8	4.9	29.6	4.1	25.5	2.0	23.5	8.1 8.3	37.8
West: PR-696 Oeste											
1 L	10	0.769	42.6	2.2	44.8	4.2	40.6	1.8	38.9	8.3	53.0
2 T	11	0.175	11.1	0.0	11.1	4.9	6.3	0.0	6.3	0.0	11.1

```
 ---------------------------------------------------------------------------
-
   dn is average stop-start delay for all vehicles queued and unqueued

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 PR-696 con Ave. Efron
 Condicion futura, 2007, Hora pico PM
 Intersection ID:    03
            Actuated Isolated Signals, Cycle Time =  80


 Table D.3A - LANE QUEUES (veh)
 ---------------------------------------------------------------------------
-
         Deg.  Ovrfl. Average (veh)          Percentile (veh)
Queue
  Lane   Satn  Queue -----------------  ----------------------------
Stor.
  No.      x    No     Nc1   Nc2    Nc    70%   85%   90%   95%   98%
Ratio
 ---------------------------------------------------------------------------
-
  East: PR-696 Este
  1 T   0.819   0.8    4.0   0.7   4.8    5.8   7.9   9.3  10.9  12.1
0.21
  2 R   0.381   0.0    0.1   0.0   0.1    0.1   0.1   0.2   0.3   0.3
0.15
 ---------------------------------------------------------------------------
-
  North: Ave. Efron
  1 L   0.820   0.8    3.8   0.7   4.6    5.6   7.6   9.1  10.6  11.8
0.20
  2 LR  0.820   0.9    4.1   0.8   4.9    6.0   8.1   9.6  11.2  12.4
0.20
 ---------------------------------------------------------------------------
-
  West: PR-696 Oeste
  1 L   0.769   0.1    1.2   0.1   1.3    1.6   2.4   3.0   4.1   4.8
0.40
  2 T   0.175   0.0    0.5   0.0   0.5    0.7   1.0   1.3   1.9   2.3
0.03
 ---------------------------------------------------------------------------
-

      Values printed in this table are cycle-average queues (vehicles).

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 PR-696 con Ave. Efron
 Condicion futura, 2007, Hora pico PM
 Intersection ID:    03
            Actuated Isolated Signals, Cycle Time =  80


 Table D.3B - LANE QUEUES (metres)
 ---------------------------------------------------------------------------
-
         Deg.  Ovrfl. Average (metres)       Percentile (metres)
Queue
  Lane   Satn  Queue -----------------  ----------------------------
Stor.
```

No.	x	No	Nc1	Nc2	Nc	70%	85%	90%	95%	98%	Ratio
East: PR-696 Este											
1 T	0.819	6	29	5	34	41	57	67	78	87	0.21
2 R	0.381	0	0	0	0	1	1	1	2	2	0.15
North: Ave. Efron											
1 L	0.820	6	28	5	33	40	55	65	76	84	0.20
2 LR	0.820	6	30	6	35	43	58	69	80	89	0.20
West: PR-696 Oeste											
1 L	0.769	1	9	0	9	12	17	22	29	34	0.40
2 T	0.175	0	4	0	4	5	7	9	14	16	0.03

Values printed in this table are cycle-average queues (metres).

PR-696 con Ave. Efron
Condicion futura, 2007, Hora pico PM
Intersection ID: 03

Table V.21 - INTERSECTION SUMMARY FOR VARIABLE CYCLE TIME

Cycle Time (sec)	Eff. Int. Cap.	Intersn Deg. of Satn	Prac. Spare Cap.	Aver. Delay (sec)	Stop Rate	Longest Queue (veh)	Perf. Index	Cost Total $/h	Unsett
60	2621	0.907	-1	32.2	1.01	5.6	76.3	1387.2	
70	2781	0.854	5	30.3	0.94	5.1	72.8	1347.7	
80	2898	0.820	10	30.0	0.90	4.9	71.9	1339.3	
90	2912	0.816	10	30.9	0.88	5.1	72.8	1353.4	
100	2883	0.824	9	31.6	0.85	5.2	73.4	1362.8	
110	2995	0.793	13	33.2	0.84	5.4	75.3	1389.1	
120	3058	0.777	16	34.4	0.83	5.6	76.7	1408.1	
130	3053	0.778	16	36.2	0.83	6.0	79.1	1438.9	
140	3102	0.766	18	38.3	0.82	6.3	81.9	1475.0	
150	3020	0.787	14	40.1	0.82	6.7	84.2	1506.1	

--- End of aaSIDRA Output ---

C:\My Projects\Dorado-noviembre-2004-Dorado Office Park\0304pmse.OUT
Produced by aaSIDRA 2.1.0.346
Copyright 2000-2004
Akcelik & Associates Pty Ltd

Generated 2:42 PM, 1 Dec 2004

```
                Akcelik & Associates Pty Ltd - aaSIDRA 2.1.0.346
               ---------------------------------------------------
               Traffic Consulting Group
               Carlos M. Contreras                 User ID: m0276
               Licence Type: Multi Computer

               Time and Date of Analysis    9:39 AM,  2 Dec 2004

 Filename: E:\My Projects\Dorado-noviembre-2004-Dorado Office
Park\0404amse.OUT

 PR-696 con PR-6693
 Condicion futura, 2007, Hora Pico AM, semaforo
 Intersection ID:    04


 RUN INFORMATION
 ---------------
 Variable cycle time run: "Optimum" cycle time =  60 s

 * Basic Parameters:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   Default Values File No. 30
   Peak flow period (for performance): 15 minutes
   Unit time (for volumes): 60 minutes (Total Flow Period)
   Specified performance measure for "best" cycle time in variable run -
      Delay
   Delay definition: Control delay
                     Geometric delay included
   aaSIDRA Standard Delay and Queue models used
   Level of Service based on: Delay (HCM method)
   Queue definition: Cycle average queue, Average

 * No. of Main (Timing-Capacity) Iterations =  2
   Comparison of last two iterations:
     Difference in intersection degree of satn =  0.0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * If an "optimum" cycle time solution is adopted for actuated signal
purposes
   ensure that vehicle-actuated settings reflect this solution in real
life.
   Consider using the "sensitivity analysis" facility to optimise maximum
   green settings for actuated signals.

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 PR-696 con PR-6693
 Condicion futura, 2007, Hora Pico AM, semaforo
 Intersection ID:    04
            Fixed-Time Signals, Cycle Time =  60


 Table S.0 - TRAFFIC FLOW DATA
 ---------------------------------------------------------------------------
        Mov              Left       Through       Right     Flow   Peak
        No.           ---------    ---------    ---------   Scale  Flow
                       LV    HV     LV    HV     LV    HV          Factor
 ---------------------------------------------------------------------------
```

```
VEHICLES       Demand flows in veh/hour as used by the program
SouthEast: PR-6693 Este
        21          258     8      0     0      0     0   1.00   1.00
        22            0     0    531    16      0     0   1.00   1.00
-----------------------------------------------------------------------
North: PR-6693 Norte
         8            0     0    498    15      0     0   1.00   1.00
         9            0     0      0     0    160     5   1.00   1.00
-----------------------------------------------------------------------
West: PR-696 Oeste
        10          284     9      0     0      0     0   1.00   1.00
        12            0     0    301     9      0     0   1.00   1.00
-----------------------------------------------------------------------
Based on unit time =  60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.
```

```
PR-696 con PR-6693
Condicion futura, 2007, Hora Pico AM, semaforo
Intersection ID:    04
            Fixed-Time Signals, Cycle Time =  60


Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS
-------------------------------------------------------------------------------
  Mov     Mov    P H A S E  M A T R I X    Lost Tim  Req.Mov.Time     Eff.
Grn
  No.     Typ  First Green   Second Green  --------  ------------     -----
---
               ------------  ------------  1st  2nd  1st      2nd     1st
2nd
               Fr To Op Pr   Fr To Op Pr   Grn  Grn  Grn      Grn     Grn
Grn
-------------------------------------------------------------------------------
---
SouthEast: PR-6693 Este
  21 L       *C  E                         4        13.8              16
-------------------------------------------------------------------------------
---
North: PR-6693 Norte
   8 T       *E  F                         4        15.4              18
   9 R  (Und) F  E  R       E  F           4    4   20.0Min  16.0     34
18
-------------------------------------------------------------------------------
---
West: PR-696 Oeste
  10 L       *F  C                         4        12.4              14
  12 T        F  E                         4        24.4              34
-------------------------------------------------------------------------------
---
  Current Phase Sequence No.: 8
  Input phase sequence: F  C  E
  Output phase sequence: F  C  E
-------------------------------------------------------------------------------
---
  *  Critical Movement/Green Period

Movement Types:                            Under heading 'Op':
  Ped  Pedestrian                            L   "Left" turns are opposed
  Dum  Dummy                                 R   "Right" turns are opposed
  Und  Undetected in both green periods      LR  "Left and Right" opposed
```

```
   Un1  Undetected in 1st green period        C   "Constant" saturation
flow
   Un2  Undetected in 2nd green period

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 PR-696 con PR-6693
 Condicion futura, 2007, Hora Pico AM, semaforo
 Intersection ID:    04
             Fixed-Time Signals, Cycle Time =  60


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
----
  Mov      Dem           Satn Flow   Flow Ratio  Total Prac. Prac. Lane
Deg.
  No.      Flow         -----------   ---------   Cap. Deg.  Spare Util
Satn
           (veh    HV    1st   2nd    1st   2nd  (veh  Satn  Cap.
            /h)    (%)   Grn   Grn    Grn   Grn   /h)   xp    (%)   (%)
x
 ---------------------------------------------------------------------------
----
 SouthEast: PR-6693 Este
   21 L     266    3.0  1818        0.146         485  0.90    64   100
0.549
   22 T     547    2.9  3827        0.143        3827  0.98   586   100
0.143
 ---------------------------------------------------------------------------
----
 North: PR-6693 Norte
    8 T     513    2.9  2996        0.171         899  0.90    58   100
0.571*
    9 R     165    3.0    86   801  0.000 0.206   289  0.90    58   100
0.571*
 ---------------------------------------------------------------------------
----
 West: PR-696 Oeste
   10 L     293    3.1  2327        0.126         543  0.90    67   100
0.540
   12 T     310    2.9  1014        0.306         575  0.90    67   100
0.540
 ---------------------------------------------------------------------------
----


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 PR-696 con PR-6693
 Condicion futura, 2007, Hora Pico AM, semaforo
 Intersection ID:    04
             Fixed-Time Signals, Cycle Time =  60


 Table S.3 - INTERSECTION PARAMETERS
 ---------------------------------------------------------------------------
    Crit App.  Green   Phases   Adjusted    Adjusted   Required   Required
    Mov   &    Period  ------     Lost        Flow     Grn Time   Movement
    No.  Turn          Fr  To     Time        Ratio     Ratio       Time
 ---------------------------------------------------------------------------
     10  W_L           F   C        4        0.126      0.140       12.4
     21  SE_L          C   E        4        0.146      0.163       13.8
      8  N_T           E   F        4        0.171      0.190       15.4
```

```
                                  ----        ------     ------     ------
                          Total:   12        0.443      0.493       41.6
-------------------------------------------------------------------------------

   Cycle Time:
     Minimum   Maximum   Practical   Chosen
        30       150         30         60
     (Variable cycle times: Program-determined)

   Intersection Level of Service             =         C
   Worst movement Level of Service           =         C
   Average intersection delay (s)            =      21.3
   Largest average movement delay (s)        =      29.7
   Largest cycle-average queue, mean (m)     =        13
   Performance Index                         =     50.35
   Degree of saturation (highest)            =     0.571
   Practical Spare Capacity (lowest)         =        58 %
   Effective intersection capacity, (veh/h)  =      3668
   Total vehicle flow (veh/h)                =      2094
   Total person flow (pers/h)                =      3141
   Total vehicle delay (veh-h/h)             =     12.37
   Total person delay (pers-h/h)             =     18.55
   Total effective vehicle stops (veh/h)     =      1615
   Total effective person stops (pers/h)     =      2423
   Total vehicle travel (veh-km/h)           =    1262.4
   Total cost ($/h)                          =   1036.88
   Total fuel (L/h)                          =     164.4
   Total CO2 (kg/h)                          =    411.46

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PR-696 con PR-6693
Condicion futura, 2007, Hora Pico AM, semaforo
Intersection ID:    04
            Fixed-Time Signals, Cycle Time =  60


Table S.4 - PHASE INFORMATION
--------------------------------------------------
   Phase    Change   Green  Displayed  Grn+Intgrn
    No.      Time    Start    Green    Secs  Prop.
--------------------------------------------------
    F          0       4        14      18  0.300
    C         18      22        16      20  0.333
    E         38      42        18      22  0.367
--------------------------------------------------
  Current Phase Sequence No.: 8
  Input phase sequence: F  C  E
  Output phase sequence: F  C  E

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PR-696 con PR-6693
Condicion futura, 2007, Hora Pico AM, semaforo
Intersection ID:    04
            Fixed-Time Signals, Cycle Time =  60


Table S.5 - MOVEMENT PERFORMANCE
-------------------------------------------------------------------------------
  Mov      Total    Total   Aver.  Prop.  Eff. Longest Queue  Perf.  Aver.
  No.      Delay    Delay   Delay Queued  Stop  Cycle Aver.   Index  Speed
         (veh-h/h)(pers-h/h)(sec)         Rate  (vehs)  (m)          (km/h)
```

```
 ---------------------------------------------------------------------------
 SouthEast: PR-6693 Este
    21 L     2.10     3.15    28.4   0.91  0.82    1.6    11    7.54   33.6
    22 T     1.16     1.75     7.7         0.64    4.7#         8.58   49.6
 ---------------------------------------------------------------------------
 North: PR-6693 Norte
     8 T     3.60     5.40    25.2   0.89  0.82    1.8    13   13.65   35.4
     9 R     1.05     1.58    23.0   0.87  0.82    1.5    10    4.17   36.8
 ---------------------------------------------------------------------------
 West: PR-696 Oeste
    10 L     2.41     3.62    29.7   0.91  0.82    1.7    12    8.43   33.0
    12 T     2.04     3.06    23.7   0.84  0.82    1.7    12    7.98   36.3
 ---------------------------------------------------------------------------
   #  Largest density (passenger cars per km or mile) for any lane


 PR-696 con PR-6693
 Condicion futura, 2007, Hora Pico AM, semaforo
 Intersection ID:    04
             Fixed-Time Signals, Cycle Time =  60


 Table S.6 - INTERSECTION PERFORMANCE
 ---------------------------------------------------------------------------
  Total   Deg.   Total    Total   Aver.  Prop.  Eff. Longest Perf.   Aver.
  Flow    Satn   Delay    Delay   Delay Queued  Stop  Queue  Index   Speed
 (veh/h)   x   (veh-h/h)(pers-h/h)(sec)         Rate   (m)          (km/h)
 ---------------------------------------------------------------------------
 SouthEast: PR-6693 Este
   813   0.549    3.27     4.90    14.5   0.30  0.70    34   16.12    42.9
 ---------------------------------------------------------------------------
 North: PR-6693 Norte
   678   0.571    4.65     6.97    24.7   0.89  0.82    13   17.82    35.7
 ---------------------------------------------------------------------------
 West: PR-696 Oeste
   603   0.540    4.45     6.68    26.6   0.87  0.82    12   16.41    34.6
 ---------------------------------------------------------------------------
 ALL VEHICLES:
  2094   0.571   12.37    18.55    21.3   0.65  0.77    13   50.35    37.8
 ---------------------------------------------------------------------------
 INTERSECTION (persons):
  3141   0.571            18.55    21.3   0.65  0.77         50.35    37.8
 ---------------------------------------------------------------------------
 Queue values in this table are mean cycle-average queue (metres).


 PR-696 con PR-6693
 Condicion futura, 2007, Hora Pico AM, semaforo
 Intersection ID:    04
             Fixed-Time Signals, Cycle Time =  60


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
----
              Effective Red and   Dem                           Q u e u e
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Eff.  Cycle Aver.
Shrt
  Lane   Mov  -----------------  (veh (veh  Satn  Delay  Stop  -----------
Lane
```

```
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)  Rate  (vehs) (m)
(m)
 ---------------------------------------------------------------------------
----
  SouthEast: PR-6693 Este
  1 L     21   44  16    0   0    266  485 0.549   28.4  0.82   1.6   11
100
  2 T     22    0  60    0   0    274 1914 0.143    7.7  0.64   4.7#
  3 T     22    0  60    0   0    274 1914 0.143    7.7  0.64   4.7#
 ---------------------------------------------------------------------------
----
  North: PR-6693 Norte
  1 T      8   42  18    0   0    328  574 0.571   26.9  0.82   1.8   13
  2 TR     8,   4   2   36  18    350  614 0.571   22.6  0.82   1.5   10
           9
 ---------------------------------------------------------------------------
----
  West: PR-696 Oeste
  1 L     10   46  14    0   0    229  424 0.540   31.0  0.82   1.4   10
  2 LT    10,  38  22    0   0    374  693 0.540   23.9  0.82   1.7   12
100
          12
 ---------------------------------------------------------------------------
----
   #  Density (passenger cars per km or mile)

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 PR-696 con PR-6693
 Condicion futura, 2007, Hora Pico AM, semaforo
 Intersection ID:    04
             Fixed-Time Signals, Cycle Time =  60


 Table S.8A - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
---
                                          Saturation Flow  End  Tot
  Lane   Mov    Dem Flow (veh/h)   Lane   Adj. Aver Aver  Cap  Cap  Deg.
Lane
  No.    No.  -------------------  Width Basic 1st  2nd  (veh (veh  Satn
Util
               Lef Thru  Rig  Tot    (m)  (tcu) (veh)(veh)  /h)  /h)   x
%
 ---------------------------------------------------------------------------
---
  SouthEast: PR-6693 Este
  1 L     21   266    0    0  266  3.30  1950 1818     0    0  485 0.549
100
  2 T     22     0  274    0  274  3.30  1950 1914  1914    0 1914 0.143
100
  3 T     22     0  274    0  274  3.30  1950 1914  1914    0 1914 0.143
100
 ---------------------------------------------------------------------------
---
  North: PR-6693 Norte
  1 T      8     0  328    0  328  3.30  1950 1914     0    0  574 0.571
100
  2 TR     8,    0  185  165  350  3.30  1950 1603  1867    0  614 0.571
100
           9
 ---------------------------------------------------------------------------
---
  West: PR-696 Oeste
```

```
  1 L     10   229    0    0  229  3.30  1950 1817     0    0  424 0.540
100
  2 LT    10,   64  310    0  374  3.30  1950 1891     0    0  693 0.540
100
          12
 ---------------------------------------------------------------------------
---

   Basic Saturation Flow in this table is adjusted for lane width, approach
   grade, parking manoeuvres and number of buses stopping.  Saturation flow
   scale applies if specified.

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____

 PR-696 con PR-6693
 Condicion futura, 2007, Hora Pico AM, semaforo
 Intersection ID:    04
            Fixed-Time Signals, Cycle Time =  60


 Table S.8B - SCATS MF PARAMETER
 ---------------------------------------------------------
  Lane   Mov  Stopline Capacity  SCATS  SCATS   Deg.  Lane
  No.    No.    Flow   (veh/h)   Satn    MF     Satn  Util.
             (veh/h)            Flow             x     %
 ---------------------------------------------------------
  SouthEast: PR-6693 Este
  1 L     21     266     485     1857   1486   0.549   100
  2 T     22     274    1914     1950     NA   0.143   100
  3 T     22     274    1914     1950     NA   0.143   100
 ---------------------------------------------------------
  North: PR-6693 Norte
  1 T      8     328     574     1950   1595   0.571   100
  2 TR     8,    350     614     1905     NA   0.571   100
           9
 ---------------------------------------------------------
  West: PR-696 Oeste
  1 L     10     229     424     1857   1444   0.540   100
  2 LT    10,    374     693     1933     NA   0.540   100
          12
 ---------------------------------------------------------
   NA Not Applicable - SCATS MF was not calculated for this lane due to one
      of the following reasons:
       - the lane is not controlled by signals (slip or continuous lane)
       - two movements share this lane and do not run in the same phases

   STOPLINE FLOW: Departure flow rate in veh/h as measured at the stop
line.
   This cannot exceed capacity.

   SCATS SATURATION FLOW: This allows for lane width, approach grade and
   turning vehicles.  Saturation flow scale applies if specified.
   The effects of heavy vehicles, parking manoeuvres, number of buses
   stopping and conflicting pedestrian volume are not included.

   SCATS MF: This emulates the MF (Maximum Flow) parameter used in the
SCATS
   control system. It is calculated from the SCATS SATURATION FLOW
parameter.

   DEG. SATN: The Demand (Arrival) Flow Rate may exceed the Stopline Flow
   Rate, therefore x > 1 is possible.
```

PR-696 con PR-6693
Condicion futura, 2007, Hora Pico AM, semaforo
Intersection ID: 04
Fixed-Time Signals, Cycle Time = 60

Table S.12A - FUEL CONSUMPTION, EMISSIONS AND COST - TOTAL

Mov No.	Fuel Total L/h	Cost Total $/h	HC Total kg/h	CO Total kg/h	NOX Total kg/h	CO2 Total kg/h
SouthEast: PR-6693 Este						
21 L	21.8	145.72	0.094	4.29	0.127	54.5
22 T	39.0	214.71	0.161	8.00	0.239	97.6
	60.8	360.43	0.255	12.29	0.366	152.1
North: PR-6693 Norte						
8 T	41.3	269.34	0.178	8.21	0.243	103.5
9 R	13.2	84.59	0.057	2.64	0.078	33.1
	54.6	353.93	0.234	10.85	0.321	136.6
West: PR-696 Oeste						
10 L	24.3	163.50	0.106	4.84	0.141	60.9
12 T	24.7	159.03	0.106	4.91	0.146	61.8
	49.0	322.52	0.212	9.75	0.287	122.8
INTERSECTION:	164.4	1036.88	0.701	32.89	0.975	411.5

PARAMETERS USED IN COST CALCULATIONS

Pump price of fuel ($/L)	=	0.900
Fuel resource cost factor	=	0.50
Ratio of running cost to fuel cost	=	3.0
Average income ($/h)	=	27.00
Time value factor	=	0.60
Average occupancy (persons/veh)	=	1.5
Light vehicle mass (1000 kg)	=	1.4
Heavy vehicle mass (1000 kg)	=	11.0
Light vehicle idle fuel rate (L/h)	=	1.350
Heavy vehicle idle fuel rate (L/h)	=	2.000

The idle fuel and vehicle mass parameters given above are the default values (data given in RIDES may override some of these parameters).

PR-696 con PR-6693
Condicion futura, 2007, Hora Pico AM, semaforo
Intersection ID: 04
Fixed-Time Signals, Cycle Time = 60

Table S.14 - SUMMARY OF INPUT AND OUTPUT DATA

Lane No.	Demand Flow (veh/h) L	T	R	Tot	%HV	Adj. Basic Satf.	Eff Grn (secs) 1st	2nd	Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
SouthEast: PR-6693 Este												
1 L	266			266	3	1950	16		0.549	28.4	11	100
2 T		274		274	3	1950	60		0.143	7.7		
3 T		274		274	3	1950	60		0.143	7.7		
	266	547	0	813	3				0.549	14.5	11	
North: PR-6693 Norte												
1 T		328		328	3	1950	18		0.571	26.9	13	
2 TR		185	165	350	3	1950	2	18	0.571	22.6	10	
	0	513	165	678	3				0.571	24.7	13	
West: PR-696 Oeste												
1 L	229			229	3	1950	14		0.540	31.0	10	
2 LT	64	310		374	3	1950	22		0.540	23.9	12	100
	293	310	0	603	3				0.540	26.6	12	

ALL VEHICLES	Total Flow	% HV	Cycle Time	Max X	Aver. Delay	Max Queue
	2094	3	60	0.571	21.3	13

Total flow period = 60 minutes. Peak flow period = 15 minutes.

Queue values in this table are mean cycle-average queue (metres).

Note: Basic Saturation Flows (in through car units) have been adjusted for grade, lane widths, parking manoeuvres and bus stops.

PR-696 con PR-6693
Condicion futura, 2007, Hora Pico AM, semaforo
Intersection ID: 04
Fixed-Time Signals, Cycle Time = 60

Table S.15 - CAPACITY AND LEVEL OF SERVICE

Mov No.	Mov Typ	Green Time Ratio (g/C) 1st grn	2nd grn	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Aver. Delay (sec)	LOS	Longest Queue (vehs)	Aver. Cycle (m)
SouthEast: PR-6693 Este										
21 L		0.267*		266	485	0.549	28.4	C	1.6	11
22 T	(Con)	1.000		547	3827	0.143	7.7	A#	4.7#	
				813		0.549	14.5	B	1.6	11

```
 ---------------------------------------------------------------------------
---
 North: PR-6693 Norte
    8 T        0.300*          513    899   0.571*   25.2    C      1.8
13
    9 R  (Und) 0.567  0.300    165    289   0.571*   23.0    C      1.5
10
               ------------------------------------------------------------
---
                               678          0.571    24.7    C      1.8
13
 ---------------------------------------------------------------------------
---
 West: PR-696 Oeste
   10 L        0.233*          293    543   0.540    29.7    C      1.7
12
   12 T        0.567           310    575   0.540    23.7    C      1.7
12
               ------------------------------------------------------------
---
                               603          0.540    26.6    C      1.7
12
 ---------------------------------------------------------------------------
---
   ALL VEHICLES:              2094          0.571    21.3    C      1.8
13
 ---------------------------------------------------------------------------
---
   INTERSECTION (persons):    3141                   21.3           1.8
13
 ---------------------------------------------------------------------------
---
      Level of Service calculations are based on
      average control delay including geometric delay (HCM criteria),
      independent of the current delay definition used.
      For the criteria, refer to the "Level of Service" topic in the
      aaSIDRA Output Guide or the Output section of the on-line help.
   #  Continuous movements: Level Of Service based on density,
      Density (passenger cars per km or mile) instead of queue.
   *  Maximum v/c ratio, or critical green periods

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 PR-696 con PR-6693
 Condicion futura, 2007, Hora Pico AM, semaforo
 Intersection ID:    04


 Table S.21 - VARIABLE CYCLE TIME RESULTS
 ---------------------------------------------
    Performance         Smallest       Cycle
      Measure            Value         Time
 ---------------------------------------------
   Degree of Satn        0.546          100
   Average Delay          21.3           60
   Stop Rate              0.76          130
   Max. Queue for
         Any Movement      1.8           60
   Perf. Index            50.3           60
   Cost                 1036.9           60
 ---------------------------------------------

    Performance         Largest        Cycle
```

Measure	Value	Time
Eff. Inters. Cap.	3836	100
Prac. Spare Cap.	65	100

If an "optimum" cycle time solution is adopted for actuated signal purposes
ensure that vehicle-actuated settings reflect this solution in real life.
Consider using the "sensitivity analysis" facility to optimise maximum green settings for actuated signals.

PR-696 con PR-6693
Condicion futura, 2007, Hora Pico AM, semaforo
Intersection ID: 04
Fixed-Time Signals, Cycle Time = 60

Table D.0 - GEOMETRIC DELAY DATA

From Approach	To Approach	Negn Radius (m)	Negn Speed (km/h)	Negn Dist. (m)	Appr. Dist. (m)	Downstream Distance (m)
SouthEast: PR-6693 Este						
	North	11.8	21.5	10.0	500	104
	West	14.6	23.3	11.5	500	105
North: PR-6693 Norte						
	SouthEast	15.4	23.7	12.1	500	105
	West	15.0	23.5	23.6	500	112
West: PR-696 Oeste						
	SouthEast	16.2	24.2	12.7	500	105
	North	9.0	19.4	14.2	500	106

Downstream Distance calculated by aaSIDRA

Downstream distance is distance travelled from the stopline until exit cruise speed is reached (includes negotiation distance). Acceleration distance is weighted for light and heavy vehicles. The same distance applies for both stopped and unstopped vehicles.

PR-696 con PR-6693
Condicion futura, 2007, Hora Pico AM, semaforo
Intersection ID: 04
Fixed-Time Signals, Cycle Time = 60

Table D.1 - LANE DELAYS

			Delay (seconds/veh)							
		Deg.	Stop-line Delay			Acc.	Queuing		Stopd	
Lane No.	Mov No.	Satn x	1st d1	2nd d2	Total dSL	Dec. dn	Total dq	MvUp dqm	(Idle) di	Geom dig	Control dic

```
 SouthEast: PR-6693 Este
 1 L     21  0.549  21.1   0.0  21.1   4.1  16.9   0.0  16.9   7.3   28.4
 2 T     22  0.143               0.0                            7.6    7.7
 3 T     22  0.143               0.0                            7.6    7.7
-----------------------------------------------------------------------
_
 North: PR-6693 Norte
 1 T      8  0.571  19.7   0.0  19.7   4.1  15.5   0.0  15.5   7.3   26.9
 2 TR     8, 0.571  15.0   0.0  15.0   4.0  11.1   0.0  11.1   7.3   22.6
          9                                                     8.0
-----------------------------------------------------------------------
_
 West: PR-696 Oeste
 1 L     10  0.540  22.6   0.0  22.6   3.7  19.0   0.0  19.0   8.4   31.0
 2 LT    10, 0.540  16.5   0.0  16.5   3.8  12.7   0.0  12.7   8.4   23.9
         12                                                     7.2
-----------------------------------------------------------------------
_
   dn is average stop-start delay for all vehicles queued and unqueued
```

```
PR-696 con PR-6693
Condicion futura, 2007, Hora Pico AM, semaforo
Intersection ID:    04
            Fixed-Time Signals, Cycle Time =  60


Table D.2 - LANE STOPS
-------------------------------------------------------
                                                Queue
        Deg.  -- Effective Stop Rate --   Prop. Move-up
 Lane   Satn              Geom. Overall  Queued  Rate
 No.      x    he1   he2   hig     h       pq     hqm
-------------------------------------------------------
 SouthEast: PR-6693 Este
 1 L   0.549  0.76  0.00  0.06   0.82    0.909   0.00
 2 T   0.143             0.64   0.64
 3 T   0.143             0.64   0.64
-------------------------------------------------------
 North: PR-6693 Norte
 1 T   0.571  0.76  0.00  0.06   0.82    0.897   0.00
 2 TR  0.571  0.74  0.00  0.08   0.82    0.874   0.00
-------------------------------------------------------
 West: PR-696 Oeste
 1 L   0.540  0.77  0.00  0.05   0.82    0.926   0.00
 2 LT  0.540  0.72  0.00  0.10   0.82    0.841   0.00
-------------------------------------------------------
  hig is the average value for all movements in a shared lane
  hqm is average queue move-up rate for all vehicles queued and unqueued
```

```
PR-696 con PR-6693
Condicion futura, 2007, Hora Pico AM, semaforo
Intersection ID:    04
            Fixed-Time Signals, Cycle Time =  60


Table D.3A - LANE QUEUES (veh)
-----------------------------------------------------------------------
_
```

```
         Deg.  Ovrfl. Average (veh)          Percentile (veh)
Queue
  Lane   Satn  Queue -----------------  ----------------------------
Stor.
  No.      x    No     Nc1   Nc2    Nc    70%   85%   90%   95%   98%
Ratio
 ---------------------------------------------------------------------------
-
  SouthEast: PR-6693 Este
  1 L   0.549   0.0    1.6   0.0   1.6    2.0   2.8   3.5   4.7   5.4
0.31
  2 T   0.143                      4.7#
0.02#
  3 T   0.143                      4.7#
0.02#
 ---------------------------------------------------------------------------
-
  North: PR-6693 Norte
  1 T   0.571   0.0    1.8   0.0   1.8    2.2   3.2   4.0   5.2   6.0
0.07
  2 TR  0.571   0.0    1.5   0.0   1.5    1.8   2.7   3.3   4.5   5.2
0.07
 ---------------------------------------------------------------------------
-
  West: PR-696 Oeste
  1 L   0.540   0.0    1.4   0.0   1.4    1.8   2.6   3.3   4.4   5.1
0.05
  2 LT  0.540   0.0    1.7   0.0   1.7    2.1   3.1   3.9   5.1   5.8
0.39
 ---------------------------------------------------------------------------
-

      Values printed in this table are cycle-average queues (vehicles).
   #  Continuous movements:  Density (passenger cars per km or mile)
      instead of queue, Space Occupancy Ratio instead of Queue Storage
Ratio

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 PR-696 con PR-6693
 Condicion futura, 2007, Hora Pico AM, semaforo
 Intersection ID:    04
             Fixed-Time Signals, Cycle Time =  60


 Table D.3B - LANE QUEUES (metres)
 ---------------------------------------------------------------------------
-
         Deg.  Ovrfl. Average (metres)       Percentile (metres)
Queue
  Lane   Satn  Queue -----------------  ----------------------------
Stor.
  No.      x    No     Nc1   Nc2    Nc    70%   85%   90%   95%   98%
Ratio
 ---------------------------------------------------------------------------
-
  SouthEast: PR-6693 Este
  1 L   0.549     0     11     0    11     14    20    25    34    39
0.31
  2 T   0.143                      4.7#
0.02#
  3 T   0.143                      4.7#
0.02#
```

```
 ---------------------------------------------------------------------------
-
  North: PR-6693 Norte
  1 T   0.571     0     13     0    13     16    23    29    37    43
0.07
  2 TR  0.571     0     10     0    10     13    19    24    32    37
0.07
 ---------------------------------------------------------------------------
-
  West: PR-696 Oeste
  1 L   0.540     0     10     0    10     13    19    24    32    37
0.05
  2 LT  0.540     0     12     0    12     15    22    28    36    42
0.39
 ---------------------------------------------------------------------------
-

      Values printed in this table are cycle-average queues (metres).
   #  Continuous movements:  Density (passenger cars per km or mile)
      instead of queue, Space Occupancy Ratio instead of Queue Storage
Ratio
```

```
 PR-696 con PR-6693
 Condicion futura, 2007, Hora Pico AM, semaforo
 Intersection ID:    04
            Fixed-Time Signals, Cycle Time =  60


 Table D.4 - MOVEMENT SPEEDS (km/h)
 ------------------------------------------------------------------
                                   Queue Move-up
       App. Speeds    Exit Speeds  -------------  Av. Section Spd
  Mov  ------------   -----------    1st   2nd    ---------------
  No.  Cruise  Negn   Negn Cruise    Grn   Grn    Running Overall
 ------------------------------------------------------------------
  SouthEast: PR-6693 Este
    21    60.0  23.3   23.3  60.0                   45.6    33.6
    22    60.0  21.5   21.5  60.0                   49.6    49.6
 ------------------------------------------------------------------
  North: PR-6693 Norte
     8    60.0  23.7   23.7  60.0                   42.2    35.4
     9    60.0  23.5   23.5  60.0                   45.3    36.8
 ------------------------------------------------------------------
  West: PR-696 Oeste
    10    60.0  19.4   19.4  60.0                   45.2    33.0
    12    60.0  24.2   24.2  60.0                   46.0    36.3
 ------------------------------------------------------------------

   "Running Speed" is the average speed excluding stopped periods.
```

```
 PR-696 con PR-6693
 Condicion futura, 2007, Hora Pico AM, semaforo
 Intersection ID:    04
            Fixed-Time Signals, Cycle Time =  60


 Table D.5 - PROGRESSION FACTORS & ACTUATED SIGNAL PARAMETERS
 ---------------------------------------------------------------------
                                   Delay   Queue   Disp. Grn. Settings
```

Mov No.	Control	Coord.	Arrival Type	Prog. Factor	Prog. Factor	1st Grn Gmin	1st Grn Gmax	2nd Grn Gmin	2nd Grn Gmax
SouthEast: PR-6693 Este									
21	FT	No	3	1.000	1.000	6	NA		
22	FT	No	3	1.000	1.000	6	NA		
North: PR-6693 Norte									
8	FT	No	3	1.000	1.000	6	NA		
9	FT	No	3	1.000	1.000	6	NA	6	NA
West: PR-696 Oeste									
10	FT	No	3	1.000	1.000	6	NA		
12	FT	No	3	1.000	1.000	6	NA		

PR-696 con PR-6693
Condicion futura, 2007, Hora Pico AM, semaforo
Intersection ID: 04

Table V.21 - INTERSECTION SUMMARY FOR VARIABLE CYCLE TIME

Cycle Time (sec)	Eff. Int. Cap.	Intersn Deg. of Satn	Prac. Spare Cap.	Aver. Delay (sec)	Stop Rate	Longest Queue (veh)	Perf. Index	Cost Total $/h	Unsett
60	3668	0.571	58	21.3	0.77	1.8	50.3	1036.9	
70	3811	0.550	64	23.1	0.77	2.0	52.5	1064.8	
80	3776	0.555	62	24.8	0.77	2.3	54.4	1089.8	
90	3816	0.549	64	26.3	0.77	2.5	56.2	1113.1	
100	3836	0.546	65	28.0	0.77	2.8	58.1	1138.1	
110	3452	0.607	48	29.1	0.76	3.4	59.4	1155.2	
120	3625	0.578	56	29.9	0.76	3.5	60.2	1166.4	
130	3568	0.587	53	31.2	0.76	3.9	61.8	1187.5	
140	2766	0.757	19	36.7	0.78	5.0	68.4	1271.9	
150	2582	0.811	11	40.9	0.79	5.8	73.5	1337.5	*

* UNSETTLED RESULTS - Solution for this case has some uncertainty.
Refer to the HELP system or the User Guide for further information.

--- End of aaSIDRA Output ---

E:\My Projects\Dorado-noviembre-2004-Dorado Office Park\0404amse.OUT
Produced by aaSIDRA 2.1.0.346
Copyright 2000-2004
Akcelik & Associates Pty Ltd

Generated 9:39 AM, 2 Dec 2004

```
                Akcelik & Associates Pty Ltd - aaSIDRA 2.1.0.346
               ---------------------------------------------------
               Traffic Consulting Group
               Carlos M. Contreras                 User ID: m0276
               Licence Type: Multi Computer

               Time and Date of Analysis    9:40 AM,  2 Dec 2004

 Filename: E:\My Projects\Dorado-noviembre-2004-Dorado Office
Park\0404pmse.OUT

 PR-696 con PR-6693
 Condicion futura, 2007, Hora Pico PM, semaforo
 Intersection ID:    04


 RUN INFORMATION
 ---------------
 Variable cycle time run: "Optimum" cycle time =  60 s

 * Basic Parameters:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   Default Values File No. 30
   Peak flow period (for performance): 15 minutes
   Unit time (for volumes): 60 minutes (Total Flow Period)
   Specified performance measure for "best" cycle time in variable run -
      Delay
   Delay definition: Control delay
                     Geometric delay included
   aaSIDRA Standard Delay and Queue models used
   Level of Service based on: Delay (HCM method)
   Queue definition: Cycle average queue, Average

 * No. of Main (Timing-Capacity) Iterations =  1
   Comparison of last two iterations:
     Difference in intersection degree of satn =  0.0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * If an "optimum" cycle time solution is adopted for actuated signal
purposes
   ensure that vehicle-actuated settings reflect this solution in real
life.
   Consider using the "sensitivity analysis" facility to optimise maximum
   green settings for actuated signals.

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 PR-696 con PR-6693
 Condicion futura, 2007, Hora Pico PM, semaforo
 Intersection ID:    04
            Fixed-Time Signals, Cycle Time =  60


 Table S.0 - TRAFFIC FLOW DATA
 ---------------------------------------------------------------------------
       Mov              Left       Through       Right     Flow   Peak
       No.           ---------    ---------    ---------   Scale  Flow
                      LV    HV     LV    HV     LV    HV          Factor
 ---------------------------------------------------------------------------
```

```
VEHICLES       Demand flows in veh/hour as used by the program
SouthEast: PR-6693 Este
        21           696    22      0     0      0     0   1.00   1.00
        22             0     0    798    25      0     0   1.00   1.00
-----------------------------------------------------------------------
North: PR-6693 Norte
         8             0     0    664    21      0     0   1.00   1.00
         9             0     0      0     0    162     5   1.00   1.00
-----------------------------------------------------------------------
West: PR-696 Oeste
        10            76     2      0     0      0     0   1.00   1.00
        12             0     0    846    26      0     0   1.00   1.00
-----------------------------------------------------------------------
Based on unit time =  60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.
```

```
PR-696 con PR-6693
Condicion futura, 2007, Hora Pico PM, semaforo
Intersection ID:    04
            Fixed-Time Signals, Cycle Time =  60


Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS
-------------------------------------------------------------------------------
  Mov     Mov    P H A S E  M A T R I X    Lost Tim  Req.Mov.Time     Eff.
Grn
  No.     Typ  First Green   Second Green  --------  ------------     -----
---
               ------------  ------------  1st  2nd  1st      2nd     1st
2nd
               Fr To Op Pr   Fr To Op Pr   Grn  Grn  Grn      Grn     Grn
Grn
-------------------------------------------------------------------------------
---
 SouthEast: PR-6693 Este
   21 L        C  E                        4        30.3              27
-------------------------------------------------------------------------------
---
 North: PR-6693 Norte
    8 T       *E  F                        4        18.4              15
    9 R  (Und) F  E  R       E  F          4    4   20.0Min  20.1     37
15
-------------------------------------------------------------------------------
---
 West: PR-696 Oeste
   10 L        F  C                        4        10.0Min            6
   12 T       *F  E                        4        40.6              37
-------------------------------------------------------------------------------
---
   Current Phase Sequence No.: 8
   Input phase sequence: F  C  E
   Output phase sequence: F  C  E
-------------------------------------------------------------------------------
---
   *  Critical Movement/Green Period

 Movement Types:                           Under heading 'Op':
   Ped  Pedestrian                           L   "Left" turns are opposed
   Dum  Dummy                                R   "Right" turns are opposed
   Und  Undetected in both green periods     LR  "Left and Right" opposed
```

```
   Un1  Undetected in 1st green period        C   "Constant" saturation
flow
   Un2  Undetected in 2nd green period

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 PR-696 con PR-6693
 Condicion futura, 2007, Hora Pico PM, semaforo
 Intersection ID:    04
             Fixed-Time Signals, Cycle Time =  60


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
----
  Mov      Dem           Satn Flow   Flow Ratio  Total Prac. Prac. Lane
Deg.
  No.      Flow         -----------   ---------   Cap. Deg.  Spare Util
Satn
           (veh    HV    1st   2nd    1st   2nd  (veh  Satn  Cap.
            /h)    (%)   Grn   Grn    Grn   Grn   /h)   xp    (%)   (%)
x
 ---------------------------------------------------------------------------
----
 SouthEast: PR-6693 Este
   21 L     718    3.1  1817        0.395         818  0.90     2   100
0.878
   22 T     823    3.0  3824        0.215        3824  0.98   355   100
0.215
 ---------------------------------------------------------------------------
----
 North: PR-6693 Norte
    8 T     685    3.1  3164        0.216         791  0.90     4   100
0.866
    9 R     167    3.0    54   639  0.000 0.261   193  0.90     4   100
0.865
 ---------------------------------------------------------------------------
----
 West: PR-696 Oeste
   10 L      78    2.6  1824        0.043         182  0.90   110    48
0.428
   12 T     872    3.0  1590<       0.548         981  0.90     1   100
0.889*
 ---------------------------------------------------------------------------
----
   <  Reduced saturation flow due to a short lane effect

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 PR-696 con PR-6693
 Condicion futura, 2007, Hora Pico PM, semaforo
 Intersection ID:    04
             Fixed-Time Signals, Cycle Time =  60


 Table S.3 - INTERSECTION PARAMETERS
 ---------------------------------------------------------------------------
    Crit App.  Green   Phases   Adjusted    Adjusted   Required   Required
    Mov   &    Period  ------     Lost        Flow     Grn Time   Movement
    No.  Turn          Fr  To     Time        Ratio     Ratio       Time
 ---------------------------------------------------------------------------
     12  W_T           F   E        4        0.548      0.609       40.6
      8  N_T           E   F        4        0.216      0.241       18.4
```

```
                                  ----        ------     ------     ------
                          Total:    8         0.765      0.850       59.0
-----------------------------------------------------------------------------

   Cycle Time:
     Minimum   Maximum   Practical   Chosen
        30       150         53         60
     (Variable cycle times: Program-determined)

   Intersection Level of Service             =         C
   Worst movement Level of Service           =         D
   Average intersection delay (s)            =      24.8
   Largest average movement delay (s)        =      38.0
   Largest cycle-average queue, mean (m)     =        32
   Performance Index                         =     89.67
   Degree of saturation (highest)            =     0.889
   Practical Spare Capacity (lowest)         =         1 %
   Effective intersection capacity, (veh/h)  =      3759
   Total vehicle flow (veh/h)                =      3343
   Total person flow (pers/h)                =      5015
   Total vehicle delay (veh-h/h)             =     23.07
   Total person delay (pers-h/h)             =     34.60
   Total effective vehicle stops (veh/h)     =      3033
   Total effective person stops (pers/h)     =      4549
   Total vehicle travel (veh-km/h)           =    2014.4
   Total cost ($/h)                          =   1753.74
   Total fuel (L/h)                          =     272.0
   Total CO2 (kg/h)                          =    680.89

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PR-696 con PR-6693
Condicion futura, 2007, Hora Pico PM, semaforo
Intersection ID:    04
            Fixed-Time Signals, Cycle Time =  60


Table S.4 - PHASE INFORMATION
--------------------------------------------------
   Phase    Change   Green  Displayed  Grn+Intgrn
    No.      Time    Start    Green    Secs  Prop.
--------------------------------------------------
    F          0       4         6      10  0.167
    C         10      14        27      31  0.517
    E         41      45        15      19  0.317
--------------------------------------------------
  Current Phase Sequence No.: 8
  Input phase sequence: F  C  E
  Output phase sequence: F  C  E

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PR-696 con PR-6693
Condicion futura, 2007, Hora Pico PM, semaforo
Intersection ID:    04
            Fixed-Time Signals, Cycle Time =  60


Table S.5 - MOVEMENT PERFORMANCE
-----------------------------------------------------------------------------
  Mov      Total    Total   Aver.  Prop.  Eff. Longest Queue  Perf.  Aver.
  No.      Delay    Delay   Delay Queued  Stop  Cycle Aver.   Index  Speed
         (veh-h/h)(pers-h/h)(sec)         Rate  (vehs)  (m)          (km/h)
```

```
 ---------------------------------------------------------------------------
 SouthEast: PR-6693 Este
    21 L     5.99     8.98    30.0   0.98  1.01    4.5    32   21.74   32.8
    22 T     1.75     2.63     7.7         0.64    7.0#        12.92   49.6
 ---------------------------------------------------------------------------
 North: PR-6693 Norte
     8 T     7.10    10.64    37.3   1.00  1.04    3.6    26   23.64   29.6
     9 R     1.66     2.48    35.7   1.00  1.03    3.4    24    5.60   30.4
 ---------------------------------------------------------------------------
 West: PR-696 Oeste
    10 L     0.82     1.24    38.0   0.98  0.76    0.6     5    2.58   29.3
    12 T     5.75     8.63    23.7   0.79  0.96    4.0    29   23.19   36.3
 ---------------------------------------------------------------------------
   #  Largest density (passenger cars per km or mile) for any lane
```

```
 PR-696 con PR-6693
 Condicion futura, 2007, Hora Pico PM, semaforo
 Intersection ID:    04
             Fixed-Time Signals, Cycle Time =  60


 Table S.6 - INTERSECTION PERFORMANCE
 ---------------------------------------------------------------------------
  Total   Deg.   Total    Total   Aver.  Prop.  Eff. Longest Perf.   Aver.
  Flow    Satn   Delay    Delay   Delay Queued  Stop  Queue  Index   Speed
 (veh/h)   x   (veh-h/h)(pers-h/h)(sec)         Rate   (m)          (km/h)
 ---------------------------------------------------------------------------
 SouthEast: PR-6693 Este
  1541   0.878    7.74    11.61    18.1   0.46  0.81    51   34.66    40.1
 ---------------------------------------------------------------------------
 North: PR-6693 Norte
   852   0.866    8.75    13.13    37.0   1.00  1.04    26   29.24    29.7
 ---------------------------------------------------------------------------
 West: PR-696 Oeste
   950   0.889    6.57     9.86    24.9   0.81  0.95    29   25.77    35.6
 ---------------------------------------------------------------------------
 ALL VEHICLES:
  3343   0.889   23.07    34.60    24.8   0.69  0.91    32   89.67    35.6
 ---------------------------------------------------------------------------
 INTERSECTION (persons):
  5015   0.889            34.60    24.8   0.69  0.91         89.67    35.6
 ---------------------------------------------------------------------------
 Queue values in this table are mean cycle-average queue (metres).
```

```
 PR-696 con PR-6693
 Condicion futura, 2007, Hora Pico PM, semaforo
 Intersection ID:    04
             Fixed-Time Signals, Cycle Time =  60


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
----
              Effective Red and   Dem                            Q u e u e
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Eff.  Cycle Aver.
Shrt
  Lane   Mov  -----------------  (veh (veh  Satn  Delay  Stop  -----------
Lane
```

```
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)  Rate  (vehs) (m)
(m)
 ---------------------------------------------------------------------------
----
  SouthEast: PR-6693 Este
  1 L     21   33  27    0   0    718  818 0.878   30.0r 1.01   4.5   32
100
  2 T     22    0  60    0   0    412 1912 0.215    7.7  0.64   7.0#
  3 T     22    0  60    0   0    412 1912 0.215    7.7  0.64   7.0#
 ---------------------------------------------------------------------------
----
  North: PR-6693 Norte
  1 T      8   45  15    0   0    414  478 0.866   38.8  1.04   3.6   26
  2 TR     8,   4   2   39  15    438  506 0.866   35.3  1.03   3.4   24
           9
 ---------------------------------------------------------------------------
----
  West: PR-696 Oeste
  1 L     10   54   6    0   0     78  182 0.428   38.0  0.76   0.6    5
  2 T     10,  23  37    0   0    872  981 0.889   23.7r 0.96   4.0   29
100
          12
 ---------------------------------------------------------------------------
----
   #  Density (passenger cars per km or mile)
   r  Delay, stops and queue length for this lane have been cut down to fit
in
      the queuing space.  The amount cut may not be accounted for fully in
the
      adjacent lane performance statistics.  You may wish to change the
short
      lane to a full lane to investigate the extent of this effect.

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 PR-696 con PR-6693
 Condicion futura, 2007, Hora Pico PM, semaforo
 Intersection ID:    04
             Fixed-Time Signals, Cycle Time =  60


 Table S.8A - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
---
                                          Saturation Flow  End  Tot
  Lane   Mov    Dem Flow (veh/h)   Lane   Adj. Aver Aver  Cap  Cap  Deg.
Lane
  No.    No.  -------------------  Width Basic 1st  2nd  (veh (veh  Satn
Util
               Lef Thru  Rig  Tot   (m)  (tcu) (veh)(veh)  /h)  /h)   x
%
 ---------------------------------------------------------------------------
---
  SouthEast: PR-6693 Este
  1 L     21   718    0    0  718  3.30  1950 1817     0    0  818 0.878
100
  2 T     22     0  412    0  412  3.30  1950 1912  1912    0 1912 0.215
100
  3 T     22     0  412    0  412  3.30  1950 1912  1912    0 1912 0.215
100
 ---------------------------------------------------------------------------
---
  North: PR-6693 Norte
```

```
  1 T      8     0  414    0  414  3.30  1950 1912     0    0  478 0.866
100
  2 TR     8,    0  271  167  438  3.30  1950 1109  1875    0  506 0.866
100
           9
 ---------------------------------------------------------------------------
---
  West: PR-696 Oeste
  1 L     10    78    0    0   78  3.30  1950 1824     0    0  182 0.428
48P
  2 T     10,    0  872    0  872  3.30  1950 1590<    0    0  981 0.889
100
          12
 ---------------------------------------------------------------------------
---
   <  Reduced saturation flow due to a short lane effect
   P  Lane under-utilisation found by the "Program"

   Basic Saturation Flow in this table is adjusted for lane width, approach
   grade, parking manoeuvres and number of buses stopping.  Saturation flow
   scale applies if specified.

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 PR-696 con PR-6693
 Condicion futura, 2007, Hora Pico PM, semaforo
 Intersection ID:    04
             Fixed-Time Signals, Cycle Time =  60


 Table S.8B - SCATS MF PARAMETER
 ------------------------------------------------------------
  Lane   Mov  Stopline Capacity  SCATS  SCATS   Deg.  Lane
  No.    No.    Flow   (veh/h)   Satn    MF     Satn  Util.
              (veh/h)            Flow             x     %
 ------------------------------------------------------------
  SouthEast: PR-6693 Este
  1 L     21     718     818     1857   1618   0.878   100
  2 T     22     412    1912     1950     NA   0.215   100
  3 T     22     412    1912     1950     NA   0.215   100
 ------------------------------------------------------------
  North: PR-6693 Norte
  1 T      8     414     478     1950   1539   0.866   100
  2 TR     8,    438     506     1914     NA   0.866   100
           9
 ------------------------------------------------------------
  West: PR-696 Oeste
  1 L     10      78     182     1857   1114   0.428    48P
  2 T     10,    872     981     1950   1760   0.889   100
          12
 ------------------------------------------------------------
   NA Not Applicable - SCATS MF was not calculated for this lane due to one
      of the following reasons:
       - the lane is not controlled by signals (slip or continuous lane)
       - two movements share this lane and do not run in the same phases
   P  Lane under-utilisation found by the "Program"

   STOPLINE FLOW: Departure flow rate in veh/h as measured at the stop
line.
   This cannot exceed capacity.

   SCATS SATURATION FLOW: This allows for lane width, approach grade and
   turning vehicles.  Saturation flow scale applies if specified.
   The effects of heavy vehicles, parking manoeuvres, number of buses
```

stopping and conflicting pedestrian volume are not included.

SCATS MF: This emulates the MF (Maximum Flow) parameter used in the SCATS control system. It is calculated from the SCATS SATURATION FLOW parameter.

DEG. SATN: The Demand (Arrival) Flow Rate may exceed the Stopline Flow Rate, therefore x > 1 is possible.

PR-696 con PR-6693
Condicion futura, 2007, Hora Pico PM, semaforo
Intersection ID: 04
Fixed-Time Signals, Cycle Time = 60

Table S.12A - FUEL CONSUMPTION, EMISSIONS AND COST - TOTAL

Mov No.	Fuel Total L/h	Cost Total $/h	HC Total kg/h	CO Total kg/h	NOX Total kg/h	CO2 Total kg/h
SouthEast: PR-6693 Este						
21 L	60.8	405.23	0.265	12.33	0.358	152.2
22 T	58.7	323.04	0.242	12.04	0.359	146.8
	119.4	728.27	0.507	24.37	0.718	299.0
North: PR-6693 Norte						
8 T	60.0	423.55	0.265	11.89	0.346	150.3
9 R	14.6	101.84	0.064	2.90	0.084	36.5
	74.6	525.39	0.329	14.79	0.430	186.8
West: PR-696 Oeste						
10 L	6.7	48.27	0.030	1.30	0.038	16.9
12 T	71.2	451.82	0.307	14.62	0.427	178.2
	77.9	500.09	0.336	15.92	0.465	195.1
INTERSECTION:	272.0	1753.74	1.173	55.08	1.613	680.9

PARAMETERS USED IN COST CALCULATIONS

Pump price of fuel ($/L)	=	0.900
Fuel resource cost factor	=	0.50
Ratio of running cost to fuel cost	=	3.0
Average income ($/h)	=	27.00
Time value factor	=	0.60
Average occupancy (persons/veh)	=	1.5
Light vehicle mass (1000 kg)	=	1.4
Heavy vehicle mass (1000 kg)	=	11.0
Light vehicle idle fuel rate (L/h)	=	1.350
Heavy vehicle idle fuel rate (L/h)	=	2.000

The idle fuel and vehicle mass parameters given above are the default values (data given in RIDES may override some of these parameters).

PR-696 con PR-6693
Condicion futura, 2007, Hora Pico PM, semaforo
Intersection ID: 04
Fixed-Time Signals, Cycle Time = 60

Table S.14 - SUMMARY OF INPUT AND OUTPUT DATA

Lane No.	Demand Flow (veh/h) L	T	R	Tot	%HV	Adj. Basic Satf.	Eff Grn (secs) 1st	2nd	Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
SouthEast: PR-6693 Este												
1 L	718			718	3	1950	27		0.878	30.0r	32	100
2 T		412		412	3	1950	60		0.215	7.7		
3 T		412		412	3	1950	60		0.215	7.7		
	718	823	0	1541	3				0.878	18.1	32	
North: PR-6693 Norte												
1 T		414		414	3	1950	15		0.866	38.8	26	
2 TR		271	167	438	3	1950	2	15	0.866	35.3	24	
	0	685	167	852	3				0.866	37.0	26	
West: PR-696 Oeste												
1 L	78			78	3	1950	6		0.428	38.0	5	
2 T		872		872	3	1950	37		0.889	23.7r	29	100
	78	872	0	950	3				0.889	24.9	29	

ALL VEHICLES	Total Flow	% HV	Cycle Time	Max X	Aver. Delay	Max Queue
	3343	3	60	0.889	24.8	32

Total flow period = 60 minutes. Peak flow period = 15 minutes.

Queue values in this table are mean cycle-average queue (metres).

Note: Basic Saturation Flows (in through car units) have been adjusted for grade, lane widths, parking manoeuvres and bus stops.

r Delay, stops and queue length for this lane have been cut down to fit in the queuing space. The amount cut may not be accounted for fully in the adjacent lane performance statistics. You may wish to change the short lane to a full lane to investigate the extent of this effect.

PR-696 con PR-6693
Condicion futura, 2007, Hora Pico PM, semaforo
Intersection ID: 04
Fixed-Time Signals, Cycle Time = 60

Table S.15 - CAPACITY AND LEVEL OF SERVICE

Mov No.	Mov Typ	Green Ratio 1st grn	Time (g/C) 2nd grn	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Aver. Delay (sec)	LOS	Longest Queue Aver. (m)	Cycle (vehs)
SouthEast: PR-6693 Este										
21	L	0.450		718	818	0.878	30.0	C	4.5	32
22	T (Con)	1.000		823	3824	0.215	7.7	B#	7.0#	
				1541		0.878	18.1	B	4.5	32
North: PR-6693 Norte										
8	T	0.250*		685	791	0.866	37.3	D	3.6	26
9	R (Und)	0.617	0.250	167	193	0.865	35.7	D	3.4	24
				852		0.866	37.0	D	3.6	26
West: PR-696 Oeste										
10	L	0.100		78	182	0.428	38.0	D	0.6	5
12	T	0.617*		872	981<	0.889*	23.7	C	4.0	29
				950		0.889	24.9	C	4.0	29
ALL VEHICLES:				3343		0.889	24.8	C	4.5	32
INTERSECTION (persons):				5015			24.8		4.5	32

Level of Service calculations are based on
average control delay including geometric delay (HCM criteria),
independent of the current delay definition used.
For the criteria, refer to the "Level of Service" topic in the
aaSIDRA Output Guide or the Output section of the on-line help.

\# Continuous movements: Level Of Service based on density,
Density (passenger cars per km or mile) instead of queue.

< Reduced capacity due to a short lane effect

* Maximum v/c ratio, or critical green periods

PR-696 con PR-6693
Condicion futura, 2007, Hora Pico PM, semaforo
Intersection ID: 04

Table S.21 - VARIABLE CYCLE TIME RESULTS

Performance Measure	Smallest Value	Cycle Time
Degree of Satn	0.889	60
Average Delay	24.8	60
Stop Rate	0.85	150
Max. Queue for Any Movement	4.5	70
Perf. Index	89.7	60
Cost	1753.7	60

Performance Measure	Largest Value	Cycle Time
Eff. Inters. Cap.	3759	60
Prac. Spare Cap.	1	60

If an "optimum" cycle time solution is adopted for actuated signal purposes
ensure that vehicle-actuated settings reflect this solution in real life.
Consider using the "sensitivity analysis" facility to optimise maximum green settings for actuated signals.

PR-696 con PR-6693
Condicion futura, 2007, Hora Pico PM, semaforo
Intersection ID: 04
Fixed-Time Signals, Cycle Time = 60

Table D.0 - GEOMETRIC DELAY DATA

From Approach	To Approach	Negn Radius (m)	Negn Speed (km/h)	Negn Dist. (m)	Appr. Dist. (m)	Downstream Distance (m)
SouthEast: PR-6693 Este						
	North	11.8	21.5	10.0	500	104
	West	14.6	23.3	11.5	500	105
North: PR-6693 Norte						
	SouthEast	15.4	23.7	12.1	500	105
	West	15.0	23.5	23.6	500	112
West: PR-696 Oeste						
	SouthEast	16.2	24.2	12.7	500	105
	North	9.0	19.4	14.2	500	106

Downstream Distance calculated by aaSIDRA

Downstream distance is distance travelled from the stopline until exit cruise speed is reached (includes negotiation distance). Acceleration

distance is weighted for light and heavy vehicles. The same distance applies for both stopped and unstopped vehicles.

PR-696 con PR-6693
Condicion futura, 2007, Hora Pico PM, semaforo
Intersection ID: 04
Fixed-Time Signals, Cycle Time = 60

Table D.1 - LANE DELAYS

Lane No.	Mov No.	Deg. Satn x	Stop-line Delay 1st d1	2nd d2	Total dSL	Delay (seconds/veh) Acc. Dec. dn	Queuing Total dq	MvUp dqm	Stopd (Idle) di	Geom dig	Control dic
SouthEast: PR-6693 Este											
1 L	21	0.878	16.5	6.2	22.7	4.5	18.2	1.4	16.8	7.3	30.0
2 T	22	0.215			0.0					7.6	7.7
3 T	22	0.215			0.0					7.6	7.7
North: PR-6693 Norte											
1 T	8	0.866	24.2	7.4	31.5	4.6	26.9	2.6	24.3	7.3	38.8
2 TR	8, 9	0.866	19.8	7.9	27.7	4.6	23.1	2.5	20.6	7.3 8.0	35.3
West: PR-696 Oeste											
1 L	10	0.428	29.6	0.0	29.6	3.9	25.8	0.0	25.8	8.4	38.0
2 T	10, 12	0.889	9.2	7.4	16.6	3.7	12.8	1.3	11.5	0.0 7.2	23.7

dn is average stop-start delay for all vehicles queued and unqueued

---

PR-696 con PR-6693
Condicion futura, 2007, Hora Pico PM, semaforo
Intersection ID: 04
Fixed-Time Signals, Cycle Time = 60

Table D.2 - LANE STOPS

Lane No.	Deg. Satn x	Effective Stop Rate he1	he2	Geom. hig	Overall h	Prop. Queued pq	Queue Move-up Rate hqm
SouthEast: PR-6693 Este							
1 L	0.878	0.88	0.12	0.01	1.01	0.978	0.17
2 T	0.215			0.64	0.64		
3 T	0.215			0.64	0.64		
North: PR-6693 Norte							
1 T	0.866	0.86	0.19	0.00	1.04	1.000	0.34
2 TR	0.866	0.86	0.17	0.00	1.03	1.000	0.34

```
 -------------------------------------------------------
  West: PR-696 Oeste
  1 L   0.428  0.75  0.00  0.01   0.76    0.979   0.00
  2 T   0.889  0.72  0.12  0.12   0.96    0.794   0.16
 -------------------------------------------------------
   hig is the average value for all movements in a shared lane
   hqm is average queue move-up rate for all vehicles queued and unqueued
```

```
 PR-696 con PR-6693
 Condicion futura, 2007, Hora Pico PM, semaforo
 Intersection ID:    04
             Fixed-Time Signals, Cycle Time =  60


 Table D.3A - LANE QUEUES (veh)
 ---------------------------------------------------------------------------
         Deg.  Ovrfl. Average (veh)          Percentile (veh)
Queue
  Lane   Satn  Queue ----------------  ----------------------------
Stor.
  No.      x    No     Nc1   Nc2    Nc    70%   85%   90%   95%   98%
Ratio
 ---------------------------------------------------------------------------
  SouthEast: PR-6693 Este
  1 L   0.878   2.0    3.3   1.2   4.5    5.5   7.5   8.9  10.4  11.6
1.00
  2 T   0.215                       7.0#
0.04#
  3 T   0.215                       7.0#
0.04#
 ---------------------------------------------------------------------------
  North: PR-6693 Norte
  1 T   0.866   0.9    2.8   0.8   3.6    4.4   6.1   7.4   8.8   9.9
0.12
  2 TR  0.866   1.0    2.4   1.0   3.4    4.1   5.8   7.0   8.3   9.4
0.12
 ---------------------------------------------------------------------------
  West: PR-696 Oeste
  1 L   0.428   0.0    0.6   0.0   0.6    0.8   1.2   1.6   2.3   2.7
0.02
  2 T   0.889   3.1    2.2   1.8   4.0    4.9   6.7   8.1   9.5  10.6
1.00
 ---------------------------------------------------------------------------

      Values printed in this table are cycle-average queues (vehicles).
   #  Continuous movements:  Density (passenger cars per km or mile)
      instead of queue, Space Occupancy Ratio instead of Queue Storage
Ratio
```

```
 PR-696 con PR-6693
 Condicion futura, 2007, Hora Pico PM, semaforo
 Intersection ID:    04
             Fixed-Time Signals, Cycle Time =  60
```

Table D.3B - LANE QUEUES (metres)

Lane No.	Deg. Satn x	Ovrfl. Queue No	Average (metres) Nc1	Nc2	Nc	Percentile (metres) 70%	85%	90%	95%	98%	Queue Stor. Ratio
SouthEast: PR-6693 Este											
1 L	0.878	14	24	9	32	40	54	64	75	84	1.00
2 T	0.215				7.0#						0.04#
3 T	0.215				7.0#						0.04#
North: PR-6693 Norte											
1 T	0.866	6	20	6	26	32	44	53	63	71	0.12
2 TR	0.866	7	17	7	24	30	41	50	60	67	0.12
West: PR-696 Oeste											
1 L	0.428	0	5	0	5	6	9	11	16	19	0.02
2 T	0.889	22	16	13	29	35	48	58	68	76	1.00

Values printed in this table are cycle-average queues (metres).
\# Continuous movements: Density (passenger cars per km or mile) instead of queue, Space Occupancy Ratio instead of Queue Storage Ratio

---

PR-696 con PR-6693
Condicion futura, 2007, Hora Pico PM, semaforo
Intersection ID: 04
Fixed-Time Signals, Cycle Time = 60

Table D.4 - MOVEMENT SPEEDS (km/h)

Mov No.	App. Speeds Cruise	Negn	Exit Speeds Negn	Cruise	Queue Move-up 1st Grn	2nd Grn	Av. Section Spd Running	Overall
SouthEast: PR-6693 Este								
21	60.0	23.3	23.3	60.0	38.4		44.0	32.8
22	60.0	21.5	21.5	60.0			49.6	49.6
North: PR-6693 Norte								
8	60.0	23.7	23.7	60.0	21.0	0.0	37.1	29.6
9	60.0	23.5	23.5	60.0	8.2	29.1	42.6	30.4

West: PR-696 Oeste							
10	60.0	19.4	19.4	60.0	18.1	44.9	29.3
12	60.0	24.2	24.2	60.0	42.0	45.0	36.3

"Running Speed" is the average speed excluding stopped periods.

PR-696 con PR-6693
Condicion futura, 2007, Hora Pico PM, semaforo
Intersection ID: 04
Fixed-Time Signals, Cycle Time = 60

Table D.5 - PROGRESSION FACTORS & ACTUATED SIGNAL PARAMETERS

Mov No.	Control	Coord.	Arrival Type	Delay Prog. Factor	Queue Prog. Factor	Disp. Grn. Settings 1st Grn Gmin	1st Grn Gmax	2nd Grn Gmin	2nd Grn Gmax
SouthEast: PR-6693 Este									
21	FT	No	3	1.000	1.000	6	NA		
22	FT	No	3	1.000	1.000	6	NA		
North: PR-6693 Norte									
8	FT	No	3	1.000	1.000	6	NA		
9	FT	No	3	1.000	1.000	6	NA	6	NA
West: PR-696 Oeste									
10	FT	No	3	1.000	1.000	6	NA		
12	FT	No	3	1.000	1.000	6	NA		

PR-696 con PR-6693
Condicion futura, 2007, Hora Pico PM, semaforo
Intersection ID: 04

Table V.21 - INTERSECTION SUMMARY FOR VARIABLE CYCLE TIME

Cycle Time (sec)	Eff. Int. Cap.	Intersn Deg. of Satn	Prac. Spare Cap.	Aver. Delay (sec)	Stop Rate	Longest Queue (veh)	Perf. Index	Cost Total $/h	Unsett
60	3759	0.889	1	24.8	0.91	4.5	89.7	1753.7	
70	3557	0.940	-4	26.4	0.89	4.5	92.2	1788.6	
80	3459	0.967	-7	28.3	0.89	5.4	95.7	1833.9	
90	3395	0.985	-9	33.1	0.91	7.6	105.1	1953.4	
100	3342	1.000	-10	35.2	0.91	8.6	108.8	2000.2	
110	3342	1.000	-10	35.0	0.88	8.2	107.6	1980.3	
120	3343	1.000	-10	37.1	0.87	9.1	111.1	2021.6	
130	3343	1.000	-10	39.5	0.86	9.9	115.2	2072.5	
140	3343	1.000	-10	41.5	0.86	10.8	118.6	2114.1	
150	3328	1.004	-10	43.2	0.85	11.6	121.5	2148.5	

--- End of aaSIDRA Output ---

E:\My Projects\Dorado-noviembre-2004-Dorado Office Park\0404pmse.OUT
Produced by aaSIDRA 2.1.0.346
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               Traffic Consulting Group
               Carlos M. Contreras                 User ID: M0276
               Licence Type: Multi Computer

               Time and Date of Analysis    3:34 PM, 22 Nov 2004

 Filename: C:\My Projects\Dorado-noviembre-2004-Dorado Office Park\Efron
Ave-entrada Paseo del Plata,2004,am.OUT

 Ave. Efron con Entrada Paseo del Plata
 Condicion de exitente, 2004, Hora Pico AM
 Intersection ID:    02


 RUN INFORMATION
 ---------------
 * Basic Parameters:
   Intersection Type: Unsignalised - Two-Way Stop Control
   Driving on the right-hand side of the road
   Input data specified in Metric units
   Default Values File No. 30
   Peak flow period (for performance): 15 minutes
   Unit time (for volumes): 60 minutes (Total Flow Period)
   Delay definition: Control delay
                     Geometric delay included
   aaSIDRA Standard Delay and Queue models used
   Level of Service based on: Delay (HCM method)
   Queue definition: Cycle average queue, Average
```

```
 Ave. Efron con Entrada Paseo del Plata
 Condicion de exitente, 2004, Hora Pico AM
 Intersection ID:    02
             Stop Sign Controlled Intersection


 Table S.0 - TRAFFIC FLOW DATA
 ---------------------------------------------------------------------------
        Mov              Left       Through       Right     Flow   Peak
        No.           ---------    ---------    ---------   Scale  Flow
                       LV    HV     LV    HV     LV    HV          Factor
 ---------------------------------------------------------------------------
 VEHICLES       Demand flows in veh/hour as used by the program
 South: Ave Efron sur
          1            85     3      0     0      0     0   1.00   1.00
          2             0     0    291     9      0     0   1.00   1.00
 ---------------------------------------------------------------------------
 North: Ave. Efron Norte
          8             0     0    516    16      0     0   1.00   1.00
          9             0     0      0     0     27     1   1.00   1.00
 ---------------------------------------------------------------------------
 West: Paseo del Plata
         10            27     1      0     0      0     0   1.00   1.00
         12             0     0      0     0     47     1   1.00   1.00
 ---------------------------------------------------------------------------
 Based on unit time =  60 minutes.
 Flow Scale and Peak Hour Factor effects included in flow values.
```

Ave. Efron con Entrada Paseo del Plata
Condicion de exitente, 2004, Hora Pico AM
Intersection ID: 02
Stop Sign Controlled Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Demand Flow (veh/h)	HV (%)	Opposing Movement Flow (veh/h)	HV (%)	Adjust. Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
South: Ave Efron sur										
1 L	88	3.4	560	3.0	560	823	0.80	648	100	0.107
2 T	300	3.0	0			3825	0.80	920	100	0.078
North: Ave. Efron Norte										
8 T	532	3.0	0			3825	0.80	475	100	0.139*
9 R	28	3.6	0			1811	0.80	5074	100	0.015
West: Paseo del Plata										
10 L	28	3.6	926+	3.0	926	537	0.80	1434	100	0.052
12 R	48	2.1	538+	3.0	538	844	0.80	1307	100	0.057

+ Percentage of exiting flow included in total opposing flow

Ave. Efron con Entrada Paseo del Plata
Condicion de exitente, 2004, Hora Pico AM
Intersection ID: 02
Stop Sign Controlled Intersection

Table S.3 - INTERSECTION PARAMETERS

Intersection Level of Service	=	NA
Worst movement Level of Service	=	C
Average intersection delay (s)	=	2.2
Largest average movement delay (s)	=	16.4
Largest cycle-average queue, mean (m)	=	0
Performance Index	=	11.99
Degree of saturation (highest)	=	0.139
Practical Spare Capacity (lowest)	=	475 %
Effective intersection capacity, (veh/h)	=	7362
Total vehicle flow (veh/h)	=	1024
Total person flow (pers/h)	=	1536
Total vehicle delay (veh-h/h)	=	0.64
Total person delay (pers-h/h)	=	0.95
Total effective vehicle stops (veh/h)	=	156
Total effective person stops (pers/h)	=	234
Total vehicle travel (veh-km/h)	=	620.9
Total cost ($/h)	=	338.62
Total fuel (L/h)	=	52.8
Total CO2 (kg/h)	=	132.17

NA Not Applicable - Intersection Level of Service is not calculated at two-way stop control or give-way/yield controlled intersections.

See Table S.15 or Movement Displays for individual movement LOS values.

Ave. Efron con Entrada Paseo del Plata
Condicion de exitente, 2004, Hora Pico AM
Intersection ID: 02
Stop Sign Controlled Intersection

Table S.5 - MOVEMENT PERFORMANCE

Mov No.	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Cycle (vehs)	Queue Aver. (m)	Perf. Index	Aver. Speed (km/h)
South: Ave Efron sur									
1 L	0.27	0.40	10.9	0.52	0.76	0.1	0	1.59	46.3
2 T	0.00	0.00	0.0	0.00	0.00	0.0	0	3.03	60.0
North: Ave. Efron Norte									
8 T	0.00	0.00	0.0	0.00	0.00	0.0	0	5.38	60.0
9 R	0.06	0.10	8.3	0.00	0.67	0.0	0	0.45	49.0
West: Paseo del Plata									
10 L	0.13	0.19	16.4	0.64	0.97	0.0	0	0.60	42.7
12 R	0.18	0.27	13.3	0.50	0.90	0.0	0	0.93	45.0

Ave. Efron con Entrada Paseo del Plata
Condicion de exitente, 2004, Hora Pico AM
Intersection ID: 02
Stop Sign Controlled Intersection

Table S.6 - INTERSECTION PERFORMANCE

Total Flow (veh/h)	Deg. Satn x	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue (m)	Perf. Index	Aver. Speed (km/h)
South: Ave Efron sur									
388	0.107	0.27	0.40	2.5	0.12	0.17	0	4.63	56.2
North: Ave. Efron Norte									
560	0.139	0.06	0.10	0.4	0.00	0.03	0	5.83	59.3
West: Paseo del Plata									
76	0.057	0.31	0.46	14.5	0.55	0.93	0	1.54	44.1
ALL VEHICLES:									
1024	0.139	0.64	0.95	2.2	0.09	0.15	0	11.99	56.7
INTERSECTION (persons):									
1536	0.139		0.95	2.2	0.09	0.15		11.99	56.7

Queue values in this table are mean cycle-average queue (metres).

Ave. Efron con Entrada Paseo del Plata
Condicion de exitente, 2004, Hora Pico AM
Intersection ID: 02
Stop Sign Controlled Intersection

Table S.7 - LANE PERFORMANCE

Lane No.	Mov No.	Dem Flow (veh /h)	Cap (veh /h)	Deg. Satn x	Aver. Delay (sec)	Eff. Stop Rate	Queue Cycle (vehs)	Queue Aver. (m)	Short Lane (m)
South: Ave Efron sur									
1 L	1	88	823	0.107	10.9	0.76	0.1	0	50
2 T	2	150	1913	0.078	0.0	0.00	0.0	0	
3 T	2	150	1913	0.078	0.0	0.00	0.0	0	
North: Ave. Efron Norte									
1 T	8	266	1913	0.139	0.0	0.00	0.0	0	
2 T	8	266	1913	0.139	0.0	0.00	0.0	0	
3 R	9	28	1811	0.015	8.3	0.67	0.0	0	50
West: Paseo del Plata									
1 L	10	28	537	0.052	16.4	0.97	0.0	0	
2 R	12	48	844	0.057	13.3	0.90	0.0	0	

Ave. Efron con Entrada Paseo del Plata
Condicion de exitente, 2004, Hora Pico AM
Intersection ID: 02
Stop Sign Controlled Intersection

Table S.8A - LANE FLOW AND CAPACITY INFORMATION

Lane No.	Mov No.	Dem Flow (veh/h) Lef	Thru	Rig	Tot	Min Cap (veh /h)	Tot Cap (veh /h)	Deg. Satn x	Lane Util %
South: Ave Efron sur									
1 L	1	88	0	0	88	88	823	0.107	100
2 T	2	0	150	0	150	150	1913	0.078	100
3 T	2	0	150	0	150	150	1913	0.078	100
North: Ave. Efron Norte									
1 T	8	0	266	0	266	266	1913	0.139	100
2 T	8	0	266	0	266	266	1913	0.139	100
3 R	9	0	0	28	28	28	1811	0.015	100
West: Paseo del Plata									
1 L	10	28	0	0	28	28	537	0.052	100
2 R	12	0	0	48	48	48	844	0.057	100

The capacity value for priority and continuous movements is obtained by adjusting the basic saturation flow for heavy vehicle and turning vehicle effects. Saturation flow scale applies if specified.

Ave. Efron con Entrada Paseo del Plata
Condicion de exitente, 2004, Hora Pico AM
Intersection ID: 02
Stop Sign Controlled Intersection

Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY

Mov No.	Mov Typ	Dem Flow (veh /h)	Total Cap. (veh /h)	Lane Util (%)	Deg. Satn x	Aver. Delay (sec)	Eff. Stop Rate	Cycle Average Queue (veh)	Perf. Index
South: Ave Efron sur									
1	L	88	823	100	0.107	10.9	0.76	0.1	1.59
2	T	300	3825	100	0.078	0.0	0.00	0.0	3.03
North: Ave. Efron Norte									
8	T	532	3825	100	0.139*	0.0	0.00	0.0	5.38
9	R	28	1811	100	0.015	8.3	0.67	0.0	0.45
West: Paseo del Plata									
10	L	28	537	100	0.052	16.4	0.97	0.0	0.60
12	R	48	844	100	0.057	13.3	0.90	0.0	0.93

* Maximum degree of saturation

Ave. Efron con Entrada Paseo del Plata
Condicion de exitente, 2004, Hora Pico AM
Intersection ID: 02
Stop Sign Controlled Intersection

Table S.14 - SUMMARY OF INPUT AND OUTPUT DATA

Lane No.	Demand Flow (veh/h) L	T	R	Tot	%HV	Adj. Basic Satf.	Eff Grn (secs) 1st	2nd	Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
South: Ave Efron sur												
1 L	88			88	3				0.107	10.9	0	50
2 T		150		150	3				0.078	0.0	0	
3 T		150		150	3				0.078	0.0	0	
	88	300	0	388	3				0.107	2.5	0	
North: Ave. Efron Norte												
1 T		266		266	3				0.139	0.0	0	
2 T		266		266	3				0.139	0.0	0	
3 R			28	28	4				0.015	8.3	0	50
	0	532	28	560	3				0.139	0.4		
West: Paseo del Plata												
1 L	28			28	4				0.052	16.4	0	
2 R			48	48	2				0.057	13.3	0	

```
         28    0   48    76    3                 0.057   14.5     0
==============================================================================
 ALL VEHICLES          Total   %                  Max   Aver.   Max
                       Flow   HV                   X    Delay  Queue
                       1024    3                 0.139    2.2     0
==============================================================================
Total flow period = 60 minutes.  Peak flow period = 15 minutes.

Queue values in this table are mean cycle-average queue (metres).

Note: Basic Saturation Flows are not adjusted at roundabouts or sign-
      controlled intersections and apply only to continuous lanes.
```

Ave. Efron con Entrada Paseo del Plata
Condicion de exitente, 2004, Hora Pico AM
Intersection ID: 02
Stop Sign Controlled Intersection

Table S.15 - CAPACITY AND LEVEL OF SERVICE

Mov No.	Mov Typ	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Aver. Delay (sec)	LOS	Longest Queue Cycle (vehs)	Aver. (m)
South: Ave Efron sur								
1	L	88	823	0.107	10.9	B	0.1	0
2	T	300	3825	0.078	0.0	A	0.0	0
		388		0.107	2.5	A	0.1	0
North: Ave. Efron Norte								
8	T	532	3825	0.139*	0.0	A	0.0	0
9	R	28	1811	0.015	8.3	A	0.0	0
		560		0.139	0.4	A	0.0	0
West: Paseo del Plata								
10	L	28	537	0.052	16.4	C	0.0	0
12	R	48	844	0.057	13.3	B	0.0	0
		76		0.057	14.5	B	0.0	0
ALL VEHICLES:		1024		0.139	2.2	NA	0.1	0

Level of Service calculations are based on
average control delay including geometric delay (HCM criteria),
independent of the current delay definition used.
For the criteria, refer to the "Level of Service" topic in the
aaSIDRA Output Guide or the Output section of the on-line help.

NA Not Applicable - Intersection Level of Service is not calculated at
two-way stop control or give-way/yield controlled intersections.

* Maximum v/c ratio, or critical green periods

Ave. Efron con Entrada Paseo del Plata
Condicion de exitente, 2004, Hora Pico AM

Intersection ID: 02
Stop Sign Controlled Intersection

Table D.0 - GEOMETRIC DELAY DATA

From Approach	To Approach	Negn Radius (m)	Negn Speed (km/h)	Negn Dist. (m)	Appr. Dist. (m)	Downstream Distance (m)
South: Ave Efron sur						
	North	S	60.0	17.5	500	109
	West	11.9	21.6	18.8	500	109
North: Ave. Efron Norte						
	South	S	60.0	17.5	500	109
	West	10.0	20.2	15.7	500	107
West: Paseo del Plata						
	South	10.0	20.2	15.7	500	107
	North	13.8	22.8	21.7	500	111

Downstream Distance calculated by aaSIDRA

Downstream distance is distance travelled from the stopline until exit cruise speed is reached (includes negotiation distance). Acceleration distance is weighted for light and heavy vehicles. The same distance applies for both stopped and unstopped vehicles.

Ave. Efron con Entrada Paseo del Plata
Condicion de exitente, 2004, Hora Pico AM
Intersection ID: 02
Stop Sign Controlled Intersection

Table D.1 - LANE DELAYS

Lane No.	Mov No.	Deg. Satn x	Delay (seconds/veh) Stop-line 1st d1	2nd d2	Total dSL	Acc. Dec. dn	Queuing Total dq	MvUp dqm	Stopd (Idle) di	Geom dig	Control dic
South: Ave Efron sur											
1 L	1	0.107	2.7	0.0	2.7	2.2	0.5	0.0	0.5	8.2	10.9
2 T	2	0.078	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3 T	2	0.078	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
North: Ave. Efron Norte											
1 T	8	0.139	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2 T	8	0.139	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3 R	9	0.015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.3	8.3
West: Paseo del Plata											
1 L	10	0.052	5.4	0.0	5.4	1.5	4.0	0.0	4.0	11.0	16.4
2 R	12	0.057	2.5	0.0	2.5	1.0	1.4	0.0	1.4	10.8	13.3

dn is average stop-start delay for all vehicles queued and unqueued

Ave. Efron con Entrada Paseo del Plata
Condicion de exitente, 2004, Hora Pico AM
Intersection ID: 02
Stop Sign Controlled Intersection

Table D.3A - LANE QUEUES (veh)

Lane	Deg. Satn x	Ovrfl. Queue No	Average (veh) Nc1	Nc2	Nc	Percentile (veh) 70%	85%	90%	95%	98%	Queue Stor. Ratio
South: Ave Efron sur											
1 L	0.107	0.0	0.1	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.02
2 T	0.078	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
3 T	0.078	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
North: Ave. Efron Norte											
1 T	0.139	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
2 T	0.139	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
3 R	0.015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
West: Paseo del Plata											
1 L	0.052	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.00
2 R	0.057	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.00

Values printed in this table are cycle-average queues (vehicles).

Ave. Efron con Entrada Paseo del Plata
Condicion de exitente, 2004, Hora Pico AM
Intersection ID: 02
Stop Sign Controlled Intersection

Table D.3B - LANE QUEUES (metres)

Lane	Deg. Satn	Ovrfl. Queue	Average (metres)			Percentile (metres)					Queue Stor.

```
  No.      x    No     Nc1   Nc2    Nc    70%   85%   90%   95%   98%
Ratio
 ---------------------------------------------------------------------------
_
  South: Ave Efron sur
  1 L   0.107     0      0     0     0      1     1     1     2     2
0.02
  2 T   0.078     0      0     0     0      0     0     0     0     0
0.00
  3 T   0.078     0      0     0     0      0     0     0     0     0
0.00
 ---------------------------------------------------------------------------
_
  North: Ave. Efron Norte
  1 T   0.139     0      0     0     0      0     0     0     0     0
0.00
  2 T   0.139     0      0     0     0      0     0     0     0     0
0.00
  3 R   0.015     0      0     0     0      0     0     0     0     0
0.00
 ---------------------------------------------------------------------------
_
  West: Paseo del Plata
  1 L   0.052     0      0     0     0      0     1     1     1     1
0.00
  2 R   0.057     0      0     0     0      0     0     1     1     1
0.00
 ---------------------------------------------------------------------------
_

      Values printed in this table are cycle-average queues (metres).

                        --- End of aaSIDRA Output ---

 C:\My Projects\Dorado-noviembre-2004-Dorado Office Park\Efron Ave-entrada
Paseo del Plata,2004,am.OUT
 Produced by aaSIDRA 2.1.0.346
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 Akcelik & Associates Pty Ltd

 Generated   3:34 PM, 22 Nov 2004
```

```
                Akcelik & Associates Pty Ltd - aaSIDRA 2.1.0.346
               ----------------------------------------------------
               Traffic Consulting Group
               Carlos M. Contreras                 User ID: M0276
               Licence Type: Multi Computer

               Time and Date of Analysis    3:35 PM, 22 Nov 2004

 Filename: C:\My Projects\Dorado-noviembre-2004-Dorado Office Park\Efron
Ave-entrada Paseo del Plata,2004,pm.OUT

 Ave. Efron con Entrada Paseo del Plata
 Condicion de exitente, 2004, Hora Pico PM
 Intersection ID:    02


 RUN INFORMATION
 ---------------
 * Basic Parameters:
   Intersection Type: Unsignalised - Two-Way Stop Control
   Driving on the right-hand side of the road
   Input data specified in Metric units
   Default Values File No. 30
   Peak flow period (for performance): 15 minutes
   Unit time (for volumes): 60 minutes (Total Flow Period)
   Delay definition: Control delay
                     Geometric delay included
   aaSIDRA Standard Delay and Queue models used
   Level of Service based on: Delay (HCM method)
   Queue definition: Cycle average queue, Average

_____________________________________________________________________________
____

 Ave. Efron con Entrada Paseo del Plata
 Condicion de exitente, 2004, Hora Pico PM
 Intersection ID:    02
             Stop Sign Controlled Intersection


 Table S.0 - TRAFFIC FLOW DATA
 ---------------------------------------------------------------------------
        Mov              Left       Through       Right     Flow   Peak
        No.           ---------    ---------    ---------   Scale  Flow
                       LV    HV     LV    HV     LV    HV          Factor
 ---------------------------------------------------------------------------
 VEHICLES       Demand flows in veh/hour as used by the program
 South: Ave Efron sur
          1            81     3      0     0      0     0   1.00   1.00
          2             0     0    446    14      0     0   1.00   1.00
 ---------------------------------------------------------------------------
 North: Ave. Efron Norte
          8             0     0    570    18      0     0   1.00   1.00
          9             0     0      0     0     54     2   1.00   1.00
 ---------------------------------------------------------------------------
 West: Paseo del Plata
         10           171     5      0     0      0     0   1.00   1.00
         12             0     0      0     0    210     6   1.00   1.00
 ---------------------------------------------------------------------------
 Based on unit time =  60 minutes.
 Flow Scale and Peak Hour Factor effects included in flow values.
```

Ave. Efron con Entrada Paseo del Plata
Condicion de exitente, 2004, Hora Pico PM
Intersection ID: 02
Stop Sign Controlled Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Demand Flow (veh/h)	HV (%)	Opposing Movement Flow (veh/h)	HV (%)	Adjust. Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
South: Ave Efron sur										
1 L	84	3.6	644	3.1	644	750	0.80	614	100	0.112
2 T	460	3.0	0			3824	0.80	565	100	0.120
North: Ave. Efron Norte										
8 T	588	3.1	0			3824	0.80	420	100	0.154
9 R	56	3.6	0			1811	0.80	2487	100	0.031
West: Paseo del Plata										
10 L	176	2.8	1143+	3.1	1144	407	0.80	85	100	0.432*
12 R	216	2.8	599+	3.1	599	789	0.80	192	100	0.274

+ Percentage of exiting flow included in total opposing flow

Ave. Efron con Entrada Paseo del Plata
Condicion de exitente, 2004, Hora Pico PM
Intersection ID: 02
Stop Sign Controlled Intersection

Table S.3 - INTERSECTION PARAMETERS

Intersection Level of Service	=	NA
Worst movement Level of Service	=	C
Average intersection delay (s)	=	5.4
Largest average movement delay (s)	=	22.6
Largest cycle-average queue, mean (m)	=	4
Performance Index	=	22.03
Degree of saturation (highest)	=	0.432
Practical Spare Capacity (lowest)	=	85 %
Effective intersection capacity, (veh/h)	=	3654
Total vehicle flow (veh/h)	=	1580
Total person flow (pers/h)	=	2370
Total vehicle delay (veh-h/h)	=	2.37
Total person delay (pers-h/h)	=	3.55
Total effective vehicle stops (veh/h)	=	511
Total effective person stops (pers/h)	=	766
Total vehicle travel (veh-km/h)	=	957.9
Total cost ($/h)	=	564.13
Total fuel (L/h)	=	89.6
Total CO2 (kg/h)	=	224.19

NA Not Applicable - Intersection Level of Service is not calculated at two-way stop control or give-way/yield controlled intersections.

See Table S.15 or Movement Displays for individual movement LOS values.

Ave. Efron con Entrada Paseo del Plata
Condicion de exitente, 2004, Hora Pico PM
Intersection ID: 02
Stop Sign Controlled Intersection

Table S.5 - MOVEMENT PERFORMANCE

Mov No.	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue Cycle (vehs)	Longest Queue Aver. (m)	Perf. Index	Aver. Speed (km/h)
South: Ave Efron sur									
1 L	0.27	0.40	11.5	0.55	0.79	0.1	1	1.56	45.7
2 T	0.00	0.00	0.0	0.00	0.00	0.0	0	4.65	60.0
North: Ave. Efron Norte									
8 T	0.00	0.00	0.0	0.00	0.00	0.0	0	5.94	60.0
9 R	0.13	0.19	8.3	0.00	0.67	0.0	0	0.90	49.0
West: Paseo del Plata									
10 L	1.11	1.66	22.6	0.82	1.09	0.6	4	4.52	38.4
12 R	0.86	1.29	14.4	0.58	1.00	0.2	2	4.45	44.2

Ave. Efron con Entrada Paseo del Plata
Condicion de exitente, 2004, Hora Pico PM
Intersection ID: 02
Stop Sign Controlled Intersection

Table S.6 - INTERSECTION PERFORMANCE

Total Flow (veh/h)	Deg. Satn x	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue (m)	Perf. Index	Aver. Speed (km/h)
South: Ave Efron sur									
544	0.120	0.27	0.40	1.8	0.09	0.12	1	6.21	57.2
North: Ave. Efron Norte									
644	0.154	0.13	0.19	0.7	0.00	0.06	0	6.84	58.8
West: Paseo del Plata									
392	0.432	1.97	2.95	18.1	0.69	1.04	4	8.97	41.4
ALL VEHICLES:									
1580	0.432	2.37	3.55	5.4	0.20	0.32	4	22.03	52.8
INTERSECTION (persons):									
2370	0.432		3.55	5.4	0.20	0.32		22.03	52.8

Queue values in this table are mean cycle-average queue (metres).

Ave. Efron con Entrada Paseo del Plata
Condicion de exitente, 2004, Hora Pico PM
Intersection ID: 02
Stop Sign Controlled Intersection

Table S.7 - LANE PERFORMANCE

Lane No.	Mov No.	Dem Flow (veh /h)	Cap (veh /h)	Deg. Satn x	Aver. Delay (sec)	Eff. Stop Rate	Queue Cycle (vehs)	Queue Aver. (m)	Short Lane (m)
South: Ave Efron sur									
1 L	1	84	750	0.112	11.5	0.79	0.1	1	50
2 T	2	230	1912	0.120	0.0	0.00	0.0	0	
3 T	2	230	1912	0.120	0.0	0.00	0.0	0	
North: Ave. Efron Norte									
1 T	8	294	1912	0.154	0.0	0.00	0.0	0	
2 T	8	294	1912	0.154	0.0	0.00	0.0	0	
3 R	9	56	1811	0.031	8.3	0.67	0.0	0	50
West: Paseo del Plata									
1 L	10	176	407	0.433	22.6	1.09	0.6	4	
2 R	12	216	789	0.274	14.4	1.00	0.2	2	

Ave. Efron con Entrada Paseo del Plata
Condicion de exitente, 2004, Hora Pico PM
Intersection ID: 02
Stop Sign Controlled Intersection

Table S.8A - LANE FLOW AND CAPACITY INFORMATION

Lane No.	Mov No.	Dem Flow (veh/h) Lef	Thru	Rig	Tot	Min Cap (veh /h)	Tot Cap (veh /h)	Deg. Satn x	Lane Util %
South: Ave Efron sur									
1 L	1	84	0	0	84	84	750	0.112	100
2 T	2	0	230	0	230	230	1912	0.120	100
3 T	2	0	230	0	230	230	1912	0.120	100
North: Ave. Efron Norte									
1 T	8	0	294	0	294	294	1912	0.154	100
2 T	8	0	294	0	294	294	1912	0.154	100
3 R	9	0	0	56	56	56	1811	0.031	100
West: Paseo del Plata									
1 L	10	176	0	0	176	120	407	0.433	100
2 R	12	0	0	216	216	120	789	0.274	100

The capacity value for priority and continuous movements is obtained by adjusting the basic saturation flow for heavy vehicle and turning vehicle effects. Saturation flow scale applies if specified.

Ave. Efron con Entrada Paseo del Plata
Condicion de exitente, 2004, Hora Pico PM
Intersection ID: 02
Stop Sign Controlled Intersection

Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY

Mov No.	Mov Typ	Dem Flow (veh /h)	Total Cap. (veh /h)	Lane Util (%)	Deg. Satn x	Aver. Delay (sec)	Eff. Stop Rate	Cycle Average Queue (veh)	Perf. Index
South: Ave Efron sur									
1	L	84	750	100	0.112	11.5	0.79	0.1	1.56
2	T	460	3824	100	0.120	0.0	0.00	0.0	4.65
North: Ave. Efron Norte									
8	T	588	3824	100	0.154	0.0	0.00	0.0	5.94
9	R	56	1811	100	0.031	8.3	0.67	0.0	0.90
West: Paseo del Plata									
10	L	176	407	100	0.432*	22.6	1.09	0.6	4.52
12	R	216	789	100	0.274	14.4	1.00	0.2	4.45

* Maximum degree of saturation

Ave. Efron con Entrada Paseo del Plata
Condicion de exitente, 2004, Hora Pico PM
Intersection ID: 02
Stop Sign Controlled Intersection

Table S.14 - SUMMARY OF INPUT AND OUTPUT DATA

Lane No.	Demand Flow (veh/h) L	T	R	Tot	%HV	Adj. Basic Satf.	Eff Grn (secs) 1st	2nd	Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
South: Ave Efron sur												
1 L	84			84	4				0.112	11.5	1	50
2 T		230		230	3				0.120	0.0	0	
3 T		230		230	3				0.120	0.0	0	
	84	460	0	544	3				0.120	1.8	1	
North: Ave. Efron Norte												
1 T		294		294	3				0.154	0.0	0	
2 T		294		294	3				0.154	0.0	0	
3 R			56	56	4				0.031	8.3	0	50
	0	588	56	644	3				0.154	0.7		
West: Paseo del Plata												
1 L	176			176	3				0.433	22.6	4	
2 R			216	216	3				0.274	14.4	2	

```
        176    0  216   392    3                 0.433   18.1     4
 ==========================================================================
  ALL VEHICLES          Total   %                  Max   Aver.   Max
                        Flow   HV                   X    Delay  Queue
                        1580    3                 0.432    5.4     4
 ==========================================================================
 Total flow period = 60 minutes.  Peak flow period = 15 minutes.

 Queue values in this table are mean cycle-average queue (metres).

 Note: Basic Saturation Flows are not adjusted at roundabouts or sign-
       controlled intersections and apply only to continuous lanes.
```

Ave. Efron con Entrada Paseo del Plata
Condicion de exitente, 2004, Hora Pico PM
Intersection ID: 02
Stop Sign Controlled Intersection

Table S.15 - CAPACITY AND LEVEL OF SERVICE

Mov No.	Mov Typ	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Aver. Delay (sec)	LOS	Longest Queue Cycle (vehs)	Aver. (m)
South: Ave Efron sur								
1	L	84	750	0.112	11.5	B	0.1	1
2	T	460	3824	0.120	0.0	A	0.0	0
		544		0.120	1.8	A	0.1	1
North: Ave. Efron Norte								
8	T	588	3824	0.154	0.0	A	0.0	0
9	R	56	1811	0.031	8.3	A	0.0	0
		644		0.154	0.7	A	0.0	0
West: Paseo del Plata								
10	L	176	407	0.432*	22.6	C	0.6	4
12	R	216	789	0.274	14.4	B	0.2	2
		392		0.432	18.1	C	0.6	4
ALL VEHICLES:		1580		0.432	5.4	NA	0.6	4

Level of Service calculations are based on
average control delay including geometric delay (HCM criteria),
independent of the current delay definition used.
For the criteria, refer to the "Level of Service" topic in the
aaSIDRA Output Guide or the Output section of the on-line help.

NA Not Applicable - Intersection Level of Service is not calculated at
two-way stop control or give-way/yield controlled intersections.

* Maximum v/c ratio, or critical green periods

Ave. Efron con Entrada Paseo del Plata
Condicion de exitente, 2004, Hora Pico PM

Intersection ID: 02
Stop Sign Controlled Intersection

Table D.0 - GEOMETRIC DELAY DATA

From Approach	To Approach	Negn Radius (m)	Negn Speed (km/h)	Negn Dist. (m)	Appr. Dist. (m)	Downstream Distance (m)
South: Ave Efron sur						
	North	S	60.0	17.5	500	109
	West	11.9	21.6	18.8	500	109
North: Ave. Efron Norte						
	South	S	60.0	17.5	500	109
	West	10.0	20.2	15.7	500	107
West: Paseo del Plata						
	South	10.0	20.2	15.7	500	107
	North	13.8	22.8	21.7	500	111

Downstream Distance calculated by aaSIDRA

Downstream distance is distance travelled from the stopline until exit cruise speed is reached (includes negotiation distance). Acceleration distance is weighted for light and heavy vehicles. The same distance applies for both stopped and unstopped vehicles.

Ave. Efron con Entrada Paseo del Plata
Condicion de exitente, 2004, Hora Pico PM
Intersection ID: 02
Stop Sign Controlled Intersection

Table D.1 - LANE DELAYS

Lane No.	Mov No.	Deg. Satn x	Delay (seconds/veh) Stop-line Delay 1st d1	2nd d2	Total dSL	Acc. Dec. dn	Queuing Total dq	MvUp dqm	Stopd (Idle) di	Geom dig	Control dic
South: Ave Efron sur											
1 L	1	0.112	3.3	0.0	3.3	2.4	0.9	0.0	0.9	8.2	11.5
2 T	2	0.120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3 T	2	0.120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
North: Ave. Efron Norte											
1 T	8	0.154	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2 T	8	0.154	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3 R	9	0.031	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.3	8.3
West: Paseo del Plata											
1 L	10	0.433	9.4	2.2	11.6	1.9	9.8	1.6	8.2	11.0	22.6
2 R	12	0.274	3.4	0.1	3.6	1.2	2.3	0.2	2.1	10.8	14.4

dn is average stop-start delay for all vehicles queued and unqueued

Ave. Efron con Entrada Paseo del Plata
Condicion de exitente, 2004, Hora Pico PM
Intersection ID: 02
Stop Sign Controlled Intersection

Table D.3A - LANE QUEUES (veh)

Lane	Deg. Satn x	Ovrfl. Queue No	Average (veh) Nc1	Nc2	Nc	Percentile (veh) 70%	85%	90%	95%	98%	Queue Stor. Ratio
South: Ave Efron sur											
1 L	0.112	0.0	0.1	0.0	0.1	0.1	0.2	0.2	0.2	0.3	0.03
2 T	0.120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
3 T	0.120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
North: Ave. Efron Norte											
1 T	0.154	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
2 T	0.154	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
3 R	0.031	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
West: Paseo del Plata											
1 L	0.433	0.2	0.5	0.1	0.6	0.7	1.1	1.5	1.8	2.3	0.01
2 R	0.274	0.0	0.2	0.0	0.2	0.3	0.4	0.6	0.7	0.9	0.01

Values printed in this table are cycle-average queues (vehicles).

Ave. Efron con Entrada Paseo del Plata
Condicion de exitente, 2004, Hora Pico PM
Intersection ID: 02
Stop Sign Controlled Intersection

Table D.3B - LANE QUEUES (metres)

Lane	Deg. Satn	Ovrfl. Queue	Average (metres)			Percentile (metres)					Queue Stor.

```
  No.      x    No     Nc1   Nc2    Nc    70%   85%   90%   95%   98%
Ratio
 ---------------------------------------------------------------------------
_
  South: Ave Efron sur
  1 L   0.112     0      1     0     1      1     1     1     2     2
0.03
  2 T   0.120     0      0     0     0      0     0     0     0     0
0.00
  3 T   0.120     0      0     0     0      0     0     0     0     0
0.00
 ---------------------------------------------------------------------------
_
  North: Ave. Efron Norte
  1 T   0.154     0      0     0     0      0     0     0     0     0
0.00
  2 T   0.154     0      0     0     0      0     0     0     0     0
0.00
  3 R   0.031     0      0     0     0      0     0     0     0     0
0.00
 ---------------------------------------------------------------------------
_
  West: Paseo del Plata
  1 L   0.433     1      3     1     4      5     8    10    13    17
0.01
  2 R   0.274     0      1     0     2      2     3     4     5     6
0.01
 ---------------------------------------------------------------------------
_

      Values printed in this table are cycle-average queues (metres).

                        --- End of aaSIDRA Output ---

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Paseo del Plata,2004,pm.OUT
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 Generated   3:35 PM, 22 Nov 2004
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                Akcelik & Associates Pty Ltd - aaSIDRA 2.1.0.346
               ----------------------------------------------------
               Traffic Consulting Group
               Carlos M. Contreras                 User ID: M0276
               Licence Type: Multi Computer

               Time and Date of Analysis    3:34 PM, 22 Nov 2004

 Filename: C:\My Projects\Dorado-noviembre-2004-Dorado Office Park\PR 693-
Efron Ave,2004,am.OUT

 PR-693 con Efron Ave.
 Condicion existente, 2004, Hora pico AM
 Intersection ID:    01


 RUN INFORMATION
 ---------------
 * Basic Parameters:
   Intersection Type: Unsignalised - Two-Way Stop Control
   Driving on the right-hand side of the road
   Input data specified in Metric units
   Default Values File No. 30
   Peak flow period (for performance): 15 minutes
   Unit time (for volumes): 60 minutes (Total Flow Period)
   Delay definition: Control delay
                     Geometric delay included
   aaSIDRA Standard Delay and Queue models used
   Level of Service based on: Delay (HCM method)
   Queue definition: Cycle average queue, Average
```

```
 PR-693 con Efron Ave.
 Condicion existente, 2004, Hora pico AM
 Intersection ID:    01
             Stop Sign Controlled Intersection


 Table S.0 - TRAFFIC FLOW DATA
 ----------------------------------------------------------------------
        Mov              Left       Through       Right     Flow   Peak
        No.           ---------    ---------    ---------   Scale  Flow
                       LV    HV     LV    HV     LV    HV          Factor
 ----------------------------------------------------------------------
 VEHICLES       Demand flows in veh/hour as used by the program
 South: Efron Avenue
          1           171     5      0     0      0     0   1.00   1.00
          3             0     0      0     0    167     5   1.00   1.00
 ----------------------------------------------------------------------
 East: PR-693 Este
          4           144     4    334    10      0     0   1.00   1.00
 ----------------------------------------------------------------------
 West: PR-693 Oeste
         10             0     0    376    12      0     0   1.00   1.00
         12             0     0      0     0    512    16   1.00   1.00
 ----------------------------------------------------------------------
 Based on unit time =  60 minutes.
 Flow Scale and Peak Hour Factor effects included in flow values.
```

PR-693 con Efron Ave.
Condicion existente, 2004, Hora pico AM
Intersection ID: 01
Stop Sign Controlled Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Demand Flow (veh/h)	HV (%)	Opposing Movement Flow (veh/h)	HV (%)	Adjust. Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
South: Efron Avenue										
1 L	176	2.8	986+	3.0	986	319	0.80	45	100	0.552*
3 R	172	2.9	494+	3.1	494	312	0.80	45	100	0.551
East: PR-693 Este										
4 LT	492	2.8	916	3.1	916	1037	0.80	69	100	0.474
West: PR-693 Oeste										
10 T	388	3.1	0			1912	0.80	294	100	0.203
12 R	528	3.0	148	2.7	148	1249	0.80	89	100	0.423

+ Percentage of exiting flow included in total opposing flow

PR-693 con Efron Ave.
Condicion existente, 2004, Hora pico AM
Intersection ID: 01
Stop Sign Controlled Intersection

Table S.3 - INTERSECTION PARAMETERS

Intersection Level of Service	=	NA
Worst movement Level of Service	=	C
Average intersection delay (s)	=	10.6
Largest average movement delay (s)	=	19.0
Largest cycle-average queue, mean (m)	=	12
Performance Index	=	30.51
Degree of saturation (highest)	=	0.552
Practical Spare Capacity (lowest)	=	45 %
Effective intersection capacity, (veh/h)	=	3183
Total vehicle flow (veh/h)	=	1756
Total person flow (pers/h)	=	2634
Total vehicle delay (veh-h/h)	=	5.15
Total person delay (pers-h/h)	=	7.72
Total effective vehicle stops (veh/h)	=	890
Total effective person stops (pers/h)	=	1334
Total vehicle travel (veh-km/h)	=	1067.5
Total cost ($/h)	=	725.89
Total fuel (L/h)	=	122.6
Total CO2 (kg/h)	=	306.86

NA Not Applicable - Intersection Level of Service is not calculated at two-way stop control or give-way/yield controlled intersections. See Table S.15 or Movement Displays for individual movement LOS values.

PR-693 con Efron Ave.
Condicion existente, 2004, Hora pico AM
Intersection ID: 01
Stop Sign Controlled Intersection

Table S.5 - MOVEMENT PERFORMANCE

Mov No.	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue Cycle (vehs)	Longest Queue Aver. (m)	Perf. Index	Aver. Speed (km/h)
South: Efron Avenue									
1 L	0.93	1.39	18.9	0.69	1.14	0.8	6	4.21	40.5
3 R	0.91	1.36	19.0	0.69	1.17	0.8	6	4.15	40.5
East: PR-693 Este									
4 LT	2.06	3.08	15.0	1.00	0.34	1.7	12	9.66	42.4
West: PR-693 Oeste									
10 T	0.00	0.00	0.0	0.00	0.00	0.0	0	3.92	60.0
12 R	1.26	1.89	8.6	0.36	0.61	0.1	1	8.58	47.8

PR-693 con Efron Ave.
Condicion existente, 2004, Hora pico AM
Intersection ID: 01
Stop Sign Controlled Intersection

Table S.6 - INTERSECTION PERFORMANCE

Total Flow (veh/h)	Deg. Satn x	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue (m)	Perf. Index	Aver. Speed (km/h)
South: Efron Avenue									
348	0.552	1.83	2.75	19.0	0.69	1.15	6	8.35	40.5
East: PR-693 Este									
492	0.474	2.06	3.08	15.0	1.00	0.34	12	9.66	42.4
West: PR-693 Oeste									
916	0.423	1.26	1.89	4.9	0.21	0.35	1	12.50	52.3
ALL VEHICLES:									
1756	0.552	5.15	7.72	10.6	0.53	0.51	12	30.51	46.6
INTERSECTION (persons):									
2634	0.552		7.72	10.6	0.53	0.51		30.51	46.6

Queue values in this table are mean cycle-average queue (metres).

PR-693 con Efron Ave.
Condicion existente, 2004, Hora pico AM
Intersection ID: 01
Stop Sign Controlled Intersection

Table S.7 - LANE PERFORMANCE

Lane No.	Mov No.	Dem Flow (veh /h)	Cap (veh /h)	Deg. Satn x	Aver. Delay (sec)	Eff. Stop Rate	Queue Cycle (vehs)	Queue Aver. (m)	Short Lane (m)
South: Efron Avenue									
1 LR	1, 3	348	632	0.551	19.0	1.15	0.8	6	
East: PR-693 Este									
1 LT	4	492	1037	0.475	15.0	0.34	1.7	12	
West: PR-693 Oeste									
1 T	10	388	1912	0.203	0.0	0.00	0.0	0	
2 R	12	528	1249	0.423	8.6	0.61	0.1	1	100

PR-693 con Efron Ave.
Condicion existente, 2004, Hora pico AM
Intersection ID: 01
Stop Sign Controlled Intersection

Table S.8A - LANE FLOW AND CAPACITY INFORMATION

Lane No.	Mov No.	Dem Flow (veh/h) Lef	Thru	Rig	Tot	Min Cap (veh /h)	Tot Cap (veh /h)	Deg. Satn x	Lane Util %
South: Efron Avenue									
1 LR	1, 3	176	0	172	348	120	632	0.551	100
East: PR-693 Este									
1 LT	4	148	344	0	492	348	1037	0.475	100
West: PR-693 Oeste									
1 T	10	0	388	0	388	388	1912	0.203	100
2 R	12	0	0	528	528	120	1249	0.423	100

The capacity value for priority and continuous movements is obtained by adjusting the basic saturation flow for heavy vehicle and turning vehicle effects. Saturation flow scale applies if specified.

PR-693 con Efron Ave.
Condicion existente, 2004, Hora pico AM
Intersection ID: 01
Stop Sign Controlled Intersection

Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY

Mov	Mov	Dem	Total	Lane	Deg.	Aver.	Eff.	Cycle	Perf.

No.	Typ	Flow (veh /h)	Cap. (veh /h)	Util (%)	Satn x	Delay (sec)	Stop Rate	Average Queue (veh)	Index
South: Efron Avenue									
1	L	176	319	100	0.552*	18.9	1.14	0.8	4.21
3	R	172	312	100	0.551	19.0	1.17	0.8	4.15
East: PR-693 Este									
4	LT	492	1037	100	0.474	15.0	0.34	1.7	9.66
West: PR-693 Oeste									
10	T	388	1912	100	0.203	0.0	0.00	0.0	3.92
12	R	528	1249	100	0.423	8.6	0.61	0.1	8.58

* Maximum degree of saturation

PR-693 con Efron Ave.
Condicion existente, 2004, Hora pico AM
Intersection ID: 01
Stop Sign Controlled Intersection

Table S.14 - SUMMARY OF INPUT AND OUTPUT DATA

Lane No.	Demand Flow (veh/h) L	T	R	Tot	%HV	Adj. Basic Satf.	Eff Grn (secs) 1st	2nd	Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
South: Efron Avenue												
1 LR	176		172	348	3				0.551	19.0	6	
	176	0	172	348	3				0.551	19.0	6	
East: PR-693 Este												
1 LT	148	344		492	3				0.475	15.0	12	
	148	344	0	492	3				0.475	15.0	12	
West: PR-693 Oeste												
1 T		388		388	3				0.203	0.0	0	
2 R			528	528	3				0.423	8.6	1	100
	0	388	528	916	3				0.423	4.9	1	
ALL VEHICLES				Total Flow 1756	% HV 3				Max X 0.552	Aver. Delay 10.6	Max Queue 12	

Total flow period = 60 minutes. Peak flow period = 15 minutes.

Queue values in this table are mean cycle-average queue (metres).

Note: Basic Saturation Flows are not adjusted at roundabouts or sign-controlled intersections and apply only to continuous lanes.

PR-693 con Efron Ave.
Condicion existente, 2004, Hora pico AM

Intersection ID: 01
Stop Sign Controlled Intersection

Table S.15 - CAPACITY AND LEVEL OF SERVICE

Mov No.	Mov Typ	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Aver. Delay (sec)	LOS	Longest Queue Cycle (vehs)	Aver. (m)
South: Efron Avenue								
1	L	176	319	0.552*	18.9	C	0.8	6
3	R	172	312	0.551	19.0	C	0.8	6
		348		0.552	19.0	C	0.8	6
East: PR-693 Este								
4	LT	492	1037	0.474	15.0	C	1.7	12
		492		0.474	15.0	C	1.7	12
West: PR-693 Oeste								
10	T	388	1912	0.203	0.0	A	0.0	0
12	R	528	1249	0.423	8.6	A	0.1	1
		916		0.423	4.9	A	0.1	1
ALL VEHICLES:		1756		0.552	10.6	NA	1.7	12

Level of Service calculations are based on
average control delay including geometric delay (HCM criteria),
independent of the current delay definition used.
For the criteria, refer to the "Level of Service" topic in the
aaSIDRA Output Guide or the Output section of the on-line help.

NA Not Applicable - Intersection Level of Service is not calculated at
two-way stop control or give-way/yield controlled intersections.

* Maximum v/c ratio, or critical green periods

PR-693 con Efron Ave.
Condicion existente, 2004, Hora pico AM
Intersection ID: 01
Stop Sign Controlled Intersection

Table D.0 - GEOMETRIC DELAY DATA

From Approach	To Approach	Negn Radius (m)	Negn Speed (km/h)	Negn Dist. (m)	Appr. Dist. (m)	Downstream Distance (m)
South: Efron Avenue						
	East	10.0	20.2	15.7	500	107
	West	8.4	18.9	13.2	500	105
East: PR-693 Este						
	South	6.6	17.2	10.4	500	103
	West	S	60.0	10.0	500	109
West: PR-693 Oeste						

```
                 South    20.0   26.2   31.4    500      117
                  East       S   60.0   10.0    500      109
 ----------------------------------------------------------------
   Downstream Distance calculated by aaSIDRA

   Downstream distance is distance travelled from the stopline until exit
   cruise speed is reached (includes negotiation distance).  Acceleration
   distance is weighted for light and heavy vehicles.  The same distance
   applies for both stopped and unstopped vehicles.
```

```
 PR-693 con Efron Ave.
 Condicion existente, 2004, Hora pico AM
 Intersection ID:    01
             Stop Sign Controlled Intersection


 Table D.1 - LANE DELAYS
 ---------------------------------------------------------------------------
                      ---------------  Delay (seconds/veh)  ----------------
               Deg.   Stop-line Delay  Acc.   Queuing   Stopd
  Lane   Mov   Satn   1st   2nd Total  Dec.  Total MvUp (Idle) Geom Control
  No.    No.     x     d1    d2   dSL   dn    dq   dqm    di    dig   dic
 ---------------------------------------------------------------------------
  South: Efron Avenue
  1 LR     1, 0.551   5.8   2.4   8.2   1.4   6.8   2.7   4.1  10.7   19.0
           3                                                    10.8
 ---------------------------------------------------------------------------
  East: PR-693 Este
  1 LT     4  0.475  11.4   1.1  12.5   7.1   5.4   0.8   4.6   2.6   15.0
 ---------------------------------------------------------------------------
  West: PR-693 Oeste
  1 T     10  0.203   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0    0.0
  2 R     12  0.423   0.9   0.0   0.9   1.8   0.0   0.0   0.0   7.7    8.6
 ---------------------------------------------------------------------------
   dn is average stop-start delay for all vehicles queued and unqueued
```

```
 PR-693 con Efron Ave.
 Condicion existente, 2004, Hora pico AM
 Intersection ID:    01
             Stop Sign Controlled Intersection


 Table D.3A - LANE QUEUES (veh)
 ---------------------------------------------------------------------------
         Deg.  Ovrfl. Average (veh)          Percentile (veh)
Queue
  Lane   Satn  Queue ----------------  ----------------------------
Stor.
  No.      x    No     Nc1   Nc2    Nc    70%   85%   90%   95%   98%
Ratio
 ---------------------------------------------------------------------------
  South: Efron Avenue
```

```
  1 LR  0.551   0.3    0.6   0.2   0.8    0.9   1.6   2.0   2.5   3.2
0.02
 ---------------------------------------------------------------------------
-
  East: PR-693 Este
  1 LT  0.475   0.4    1.6   0.1   1.7    2.0   3.3   4.2   5.2   6.8
0.04
 ---------------------------------------------------------------------------
-
  West: PR-693 Oeste
  1 T   0.203   0.0    0.0   0.0   0.0    0.0   0.0   0.0   0.0   0.0
0.00
  2 R   0.423   0.0    0.1   0.0   0.1    0.2   0.3   0.3   0.4   0.6
0.07
 ---------------------------------------------------------------------------
-

      Values printed in this table are cycle-average queues (vehicles).

_____________________________________________________________________________
____

 PR-693 con Efron Ave.
 Condicion existente, 2004, Hora pico AM
 Intersection ID:    01
            Stop Sign Controlled Intersection


 Table D.3B - LANE QUEUES (metres)
 ---------------------------------------------------------------------------
-
         Deg.  Ovrfl. Average (metres)       Percentile (metres)
Queue
  Lane   Satn  Queue ----------------  ----------------------------
Stor.
  No.      x    No     Nc1   Nc2    Nc    70%   85%   90%   95%   98%
Ratio
 ---------------------------------------------------------------------------
-
  South: Efron Avenue
  1 LR  0.551     2      4     2     6      7    11    14    18    23
0.02
 ---------------------------------------------------------------------------
-
  East: PR-693 Este
  1 LT  0.475     3     11     1    12     14    23    30    37    49
0.04
 ---------------------------------------------------------------------------
-
  West: PR-693 Oeste
  1 T   0.203     0      0     0     0      0     0     0     0     0
0.00
  2 R   0.423     0      1     0     1      1     2     2     3     4
0.07
 ---------------------------------------------------------------------------
-

      Values printed in this table are cycle-average queues (metres).

                        --- End of aaSIDRA Output ---

 C:\My Projects\Dorado-noviembre-2004-Dorado Office Park\PR 693-Efron
Ave,2004,am.OUT
 Produced by aaSIDRA 2.1.0.346
 Copyright 2000-2004
```

Akcelik & Associates Pty Ltd

Generated 3:34 PM, 22 Nov 2004

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                Akcelik & Associates Pty Ltd - aaSIDRA 2.1.0.346
               ----------------------------------------------------
               Traffic Consulting Group
               Carlos M. Contreras                 User ID: M0276
               Licence Type: Multi Computer

               Time and Date of Analysis    3:34 PM, 22 Nov 2004

 Filename: C:\My Projects\Dorado-noviembre-2004-Dorado Office Park\PR 693-
Efron Ave,2004,pm.OUT

 PR-693 con Efron Ave.
 Condicion existente, 2004, Hora pico PM
 Intersection ID:    01


 RUN INFORMATION
 ---------------
 * Basic Parameters:
   Intersection Type: Unsignalised - Two-Way Stop Control
   Driving on the right-hand side of the road
   Input data specified in Metric units
   Default Values File No. 30
   Peak flow period (for performance): 15 minutes
   Unit time (for volumes): 60 minutes (Total Flow Period)
   Delay definition: Control delay
                     Geometric delay included
   aaSIDRA Standard Delay and Queue models used
   Level of Service based on: Delay (HCM method)
   Queue definition: Cycle average queue, Average
```

```
 PR-693 con Efron Ave.
 Condicion existente, 2004, Hora pico PM
 Intersection ID:    01
             Stop Sign Controlled Intersection


 Table S.0 - TRAFFIC FLOW DATA
 ---------------------------------------------------------------------------
        Mov              Left       Through       Right     Flow   Peak
        No.           ---------    ---------    ---------   Scale  Flow
                       LV    HV     LV    HV     LV    HV          Factor
 ---------------------------------------------------------------------------
 VEHICLES       Demand flows in veh/hour as used by the program
 South: Efron Avenue
          1           272     8      0     0      0     0   1.00   1.00
          3             0     0      0     0    310    10   1.00   1.00
 ---------------------------------------------------------------------------
 East: PR-693 Este
          4           202     6    407    13      0     0   1.00   1.00
 ---------------------------------------------------------------------------
 West: PR-693 Oeste
         10             0     0    283     9      0     0   1.00   1.00
         12             0     0      0     0    275     9   1.00   1.00
 ---------------------------------------------------------------------------
 Based on unit time =  60 minutes.
 Flow Scale and Peak Hour Factor effects included in flow values.
```

PR-693 con Efron Ave.
Condicion existente, 2004, Hora pico PM
Intersection ID: 01
Stop Sign Controlled Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Demand Flow (veh/h)	HV (%)	Opposing Movement Flow (veh/h)	HV (%)	Adjust. Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
South: Efron Avenue										
1 L	280	2.9	977+	3.1	977	322	0.80	-8	100	0.870*
3 R	320	3.1	349+	3.1	349	368	0.80	-8	100	0.870*
East: PR-693 Este										
4 LT	628	3.0	576	3.1	576	1298	0.80	65	100	0.484
West: PR-693 Oeste										
10 T	292	3.1	0			1912	0.80	424	100	0.153
12 R	284	3.2	208	2.9	208	1173	0.80	230	100	0.242

+ Percentage of exiting flow included in total opposing flow

PR-693 con Efron Ave.
Condicion existente, 2004, Hora pico PM
Intersection ID: 01
Stop Sign Controlled Intersection

Table S.3 - INTERSECTION PARAMETERS

Intersection Level of Service	=	NA
Worst movement Level of Service	=	D
Average intersection delay (s)	=	14.0
Largest average movement delay (s)	=	28.0
Largest cycle-average queue, mean (m)	=	21
Performance Index	=	36.81
Degree of saturation (highest)	=	0.870
Practical Spare Capacity (lowest)	=	-8 %
Effective intersection capacity, (veh/h)	=	2075
Total vehicle flow (veh/h)	=	1804
Total person flow (pers/h)	=	2706
Total vehicle delay (veh-h/h)	=	6.99
Total person delay (pers-h/h)	=	10.49
Total effective vehicle stops (veh/h)	=	1350
Total effective person stops (pers/h)	=	2025
Total vehicle travel (veh-km/h)	=	1093.5
Total cost ($/h)	=	795.73
Total fuel (L/h)	=	132.5
Total CO2 (kg/h)	=	331.57

NA Not Applicable - Intersection Level of Service is not calculated at two-way stop control or give-way/yield controlled intersections. See Table S.15 or Movement Displays for individual movement LOS values.

PR-693 con Efron Ave.
Condicion existente, 2004, Hora pico PM
Intersection ID: 01
Stop Sign Controlled Intersection

Table S.5 - MOVEMENT PERFORMANCE

Mov No.	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue Cycle (vehs)	Longest Queue Aver. (m)	Perf. Index	Aver. Speed (km/h)
South: Efron Avenue									
1 L	2.17	3.26	27.9	0.77	1.50	2.9	21	8.65	34.8
3 R	2.49	3.74	28.0	0.77	1.65	2.9	21	10.18	34.8
East: PR-693 Este									
4 LT	1.64	2.46	9.4	0.85	0.36	1.1	8	10.37	47.2
West: PR-693 Oeste									
10 T	0.00	0.00	0.0	0.00	0.00	0.0	0	2.95	60.0
12 R	0.69	1.03	8.7	0.36	0.62	0.1	1	4.66	47.8

PR-693 con Efron Ave.
Condicion existente, 2004, Hora pico PM
Intersection ID: 01
Stop Sign Controlled Intersection

Table S.6 - INTERSECTION PERFORMANCE

Total Flow (veh/h)	Deg. Satn x	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue (m)	Perf. Index	Aver. Speed (km/h)
South: Efron Avenue									
600	0.870	4.67	7.00	28.0	0.77	1.58	21	18.83	34.8
East: PR-693 Este									
628	0.484	1.64	2.46	9.4	0.85	0.36	8	10.37	47.2
West: PR-693 Oeste									
576	0.242	0.69	1.03	4.3	0.18	0.31	1	7.62	53.3
ALL VEHICLES:									
1804	0.870	6.99	10.49	14.0	0.61	0.75	21	36.81	43.6
INTERSECTION (persons):									
2706	0.870		10.49	14.0	0.61	0.75		36.81	43.6

Queue values in this table are mean cycle-average queue (metres).

PR-693 con Efron Ave.
Condicion existente, 2004, Hora pico PM
Intersection ID: 01
Stop Sign Controlled Intersection

Table S.7 - LANE PERFORMANCE

Lane No.	Mov No.	Dem Flow (veh /h)	Cap (veh /h)	Deg. Satn x	Aver. Delay (sec)	Eff. Stop Rate	Queue Cycle (vehs)	Queue Aver. (m)	Short Lane (m)
South: Efron Avenue									
1 LR	1, 3	600	691	0.869	28.0	1.58	2.9	21	
East: PR-693 Este									
1 LT	4	628	1298	0.484	9.4	0.36	1.1	8	
West: PR-693 Oeste									
1 T	10	292	1912	0.153	0.0	0.00	0.0	0	
2 R	12	284	1173	0.242	8.7	0.62	0.1	1	100

PR-693 con Efron Ave.
Condicion existente, 2004, Hora pico PM
Intersection ID: 01
Stop Sign Controlled Intersection

Table S.8A - LANE FLOW AND CAPACITY INFORMATION

Lane No.	Mov No.	Dem Flow (veh/h) Lef	Thru	Rig	Tot	Min Cap (veh /h)	Tot Cap (veh /h)	Deg. Satn x	Lane Util %
South: Efron Avenue									
1 LR	1, 3	280	0	320	600	120	691	0.869	100
East: PR-693 Este									
1 LT	4	208	420	0	628	322	1298	0.484	100
West: PR-693 Oeste									
1 T	10	0	292	0	292	292	1912	0.153	100
2 R	12	0	0	284	284	120	1173	0.242	100

The capacity value for priority and continuous movements is obtained by adjusting the basic saturation flow for heavy vehicle and turning vehicle effects. Saturation flow scale applies if specified.

PR-693 con Efron Ave.
Condicion existente, 2004, Hora pico PM
Intersection ID: 01
Stop Sign Controlled Intersection

Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY

Mov	Mov	Dem	Total	Lane	Deg.	Aver.	Eff.	Cycle	Perf.

No.	Typ	Flow (veh /h)	Cap. (veh /h)	Util (%)	Satn x	Delay (sec)	Stop Rate	Average Queue (veh)	Index
South: Efron Avenue									
1	L	280	322	100	0.870*	27.9	1.50	2.9	8.65
3	R	320	368	100	0.870*	28.0	1.65	2.9	10.18
East: PR-693 Este									
4	LT	628	1298	100	0.484	9.4	0.36	1.1	10.37
West: PR-693 Oeste									
10	T	292	1912	100	0.153	0.0	0.00	0.0	2.95
12	R	284	1173	100	0.242	8.7	0.62	0.1	4.66

* Maximum degree of saturation

PR-693 con Efron Ave.
Condicion existente, 2004, Hora pico PM
Intersection ID: 01
Stop Sign Controlled Intersection

Table S.14 - SUMMARY OF INPUT AND OUTPUT DATA

Lane No.	Demand Flow (veh/h) L	T	R	Tot	%HV	Adj. Basic Satf.	Eff Grn (secs) 1st	2nd	Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
South: Efron Avenue												
1 LR	280		320	600	3				0.869	28.0	21	
	280	0	320	600	3				0.869	28.0	21	
East: PR-693 Este												
1 LT	208	420		628	3				0.484	9.4	8	
	208	420	0	628	3				0.484	9.4	8	
West: PR-693 Oeste												
1 T		292		292	3				0.153	0.0	0	
2 R			284	284	3				0.242	8.7	1	100
	0	292	284	576	3				0.242	4.3	1	
ALL VEHICLES				Total Flow 1804	% HV 3				Max X 0.870	Aver. Delay 14.0	Max Queue 21	

Total flow period = 60 minutes. Peak flow period = 15 minutes.

Queue values in this table are mean cycle-average queue (metres).

Note: Basic Saturation Flows are not adjusted at roundabouts or sign-controlled intersections and apply only to continuous lanes.

PR-693 con Efron Ave.
Condicion existente, 2004, Hora pico PM

Intersection ID: 01
Stop Sign Controlled Intersection

Table S.15 - CAPACITY AND LEVEL OF SERVICE

Mov No.	Mov Typ	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Aver. Delay (sec)	LOS	Longest Queue Cycle (vehs)	Aver. (m)
South: Efron Avenue								
1	L	280	322	0.870*	27.9	D	2.9	21
3	R	320	368	0.870*	28.0	D	2.9	21
		600		0.870	28.0	D	2.9	21
East: PR-693 Este								
4	LT	628	1298	0.484	9.4	A	1.1	8
		628		0.484	9.4	A	1.1	8
West: PR-693 Oeste								
10	T	292	1912	0.153	0.0	A	0.0	0
12	R	284	1173	0.242	8.7	A	0.1	1
		576		0.242	4.3	A	0.1	1
ALL VEHICLES:		1804		0.870	14.0	NA	2.9	21

Level of Service calculations are based on
average control delay including geometric delay (HCM criteria),
independent of the current delay definition used.
For the criteria, refer to the "Level of Service" topic in the
aaSIDRA Output Guide or the Output section of the on-line help.

NA Not Applicable - Intersection Level of Service is not calculated at
two-way stop control or give-way/yield controlled intersections.

* Maximum v/c ratio, or critical green periods

PR-693 con Efron Ave.
Condicion existente, 2004, Hora pico PM
Intersection ID: 01
Stop Sign Controlled Intersection

Table D.0 - GEOMETRIC DELAY DATA

From Approach	To Approach	Negn Radius (m)	Negn Speed (km/h)	Negn Dist. (m)	Appr. Dist. (m)	Downstream Distance (m)
South: Efron Avenue						
	East	10.0	20.2	15.7	500	107
	West	8.4	18.9	13.2	500	105
East: PR-693 Este						
	South	6.6	17.2	10.4	500	103
	West	S	60.0	10.0	500	109
West: PR-693 Oeste						

```
                 South    20.0   26.2   31.4    500      117
                  East       S   60.0   10.0    500      109
 ----------------------------------------------------------------
   Downstream Distance calculated by aaSIDRA

   Downstream distance is distance travelled from the stopline until exit
   cruise speed is reached (includes negotiation distance).  Acceleration
   distance is weighted for light and heavy vehicles.  The same distance
   applies for both stopped and unstopped vehicles.
```

```
 PR-693 con Efron Ave.
 Condicion existente, 2004, Hora pico PM
 Intersection ID:    01
             Stop Sign Controlled Intersection


 Table D.1 - LANE DELAYS
 ---------------------------------------------------------------------------
                      ---------------  Delay (seconds/veh)  ----------------
               Deg.   Stop-line Delay  Acc.   Queuing   Stopd
  Lane   Mov   Satn   1st   2nd Total  Dec.  Total MvUp (Idle) Geom Control
  No.    No.     x     d1    d2   dSL   dn    dq   dqm    di    dig   dic
 ---------------------------------------------------------------------------
  South: Efron Avenue
  1 LR     1, 0.869   6.6  10.6  17.2   1.6  15.6  10.2   5.4  10.7   28.0
           3                                                     10.8
 ---------------------------------------------------------------------------
  East: PR-693 Este
  1 LT     4  0.484   5.7   0.9   6.6   5.9   1.2   0.7   0.4   2.8    9.4
 ---------------------------------------------------------------------------
  West: PR-693 Oeste
  1 T     10  0.153   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0    0.0
  2 R     12  0.242   1.0   0.0   1.0   1.8   0.0   0.0   0.0   7.7    8.7
 ---------------------------------------------------------------------------
   dn is average stop-start delay for all vehicles queued and unqueued
```

```
 PR-693 con Efron Ave.
 Condicion existente, 2004, Hora pico PM
 Intersection ID:    01
             Stop Sign Controlled Intersection


 Table D.3A - LANE QUEUES (veh)
 ---------------------------------------------------------------------------
         Deg.  Ovrfl. Average (veh)          Percentile (veh)
Queue
  Lane   Satn  Queue ----------------  ----------------------------
Stor.
  No.      x    No     Nc1   Nc2    Nc    70%   85%   90%   95%   98%
Ratio
 ---------------------------------------------------------------------------
  South: Efron Avenue
```

```
  1 LR  0.869   1.9    1.1   1.8   2.9    3.4   5.4   6.9   8.6  11.2
0.08
 ---------------------------------------------------------------------------
_
  East: PR-693 Este
  1 LT  0.484   0.3    1.0   0.2   1.1    1.4   2.2   2.9   3.6   4.7
0.04
 ---------------------------------------------------------------------------
_
  West: PR-693 Oeste
  1 T   0.153   0.0    0.0   0.0   0.0    0.0   0.0   0.0   0.0   0.0
0.00
  2 R   0.242   0.0    0.1   0.0   0.1    0.1   0.2   0.2   0.3   0.3
0.03
 ---------------------------------------------------------------------------
_

      Values printed in this table are cycle-average queues (vehicles).

_____________________________________________________________________________
____

 PR-693 con Efron Ave.
 Condicion existente, 2004, Hora pico PM
 Intersection ID:    01
            Stop Sign Controlled Intersection


 Table D.3B - LANE QUEUES (metres)
 ---------------------------------------------------------------------------
_
         Deg.  Ovrfl. Average (metres)       Percentile (metres)
Queue
  Lane   Satn  Queue ----------------  ----------------------------
Stor.
  No.      x    No     Nc1   Nc2    Nc    70%   85%   90%   95%   98%
Ratio
 ---------------------------------------------------------------------------
_
  South: Efron Avenue
  1 LR  0.869    14      8    13    21     24    39    50    62    80
0.08
 ---------------------------------------------------------------------------
_
  East: PR-693 Este
  1 LT  0.484     2      7     1     8     10    16    21    26    33
0.04
 ---------------------------------------------------------------------------
_
  West: PR-693 Oeste
  1 T   0.153     0      0     0     0      0     0     0     0     0
0.00
  2 R   0.242     0      1     0     1      1     1     2     2     2
0.03
 ---------------------------------------------------------------------------
_

      Values printed in this table are cycle-average queues (metres).

                        --- End of aaSIDRA Output ---

 C:\My Projects\Dorado-noviembre-2004-Dorado Office Park\PR 693-Efron
Ave,2004,pm.OUT
 Produced by aaSIDRA 2.1.0.346
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```

Akcelik & Associates Pty Ltd

Generated 3:34 PM, 22 Nov 2004

```
                Akcelik & Associates Pty Ltd - aaSIDRA 2.1.0.346
               ----------------------------------------------------
               Traffic Consulting Group
               Carlos M. Contreras                 User ID: M0276
               Licence Type: Multi Computer

               Time and Date of Analysis    3:53 PM, 22 Nov 2004

 Filename: C:\My Projects\Dorado-noviembre-2004-Dorado Office Park\PR-696-
Efron Ave,2004,am.OUT

 PR-696 con Ave. Efron
 Condicion Existente, 2004, Hora pico AM
 Intersection ID:    03


 RUN INFORMATION
 ---------------
 * Basic Parameters:
   Intersection Type: Unsignalised - Two-Way Stop Control
   Driving on the right-hand side of the road
   Input data specified in Metric units
   Default Values File No. 30
   Peak flow period (for performance): 15 minutes
   Unit time (for volumes): 60 minutes (Total Flow Period)
   Delay definition: Control delay
                     Geometric delay included
   aaSIDRA Standard Delay and Queue models used
   Level of Service based on: Delay (HCM method)
   Queue definition: Cycle average queue, Average
```

```
 PR-696 con Ave. Efron
 Condicion Existente, 2004, Hora pico AM
 Intersection ID:    03
             Stop Sign Controlled Intersection


 Table S.0 - TRAFFIC FLOW DATA
 ----------------------------------------------------------------------
        Mov              Left       Through       Right     Flow   Peak
        No.           ---------    ---------    ---------   Scale  Flow
                       LV    HV     LV    HV     LV    HV          Factor
 ----------------------------------------------------------------------
 VEHICLES       Demand flows in veh/hour as used by the program
 East: PR-696 Este
          4             0     0    198     6      0     0   1.00   1.00
          6             0     0      0     0    132     4   1.00   1.00
 ----------------------------------------------------------------------
 North: Ave. Efron
          7           481    15      0     0      0     0   1.00   1.00
          9             0     0      0     0     39     1   1.00   1.00
 ----------------------------------------------------------------------
 West: PR-696 Oeste
         10           144     4    516    16      0     0   1.00   1.00
 ----------------------------------------------------------------------
 Based on unit time =  60 minutes.
 Flow Scale and Peak Hour Factor effects included in flow values.
```

PR-696 con Ave. Efron
Condicion Existente, 2004, Hora pico AM
Intersection ID: 03
Stop Sign Controlled Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.		Demand Flow (veh/h)	HV (%)	Opposing Movement Flow (veh/h)	HV (%)	Adjust. Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
East: PR-696 Este											
4	T	204	2.9	0			1125	0.80	341	100	0.181
6	R	136	2.9	0			750	0.80	341	100	0.181
North: Ave. Efron											
7	L	496	3.0	911+	2.9	912	547	0.80	-12	100	0.907*
9	R	40	2.5	231+	2.9	231	1145	0.80	2190	100	0.035
West: PR-696 Oeste											
10	LT	680	2.9	340	2.9	340	2445	0.80	188	53	0.278

+ Percentage of exiting flow included in total opposing flow

PR-696 con Ave. Efron
Condicion Existente, 2004, Hora pico AM
Intersection ID: 03
Stop Sign Controlled Intersection

Table S.3 - INTERSECTION PARAMETERS

Intersection Level of Service	=	NA
Worst movement Level of Service	=	D
Average intersection delay (s)	=	13.1
Largest average movement delay (s)	=	34.8
Largest cycle-average queue, mean (m)	=	24
Performance Index	=	30.69
Degree of saturation (highest)	=	0.907
Practical Spare Capacity (lowest)	=	-12 %
Effective intersection capacity, (veh/h)	=	1716
Total vehicle flow (veh/h)	=	1556
Total person flow (pers/h)	=	2334
Total vehicle delay (veh-h/h)	=	5.65
Total person delay (pers-h/h)	=	8.47
Total effective vehicle stops (veh/h)	=	1073
Total effective person stops (pers/h)	=	1610
Total vehicle travel (veh-km/h)	=	942.7
Total cost ($/h)	=	654.07
Total fuel (L/h)	=	101.6
Total CO2 (kg/h)	=	254.37

NA Not Applicable - Intersection Level of Service is not calculated at two-way stop control or give-way/yield controlled intersections. See Table S.15 or Movement Displays for individual movement LOS values.

PR-696 con Ave. Efron
Condicion Existente, 2004, Hora pico AM
Intersection ID: 03
Stop Sign Controlled Intersection

Table S.5 - MOVEMENT PERFORMANCE

Mov No.	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue Cycle (vehs)	Aver. (m)	Perf. Index	Aver. Speed (km/h)
East: PR-696 Este									
4 T	0.00	0.00	0.0	0.00	0.00	0.0	0	2.06	60.0
6 R	0.31	0.47	8.3	0.00	0.67	0.0	0	2.19	49.0
North: Ave. Efron									
7 L	4.79	7.19	34.8	0.95	1.70	3.3	24	17.78	31.6
9 R	0.13	0.20	11.7	0.33	0.86	0.0	0	0.73	46.1
West: PR-696 Oeste									
10 LT	0.41	0.61	2.2	0.09	0.15	0.1	0	7.93	56.6

PR-696 con Ave. Efron
Condicion Existente, 2004, Hora pico AM
Intersection ID: 03
Stop Sign Controlled Intersection

Table S.6 - INTERSECTION PERFORMANCE

Total Flow (veh/h)	Deg. Satn x	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue (m)	Perf. Index	Aver. Speed (km/h)
East: PR-696 Este									
340	0.181	0.31	0.47	3.3	0.00	0.27	0	4.25	55.0
North: Ave. Efron									
536	0.907	4.92	7.39	33.1	0.90	1.64	24	18.51	32.4
West: PR-696 Oeste									
680	0.278	0.41	0.61	2.2	0.09	0.15	0	7.93	56.6
ALL VEHICLES:									
1556	0.907	5.65	8.47	13.1	0.35	0.69	24	30.69	44.8
INTERSECTION (persons):									
2334	0.907		8.47	13.1	0.35	0.69		30.69	44.8

Queue values in this table are mean cycle-average queue (metres).

PR-696 con Ave. Efron
Condicion Existente, 2004, Hora pico AM
Intersection ID: 03
Stop Sign Controlled Intersection

Table S.7 - LANE PERFORMANCE

Lane No.	Mov No.	Dem Flow (veh /h)	Cap (veh /h)	Deg. Satn x	Aver. Delay (sec)	Eff. Stop Rate	Queue Cycle (vehs)	Queue Aver. (m)	Short Lane (m)
East: PR-696 Este									
1 TR	4, 6	340	1874	0.181	3.3	0.27	0.0	0	
North: Ave. Efron									
1 L	7	496	547	0.906	34.8	1.70	3.3	24	
2 R	9	40	1145	0.035	11.7	0.86	0.0	0	
West: PR-696 Oeste									
1 L	10	148	1011	0.146	9.9	0.71	0.1	0	50
2 T	10	532	1913	0.278	0.0	0.00	0.0	0	

PR-696 con Ave. Efron
Condicion Existente, 2004, Hora pico AM
Intersection ID: 03
Stop Sign Controlled Intersection

Table S.8A - LANE FLOW AND CAPACITY INFORMATION

Lane No.	Mov No.	Dem Flow (veh/h) Lef	Thru	Rig	Tot	Min Cap (veh /h)	Tot Cap (veh /h)	Deg. Satn x	Lane Util %
East: PR-696 Este									
1 TR	4, 6	0	204	136	340	340	1874	0.181	100
North: Ave. Efron									
1 L	7	496	0	0	496	120	547	0.906	100
2 R	9	0	0	40	40	40	1145	0.035	100
West: PR-696 Oeste									
1 L	10	148	0	0	148	120	1011	0.146	53P
2 T	10	0	532	0	532	532	1913	0.278	100

P Lane under-utilisation found by the "Program"

The capacity value for priority and continuous movements is obtained by adjusting the basic saturation flow for heavy vehicle and turning vehicle effects. Saturation flow scale applies if specified.

PR-696 con Ave. Efron
Condicion Existente, 2004, Hora pico AM
Intersection ID: 03
Stop Sign Controlled Intersection

Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY

Mov No.	Mov Typ	Dem Flow (veh /h)	Total Cap. (veh /h)	Lane Util (%)	Deg. Satn x	Aver. Delay (sec)	Eff. Stop Rate	Cycle Average Queue (veh)	Perf. Index
East: PR-696 Este									
4	T	204	1125	100	0.181	0.0	0.00	0.0	2.06
6	R	136	750	100	0.181	8.3	0.67	0.0	2.19
North: Ave. Efron									
7	L	496	547	100	0.907*	34.8	1.70	3.3	17.78
9	R	40	1145	100	0.035	11.7	0.86	0.0	0.73
West: PR-696 Oeste									
10	LT	680	2445	53	0.278	2.2	0.15	0.1	7.93

* Maximum degree of saturation

PR-696 con Ave. Efron
Condicion Existente, 2004, Hora pico AM
Intersection ID: 03
Stop Sign Controlled Intersection

Table S.14 - SUMMARY OF INPUT AND OUTPUT DATA

Lane No.	Demand Flow (veh/h) L	T	R	Tot	%HV	Adj. Basic Satf.	Eff Grn (secs) 1st	2nd	Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
East: PR-696 Este												
1 TR		204	136	340	3				0.181	3.3	0	
	0	204	136	340	3				0.181	3.3		
North: Ave. Efron												
1 L	496			496	3				0.906	34.8	24	
2 R			40	40	3				0.035	11.7	0	
	496	0	40	536	3				0.906	33.1	24	
West: PR-696 Oeste												
1 L	148			148	3				0.146	9.9	0	50
2 T		532		532	3				0.278	0.0	0	
	148	532	0	680	3				0.278	2.2	0	

ALL VEHICLES	Total Flow	% HV	Max X	Aver. Delay	Max Queue
	1556	3	0.907	13.1	24

Total flow period = 60 minutes. Peak flow period = 15 minutes.

Queue values in this table are mean cycle-average queue (metres).

Note: Basic Saturation Flows are not adjusted at roundabouts or sign-controlled intersections and apply only to continuous lanes.

PR-696 con Ave. Efron
Condicion Existente, 2004, Hora pico AM
Intersection ID: 03
Stop Sign Controlled Intersection

Table S.15 - CAPACITY AND LEVEL OF SERVICE

Mov No.	Mov Typ	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Aver. Delay (sec)	LOS	Longest Queue Cycle (vehs)	Aver. (m)
East: PR-696 Este								
4	T	204	1125	0.181	0.0	A	0.0	0
6	R	136	750	0.181	8.3	A	0.0	0
		340		0.181	3.3	A	0.0	0
North: Ave. Efron								
7	L	496	547	0.907*	34.8	D	3.3	24
9	R	40	1145	0.035	11.7	B	0.0	0
		536		0.907	33.1	D	3.3	24
West: PR-696 Oeste								
10	LT	680	2445	0.278	2.2	A	0.1	0
		680		0.278	2.2	A	0.1	0
ALL VEHICLES:		1556		0.907	13.1	NA	3.3	24

Level of Service calculations are based on
average control delay including geometric delay (HCM criteria),
independent of the current delay definition used.
For the criteria, refer to the "Level of Service" topic in the
aaSIDRA Output Guide or the Output section of the on-line help.

NA Not Applicable - Intersection Level of Service is not calculated at
two-way stop control or give-way/yield controlled intersections.

* Maximum v/c ratio, or critical green periods

PR-696 con Ave. Efron
Condicion Existente, 2004, Hora pico AM
Intersection ID: 03
Stop Sign Controlled Intersection

Table D.0 - GEOMETRIC DELAY DATA

From Approach	To Approach	Negn Radius (m)	Negn Speed (km/h)	Negn Dist. (m)	Appr. Dist. (m)	Downstream Distance (m)
East: PR-696 Este						
	North	10.0	20.2	15.7	500	107
	West	S	60.0	19.5	500	109

```
 ------------------------------------------------------------
  North: Ave. Efron
                  East    11.4   21.2   17.9    500      108
                  West    10.0   20.2   15.7    500      107
 ------------------------------------------------------------
  West: PR-696 Oeste
                  East       S   60.0   19.5    500      109
                 North    10.6   20.6   16.6    500      107
 ------------------------------------------------------------
   Downstream Distance calculated by aaSIDRA

   Downstream distance is distance travelled from the stopline until exit
   cruise speed is reached (includes negotiation distance).  Acceleration
   distance is weighted for light and heavy vehicles.  The same distance
   applies for both stopped and unstopped vehicles.
```

```
 PR-696 con Ave. Efron
 Condicion Existente, 2004, Hora pico AM
 Intersection ID:    03
             Stop Sign Controlled Intersection


 Table D.1 - LANE DELAYS
 ---------------------------------------------------------------------------
                      ---------------  Delay (seconds/veh)  ----------------
               Deg.   Stop-line Delay  Acc.   Queuing   Stopd
  Lane   Mov   Satn   1st   2nd Total  Dec.  Total MvUp (Idle) Geom Control
  No.    No.    x     d1    d2   dSL   dn    dq   dqm    di    dig   dic
 ---------------------------------------------------------------------------
  East: PR-696 Este
  1 TR     4, 0.181   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0    3.3
           6                                                      8.3
 ---------------------------------------------------------------------------
  North: Ave. Efron
  1 L      7  0.906   8.6  15.3  23.9   2.0  21.8  12.3   9.5  10.9   34.8
  2 R      9  0.035   0.9   0.0   0.9   0.7   0.2   0.0   0.2  10.8   11.7
 ---------------------------------------------------------------------------
  West: PR-696 Oeste
  1 L     10  0.146   1.7   0.0   1.7   1.8   0.0   0.0   0.0   8.3    9.9
  2 T     10  0.278   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0    0.0
 ---------------------------------------------------------------------------
   dn is average stop-start delay for all vehicles queued and unqueued
```

```
 PR-696 con Ave. Efron
 Condicion Existente, 2004, Hora pico AM
 Intersection ID:    03
             Stop Sign Controlled Intersection


 Table D.3A - LANE QUEUES (veh)
 ---------------------------------------------------------------------------
         Deg.  Ovrfl. Average (veh)          Percentile (veh)
Queue
```

```
  Lane   Satn  Queue -----------------  ----------------------------
Stor.
  No.      x    No     Nc1   Nc2    Nc    70%   85%   90%   95%   98%
Ratio
 ---------------------------------------------------------------------------
-
  East: PR-696 Este
  1 TR  0.181   0.0    0.0   0.0   0.0    0.0   0.0   0.0   0.0   0.0
0.00
 ---------------------------------------------------------------------------
-
  North: Ave. Efron
  1 L   0.906   2.2    1.2   2.1   3.3    3.8   6.1   7.9   9.8  12.7
0.07
  2 R   0.035   0.0    0.0   0.0   0.0    0.0   0.0   0.0   0.0   0.0
0.00
 ---------------------------------------------------------------------------
-
  West: PR-696 Oeste
  1 L   0.146   0.0    0.1   0.0   0.1    0.1   0.1   0.2   0.2   0.3
0.03
  2 T   0.278   0.0    0.0   0.0   0.0    0.0   0.0   0.0   0.0   0.0
0.00
 ---------------------------------------------------------------------------
-

      Values printed in this table are cycle-average queues (vehicles).

_____________________________________________________________________________
____

 PR-696 con Ave. Efron
 Condicion Existente, 2004, Hora pico AM
 Intersection ID:    03
             Stop Sign Controlled Intersection


 Table D.3B - LANE QUEUES (metres)
 ---------------------------------------------------------------------------
-
         Deg.  Ovrfl. Average (metres)       Percentile (metres)
Queue
  Lane   Satn  Queue -----------------  ----------------------------
Stor.
  No.      x    No     Nc1   Nc2    Nc    70%   85%   90%   95%   98%
Ratio
 ---------------------------------------------------------------------------
-
  East: PR-696 Este
  1 TR  0.181     0      0     0     0      0     0     0     0     0
0.00
 ---------------------------------------------------------------------------
-
  North: Ave. Efron
  1 L   0.906    16      9    15    24     28    44    57    70    91
0.07
  2 R   0.035     0      0     0     0      0     0     0     0     0
0.00
 ---------------------------------------------------------------------------
-
  West: PR-696 Oeste
  1 L   0.146     0      0     0     0      1     1     1     2     2
0.03
  2 T   0.278     0      0     0     0      0     0     0     0     0
0.00
```

```
 ---------------------------------------------------------------------------
-

      Values printed in this table are cycle-average queues (metres).

                        --- End of aaSIDRA Output ---

 C:\My Projects\Dorado-noviembre-2004-Dorado Office Park\PR-696-Efron
Ave,2004,am.OUT
 Produced by aaSIDRA 2.1.0.346
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 Generated   3:53 PM, 22 Nov 2004
```

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                Akcelik & Associates Pty Ltd - aaSIDRA 2.1.0.346
               ----------------------------------------------------
               Traffic Consulting Group
               Carlos M. Contreras                 User ID: M0276
               Licence Type: Multi Computer

               Time and Date of Analysis    3:54 PM, 22 Nov 2004

 Filename: C:\My Projects\Dorado-noviembre-2004-Dorado Office Park\PR-696-
Efron Ave,2004,pm.OUT

 PR-696 con Ave. Efron
 Condicion Existente, 2004, Hora pico PM
 Intersection ID:    03


 RUN INFORMATION
 ---------------
 * Basic Parameters:
   Intersection Type: Unsignalised - Two-Way Stop Control
   Driving on the right-hand side of the road
   Input data specified in Metric units
   Default Values File No. 30
   Peak flow period (for performance): 15 minutes
   Unit time (for volumes): 60 minutes (Total Flow Period)
   Delay definition: Control delay
                     Geometric delay included
   aaSIDRA Standard Delay and Queue models used
   Level of Service based on: Delay (HCM method)
   Queue definition: Cycle average queue, Average
```

```
 PR-696 con Ave. Efron
 Condicion Existente, 2004, Hora pico PM
 Intersection ID:    03
             Stop Sign Controlled Intersection


 Table S.0 - TRAFFIC FLOW DATA
 ---------------------------------------------------------------------------
        Mov              Left       Through       Right     Flow   Peak
        No.           ---------    ---------    ---------   Scale  Flow
                       LV    HV     LV    HV     LV    HV          Factor
 ---------------------------------------------------------------------------
 VEHICLES       Demand flows in veh/hour as used by the program
 East: PR-696 Este
          4             0     0    547    17      0     0   1.00   1.00
          6             0     0      0     0    248     8   1.00   1.00
 ---------------------------------------------------------------------------
 North: Ave. Efron
          7           636    20      0     0      0     0   1.00   1.00
          9             0     0      0     0    128     4   1.00   1.00
 ---------------------------------------------------------------------------
 West: PR-696 Oeste
         10            81     3    155     5      0     0   1.00   1.00
 ---------------------------------------------------------------------------
 Based on unit time =  60 minutes.
 Flow Scale and Peak Hour Factor effects included in flow values.
```

PR-696 con Ave. Efron
Condicion Existente, 2004, Hora pico PM
Intersection ID: 03
Stop Sign Controlled Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.		Demand Flow (veh/h)	HV (%)	Opposing Movement Flow (veh/h)	HV (%)	Adjust. Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
East: PR-696 Este											
4	T	564	3.0	0			1294	0.80	84	100	0.436
6	R	256	3.1	0			587	0.80	83	100	0.436
North: Ave. Efron											
7	L	656	3.0	859+	3.1	860	583	0.80	-29	100	1.125*
9	R	132	3.0	615+	3.0	615	693	0.80	320	100	0.190
West: PR-696 Oeste											
10	LT	244	3.3	820	3.0	820	1404	0.80	360	48	0.174

+ Percentage of exiting flow included in total opposing flow

PR-696 con Ave. Efron
Condicion Existente, 2004, Hora pico PM
Intersection ID: 03
Stop Sign Controlled Intersection

Table S.3 - INTERSECTION PARAMETERS

Intersection Level of Service	=	NA
Worst movement Level of Service	=	F
Average intersection delay (s)	=	34.6
Largest average movement delay (s)	=	89.5
Largest cycle-average queue, mean (m)	=	103
Performance Index	=	63.80
Degree of saturation (highest)	=	1.125
Practical Spare Capacity (lowest)	=	-29 %
Effective intersection capacity, (veh/h)	=	1646
Total vehicle flow (veh/h)	=	1852
Total person flow (pers/h)	=	2778
Total vehicle delay (veh-h/h)	=	17.79
Total person delay (pers-h/h)	=	26.68
Total effective vehicle stops (veh/h)	=	2285
Total effective person stops (pers/h)	=	3428
Total vehicle travel (veh-km/h)	=	1121.8
Total cost ($/h)	=	1084.61
Total fuel (L/h)	=	144.4
Total CO2 (kg/h)	=	361.35

NA Not Applicable - Intersection Level of Service is not calculated at two-way stop control or give-way/yield controlled intersections. See Table S.15 or Movement Displays for individual movement LOS values.

PR-696 con Ave. Efron
Condicion Existente, 2004, Hora pico PM
Intersection ID: 03
Stop Sign Controlled Intersection

Table S.5 - MOVEMENT PERFORMANCE

Mov No.		Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Cycle (vehs)	Queue Aver. (m)	Perf. Index	Aver. Speed (km/h)
East: PR-696 Este										
4	T	0.00	0.00	0.0	0.00	0.00	0.0	0	5.70	60.0
6	R	0.59	0.88	8.3	0.00	0.67	0.0	0	4.12	49.0
North: Ave. Efron										
7	L	16.31	24.47	89.5	1.00	2.91	14.3	103	47.85	17.7
9	R	0.54	0.81	14.8	0.59	1.00	0.1	1	2.75	43.8
West: PR-696 Oeste										
10	LT	0.35	0.52	5.1	0.24	0.31	0.2	1	3.38	52.7

PR-696 con Ave. Efron
Condicion Existente, 2004, Hora pico PM
Intersection ID: 03
Stop Sign Controlled Intersection

Table S.6 - INTERSECTION PERFORMANCE

Total Flow (veh/h)	Deg. Satn x	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue (m)	Perf. Index	Aver. Speed (km/h)
East: PR-696 Este									
820	0.436	0.59	0.88	2.6	0.00	0.21	0	9.82	56.1
North: Ave. Efron									
788	1.125	16.85	25.28	77.0	0.93	2.59	103	50.60	19.6
West: PR-696 Oeste									
244	0.174	0.35	0.52	5.1	0.24	0.31	1	3.38	52.7
ALL VEHICLES:									
1852	1.125	17.79	26.68	34.6	0.43	1.23	103	63.80	31.2
INTERSECTION (persons):									
2778	1.125		26.68	34.6	0.43	1.23		63.80	31.2

Queue values in this table are mean cycle-average queue (metres).

PR-696 con Ave. Efron
Condicion Existente, 2004, Hora pico PM
Intersection ID: 03
Stop Sign Controlled Intersection

Table S.7 - LANE PERFORMANCE

Lane No.	Mov No.	Dem Flow (veh /h)	Cap (veh /h)	Deg. Satn x	Aver. Delay (sec)	Eff. Stop Rate	Queue Cycle (vehs)	Queue Aver. (m)	Short Lane (m)
East: PR-696 Este									
1 TR	4, 6	820	1882	0.436	2.6	0.21	0.0	0	
North: Ave. Efron									
1 L	7	656	583	1.125	89.5	2.91	14.3	103	
2 R	9	132	693	0.190	14.8	1.00	0.1	1	
West: PR-696 Oeste									
1 L	10	84	483	0.174	14.8	0.90	0.2	1	50
2 T	10	160	1911	0.084	0.0	0.00	0.0	0	

PR-696 con Ave. Efron
Condicion Existente, 2004, Hora pico PM
Intersection ID: 03
Stop Sign Controlled Intersection

Table S.8A - LANE FLOW AND CAPACITY INFORMATION

Lane No.	Mov No.	Dem Flow (veh/h) Lef	Thru	Rig	Tot	Min Cap (veh /h)	Tot Cap (veh /h)	Deg. Satn x	Lane Util %
East: PR-696 Este									
1 TR	4, 6	0	564	256	820	820	1882	0.436	100
North: Ave. Efron									
1 L	7	656	0	0	656	120	583	1.125	100
2 R	9	0	0	132	132	120	693	0.190	100
West: PR-696 Oeste									
1 L	10	84	0	0	84	84	483	0.174	100
2 T	10	0	160	0	160	160	1911	0.084	48P

P Lane under-utilisation found by the "Program"

The capacity value for priority and continuous movements is obtained by adjusting the basic saturation flow for heavy vehicle and turning vehicle effects. Saturation flow scale applies if specified.

PR-696 con Ave. Efron
Condicion Existente, 2004, Hora pico PM
Intersection ID: 03
Stop Sign Controlled Intersection

Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY

Mov No.	Mov Typ	Dem Flow (veh /h)	Total Cap. (veh /h)	Lane Util (%)	Deg. Satn x	Aver. Delay (sec)	Eff. Stop Rate	Cycle Average Queue (veh)	Perf. Index
East: PR-696 Este									
4	T	564	1294	100	0.436	0.0	0.00	0.0	5.70
6	R	256	587	100	0.436	8.3	0.67	0.0	4.12
North: Ave. Efron									
7	L	656	583	100	1.125*	89.5	2.91	14.3	47.85
9	R	132	693	100	0.190	14.8	1.00	0.1	2.75
West: PR-696 Oeste									
10	LT	244	1404	48	0.174	5.1	0.31	0.2	3.38

* Maximum degree of saturation

PR-696 con Ave. Efron
Condicion Existente, 2004, Hora pico PM
Intersection ID: 03
Stop Sign Controlled Intersection

Table S.14 - SUMMARY OF INPUT AND OUTPUT DATA

Lane No.	Demand Flow (veh/h) L	T	R	Tot	%HV	Adj. Basic Satf.	Eff Grn (secs) 1st	2nd	Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
East: PR-696 Este												
1 TR		564	256	820	3				0.436	2.6	0	
	0	564	256	820	3				0.436	2.6		
North: Ave. Efron												
1 L	656			656	3				1.125	89.5	103	
2 R			132	132	3				0.190	14.8	1	
	656	0	132	788	3				1.125	77.0	103	
West: PR-696 Oeste												
1 L	84			84	4				0.174	14.8	1	50
2 T		160		160	3				0.084	0.0	0	
	84	160	0	244	3				0.174	5.1	1	
ALL VEHICLES				Total Flow 1852	% HV 3				Max X 1.125	Aver. Delay 34.6	Max Queue 103	

Total flow period = 60 minutes. Peak flow period = 15 minutes.

Queue values in this table are mean cycle-average queue (metres).

Note: Basic Saturation Flows are not adjusted at roundabouts or sign-controlled intersections and apply only to continuous lanes.

PR-696 con Ave. Efron
Condicion Existente, 2004, Hora pico PM
Intersection ID: 03
Stop Sign Controlled Intersection

Table S.15 - CAPACITY AND LEVEL OF SERVICE

Mov No.	Mov Typ	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Aver. Delay (sec)	LOS	Longest Queue Cycle (vehs)	Aver. (m)
East: PR-696 Este								
4	T	564	1294	0.436	0.0	A	0.0	0
6	R	256	587	0.436	8.3	A	0.0	0
		820		0.436	2.6	A	0.0	0
North: Ave. Efron								
7	L	656	583	1.125*	89.5	F	14.3	103
9	R	132	693	0.190	14.8	B	0.1	1
		788		1.125	77.0	F	14.3	103
West: PR-696 Oeste								
10	LT	244	1404	0.174	5.1	A	0.2	1
		244		0.174	5.1	A	0.2	1
ALL VEHICLES:		1852		1.125	34.6	NA	14.3	103

Level of Service calculations are based on
average control delay including geometric delay (HCM criteria),
independent of the current delay definition used.
For the criteria, refer to the "Level of Service" topic in the
aaSIDRA Output Guide or the Output section of the on-line help.

NA Not Applicable - Intersection Level of Service is not calculated at
two-way stop control or give-way/yield controlled intersections.

* Maximum v/c ratio, or critical green periods

PR-696 con Ave. Efron
Condicion Existente, 2004, Hora pico PM
Intersection ID: 03
Stop Sign Controlled Intersection

Table D.0 - GEOMETRIC DELAY DATA

From Approach	To Approach	Negn Radius (m)	Negn Speed (km/h)	Negn Dist. (m)	Appr. Dist. (m)	Downstream Distance (m)
East: PR-696 Este						
	North	10.0	20.2	15.7	500	107
	West	S	60.0	19.5	500	109

North: Ave. Efron					
East	11.4	21.2	17.9	500	108
West	10.0	20.2	15.7	500	107
West: PR-696 Oeste					
East	S	60.0	19.5	500	109
North	10.6	20.6	16.6	500	107

Downstream Distance calculated by aaSIDRA

Downstream distance is distance travelled from the stopline until exit cruise speed is reached (includes negotiation distance). Acceleration distance is weighted for light and heavy vehicles. The same distance applies for both stopped and unstopped vehicles.

PR-696 con Ave. Efron
Condicion Existente, 2004, Hora pico PM
Intersection ID: 03
Stop Sign Controlled Intersection

Table D.1 - LANE DELAYS

Lane No.	Mov No.	Deg. Satn x	Stop-line Delay 1st d1	2nd d2	Total dSL	Acc. Dec. dn	Queuing Total dq	MvUp dqm	Stopd (Idle) di	Geom dig	Control dic
East: PR-696 Este											
1 TR	4, 6	0.436	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6
										8.3	
North: Ave. Efron											
1 L	7	1.125	8.7	69.9	78.6	2.2	76.4	33.3	43.1	10.9	89.5
2 R	9	0.190	3.9	0.0	3.9	1.2	2.7	0.0	2.7	10.8	14.8
West: PR-696 Oeste											
1 L	10	0.174	6.5	0.0	6.5	2.9	3.6	0.0	3.6	8.3	14.8
2 T	10	0.084	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Delay (seconds/veh)

dn is average stop-start delay for all vehicles queued and unqueued

---

PR-696 con Ave. Efron
Condicion Existente, 2004, Hora pico PM
Intersection ID: 03
Stop Sign Controlled Intersection

Table D.3A - LANE QUEUES (veh)

	Deg.	Ovrfl.	Average (veh)		Percentile (veh)	
Queue						

```
  Lane   Satn  Queue -----------------  ----------------------------
Stor.
  No.      x    No     Nc1   Nc2    Nc    70%   85%   90%   95%   98%
Ratio
 ---------------------------------------------------------------------------
-
  East: PR-696 Este
  1 TR  0.436   0.0    0.0   0.0   0.0    0.0   0.0   0.0   0.0   0.0
0.00
 ---------------------------------------------------------------------------
-
  North: Ave. Efron
  1 L   1.125  11.4    1.6  12.7  14.3   16.0  23.9  30.1  37.5  48.2
0.22
  2 R   0.190   0.0    0.1   0.0   0.1    0.2   0.3   0.4   0.5   0.6
0.00
 ---------------------------------------------------------------------------
-
  West: PR-696 Oeste
  1 L   0.174   0.0    0.2   0.0   0.2    0.2   0.3   0.4   0.5   0.6
0.04
  2 T   0.084   0.0    0.0   0.0   0.0    0.0   0.0   0.0   0.0   0.0
0.00
 ---------------------------------------------------------------------------
-

      Values printed in this table are cycle-average queues (vehicles).

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 PR-696 con Ave. Efron
 Condicion Existente, 2004, Hora pico PM
 Intersection ID:    03
             Stop Sign Controlled Intersection


 Table D.3B - LANE QUEUES (metres)
 ---------------------------------------------------------------------------
-
         Deg.  Ovrfl. Average (metres)       Percentile (metres)
Queue
  Lane   Satn  Queue -----------------  ----------------------------
Stor.
  No.      x    No     Nc1   Nc2    Nc    70%   85%   90%   95%   98%
Ratio
 ---------------------------------------------------------------------------
-
  East: PR-696 Este
  1 TR  0.436     0      0     0     0      0     0     0     0     0
0.00
 ---------------------------------------------------------------------------
-
  North: Ave. Efron
  1 L   1.125    82     11    92   103    115   171   216   269   346
0.22
  2 R   0.190     0      1     0     1      1     2     3     3     4
0.00
 ---------------------------------------------------------------------------
-
  West: PR-696 Oeste
  1 L   0.174     0      1     0     1      1     2     3     4     5
0.04
  2 T   0.084     0      0     0     0      0     0     0     0     0
0.00
```

```
 ---------------------------------------------------------------------------
-

      Values printed in this table are cycle-average queues (metres).

                        --- End of aaSIDRA Output ---

 C:\My Projects\Dorado-noviembre-2004-Dorado Office Park\PR-696-Efron
Ave,2004,pm.OUT
 Produced by aaSIDRA 2.1.0.346
 Copyright 2000-2004
 Akcelik & Associates Pty Ltd

 Generated   3:54 PM, 22 Nov 2004
```

```
                Akcelik & Associates Pty Ltd - aaSIDRA 2.1.0.346
               ----------------------------------------------------
               Traffic Consulting Group
               Carlos M. Contreras                 User ID: M0276
               Licence Type: Multi Computer

               Time and Date of Analysis    3:35 PM, 30 Nov 2004

 Filename: C:\My Projects\Dorado-noviembre-2004-Dorado Office Park\PR-696-
PR-6693,2004,am.OUT

 PR-696 con PR-6693
 Condicion Existente, 2004, Hora Pico AM
 Intersection ID:    04


 RUN INFORMATION
 ---------------
 * Basic Parameters:
   Intersection Type: Unsignalised - Two-Way Stop Control
   Driving on the right-hand side of the road
   Input data specified in Metric units
   Default Values File No. 30
   Peak flow period (for performance): 15 minutes
   Unit time (for volumes): 60 minutes (Total Flow Period)
   Delay definition: Control delay
                     Geometric delay included
   aaSIDRA Standard Delay and Queue models used
   Level of Service based on: Delay (HCM method)
   Queue definition: Cycle average queue, Average

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 PR-696 con PR-6693
 Condicion Existente, 2004, Hora Pico AM
 Intersection ID:    04
             Stop Sign Controlled Intersection


 Table S.0 - TRAFFIC FLOW DATA
 ---------------------------------------------------------------------------
        Mov              Left       Through       Right     Flow   Peak
        No.           ---------    ---------    ---------   Scale  Flow
                       LV    HV     LV    HV     LV    HV          Factor
 ---------------------------------------------------------------------------
 VEHICLES       Demand flows in veh/hour as used by the program
 SouthEast: PR-6693 Este
         21           196     0      0     0      0     0   1.00   1.00
         22             0     0    508     0      0     0   1.00   1.00
 ---------------------------------------------------------------------------
 North: PR-6693 Norte
          8             0     0    462    14      0     0   1.00   1.00
          9             0     0      0     0    116     4   1.00   1.00
 ---------------------------------------------------------------------------
 West: PR-696 Oeste
         10           241     7      0     0      0     0   1.00   1.00
         12             0     0    256     8      0     0   1.00   1.00
 ---------------------------------------------------------------------------
 Based on unit time =  60 minutes.
 Flow Scale and Peak Hour Factor effects included in flow values.
```

PR-696 con PR-6693
Condicion Existente, 2004, Hora Pico AM
Intersection ID: 04
Stop Sign Controlled Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Demand Flow (veh/h)	HV (%)	Opposing Movement Flow (veh/h)	HV (%)	Adjust. Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
SouthEast: PR-6693 Este										
21 L	196	0.0	476	2.9	476	850	0.80	247	100	0.231
22 T	508	0.0	0			1950	0.80	207	100	0.261
North: PR-6693 Norte										
8 T	476	2.9	0			1913	0.80	222	100	0.249
9 R	120	3.3	0			1814	0.80	1109	100	0.066
West: PR-696 Oeste										
10 L	248	2.8	1204+	1.2	1204	375	0.80	21	100	0.661*
12 T	264	3.0	500+	3.0	500	862	0.80	161	100	0.306

+ Percentage of exiting flow included in total opposing flow

PR-696 con PR-6693
Condicion Existente, 2004, Hora Pico AM
Intersection ID: 04
Stop Sign Controlled Intersection

Table S.3 - INTERSECTION PARAMETERS

Intersection Level of Service	=	NA
Worst movement Level of Service	=	D
Average intersection delay (s)	=	11.4
Largest average movement delay (s)	=	28.3
Largest cycle-average queue, mean (m)	=	9
Performance Index	=	33.33
Degree of saturation (highest)	=	0.661
Practical Spare Capacity (lowest)	=	21 %
Effective intersection capacity, (veh/h)	=	2740
Total vehicle flow (veh/h)	=	1812
Total person flow (pers/h)	=	2718
Total vehicle delay (veh-h/h)	=	5.76
Total person delay (pers-h/h)	=	8.64
Total effective vehicle stops (veh/h)	=	1398
Total effective person stops (pers/h)	=	2097
Total vehicle travel (veh-km/h)	=	1092.9
Total cost ($/h)	=	753.22
Total fuel (L/h)	=	129.2
Total CO2 (kg/h)	=	323.25

NA Not Applicable - Intersection Level of Service is not calculated at two-way stop control or give-way/yield controlled intersections.

See Table S.15 or Movement Displays for individual movement LOS values.

PR-696 con PR-6693
Condicion Existente, 2004, Hora Pico AM
Intersection ID: 04
Stop Sign Controlled Intersection

Table S.5 - MOVEMENT PERFORMANCE

Mov No.	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue Cycle (vehs)	Longest Queue Aver. (m)	Perf. Index	Aver. Speed (km/h)
SouthEast: PR-6693 Este									
21 L	0.54	0.82	10.0	0.54	0.78	0.2	1	3.51	47.0
22 T	1.06	1.59	7.5	0.00	0.64	0.0	0	7.95	49.6
North: PR-6693 Norte									
8 T	0.96	1.44	7.3	0.00	0.61	0.0	0	7.35	50.1
9 R	0.26	0.38	7.7	0.00	0.60	0.0	0	1.89	49.8
West: PR-696 Oeste									
10 L	1.95	2.92	28.3	0.89	1.21	1.2	9	7.31	34.7
12 T	0.99	1.49	13.5	0.56	0.98	0.2	2	5.31	45.1

PR-696 con PR-6693
Condicion Existente, 2004, Hora Pico AM
Intersection ID: 04
Stop Sign Controlled Intersection

Table S.6 - INTERSECTION PERFORMANCE

Total Flow (veh/h)	Deg. Satn x	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue (m)	Perf. Index	Aver. Speed (km/h)
SouthEast: PR-6693 Este									
704	0.261	1.61	2.41	8.2	0.15	0.68	1	11.47	48.9
North: PR-6693 Norte									
596	0.249	1.22	1.82	7.3	0.00	0.61	0	9.24	50.0
West: PR-696 Oeste									
512	0.661	2.94	4.41	20.7	0.72	1.09	9	12.63	39.4
ALL VEHICLES:									
1812	0.661	5.76	8.64	11.4	0.26	0.77	9	33.33	46.1
INTERSECTION (persons):									
2718	0.661		8.64	11.4	0.26	0.77		33.33	46.1

Queue values in this table are mean cycle-average queue (metres).

PR-696 con PR-6693
Condicion Existente, 2004, Hora Pico AM
Intersection ID: 04
Stop Sign Controlled Intersection

Table S.7 - LANE PERFORMANCE

Lane No.	Mov No.	Dem Flow (veh /h)	Cap (veh /h)	Deg. Satn x	Aver. Delay (sec)	Eff. Stop Rate	Queue Cycle (vehs)	Queue Aver. (m)	Short Lane (m)
SouthEast: PR-6693 Este									
1 L	21	196	850	0.231	10.0	0.78	0.2	1	50
2 T	22	508	1950	0.261	7.5	0.64	0.0	0	
North: PR-6693 Norte									
1 T	8	476	1913	0.249	7.3	0.61	0.0	0	
2 R	9	120	1814	0.066	7.7	0.60	0.0	0	
West: PR-696 Oeste									
1 L	10	248	375	0.662	28.3	1.21	1.2	9	
2 T	12	264	862	0.306	13.5	0.98	0.2	2	50

PR-696 con PR-6693
Condicion Existente, 2004, Hora Pico AM
Intersection ID: 04
Stop Sign Controlled Intersection

Table S.8A - LANE FLOW AND CAPACITY INFORMATION

Lane No.	Mov No.	Dem Flow (veh/h) Lef	Thru	Rig	Tot	Min Cap (veh /h)	Tot Cap (veh /h)	Deg. Satn x	Lane Util %
SouthEast: PR-6693 Este									
1 L	21	196	0	0	196	120	850	0.231	100
2 T	22	0	508	0	508	508	1950	0.261	100
North: PR-6693 Norte									
1 T	8	0	476	0	476	476	1913	0.249	100
2 R	9	0	0	120	120	120	1814	0.066	100
West: PR-696 Oeste									
1 L	10	248	0	0	248	120	375	0.662	100
2 T	12	0	264	0	264	120	862	0.306	100

The capacity value for priority and continuous movements is obtained by adjusting the basic saturation flow for heavy vehicle and turning vehicle effects. Saturation flow scale applies if specified.

PR-696 con PR-6693

Condicion Existente, 2004, Hora Pico AM
Intersection ID: 04
Stop Sign Controlled Intersection

Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY

Mov No.	Mov Typ	Dem Flow (veh /h)	Total Cap. (veh /h)	Lane Util (%)	Deg. Satn x	Aver. Delay (sec)	Eff. Stop Rate	Cycle Average Queue (veh)	Perf. Index
SouthEast: PR-6693 Este									
21	L	196	850	100	0.231	10.0	0.78	0.2	3.51
22	T	508	1950	100	0.261	7.5	0.64	0.0	7.95
North: PR-6693 Norte									
8	T	476	1913	100	0.249	7.3	0.61	0.0	7.35
9	R	120	1814	100	0.066	7.7	0.60	0.0	1.89
West: PR-696 Oeste									
10	L	248	375	100	0.661*	28.3	1.21	1.2	7.31
12	T	264	862	100	0.306	13.5	0.98	0.2	5.31

* Maximum degree of saturation

PR-696 con PR-6693
Condicion Existente, 2004, Hora Pico AM
Intersection ID: 04
Stop Sign Controlled Intersection

Table S.14 - SUMMARY OF INPUT AND OUTPUT DATA

Lane No.	Demand Flow (veh/h) L	T	R	Tot	%HV	Adj. Basic Satf.	Eff Grn (secs) 1st	2nd	Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
SouthEast: PR-6693 Este												
1 L	196			196	0				0.231	10.0	1	50
2 T		508		508	0				0.261	7.5	0	
	196	508	0	704	0				0.261	8.2	1	
North: PR-6693 Norte												
1 T		476		476	3				0.249	7.3	0	
2 R			120	120	3				0.066	7.7	0	
	0	476	120	596	3				0.249	7.3		
West: PR-696 Oeste												
1 L	248			248	3				0.662	28.3	9	
2 T		264		264	3				0.306	13.5	2	50
	248	264	0	512	3				0.662	20.7	9	
ALL VEHICLES				Total Flow 1812	% HV 2				Max X 0.661	Aver. Delay 11.4	Max Queue 9	

Total flow period = 60 minutes. Peak flow period = 15 minutes.

Queue values in this table are mean cycle-average queue (metres).

Note: Basic Saturation Flows are not adjusted at roundabouts or sign-controlled intersections and apply only to continuous lanes.

PR-696 con PR-6693
Condicion Existente, 2004, Hora Pico AM
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Stop Sign Controlled Intersection

Table S.15 - CAPACITY AND LEVEL OF SERVICE

Mov No.	Mov Typ	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Aver. Delay (sec)	LOS	Longest Queue Cycle (vehs)	Aver. (m)
SouthEast: PR-6693 Este								
21	L	196	850	0.231	10.0	A	0.2	1
22	T	508	1950	0.261	7.5	A	0.0	0
		704		0.261	8.2	A	0.2	1
North: PR-6693 Norte								
8	T	476	1913	0.249	7.3	A	0.0	0
9	R	120	1814	0.066	7.7	A	0.0	0
		596		0.249	7.3	A	0.0	0
West: PR-696 Oeste								
10	L	248	375	0.661*	28.3	D	1.2	9
12	T	264	862	0.306	13.5	B	0.2	2
		512		0.661	20.7	C	1.2	9
ALL VEHICLES:		1812		0.661	11.4	NA	1.2	9

Level of Service calculations are based on
average control delay including geometric delay (HCM criteria),
independent of the current delay definition used.
For the criteria, refer to the "Level of Service" topic in the
aaSIDRA Output Guide or the Output section of the on-line help.

NA Not Applicable - Intersection Level of Service is not calculated at two-way stop control or give-way/yield controlled intersections.

* Maximum v/c ratio, or critical green periods

PR-696 con PR-6693
Condicion Existente, 2004, Hora Pico AM
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Stop Sign Controlled Intersection

Table D.0 - GEOMETRIC DELAY DATA

	Negn	Negn	Negn	Appr.	Downstream

From Approach	To Approach	Radius (m)	Speed (km/h)	Dist. (m)	Dist. (m)	Distance (m)
SouthEast: PR-6693 Este						
	North	11.8	21.5	10.0	500	101
	West	14.6	23.3	11.5	500	102
North: PR-6693 Norte						
	SouthEast	15.3	23.7	12.1	500	105
	West	20.0	26.2	31.4	500	117
West: PR-696 Oeste						
	SouthEast	16.5	24.4	12.9	500	105
	North	9.0	19.4	14.2	500	106

Downstream Distance calculated by aaSIDRA

Downstream distance is distance travelled from the stopline until exit cruise speed is reached (includes negotiation distance). Acceleration distance is weighted for light and heavy vehicles. The same distance applies for both stopped and unstopped vehicles.

PR-696 con PR-6693
Condicion Existente, 2004, Hora Pico AM
Intersection ID: 04
Stop Sign Controlled Intersection

Table D.1 - LANE DELAYS

Lane No.	Mov No.	Deg. Satn x	Stop-line Delay 1st d1	2nd d2	Total dSL	Delay (seconds/veh) Acc. Dec. dn	Queuing Total dq	MvUp dqm	Stopd (Idle) di	Geom dig	Control dic
SouthEast: PR-6693 Este											
1 L	21	0.231	2.8	0.0	2.8	2.4	0.3	0.0	0.3	7.2	10.0
2 T	22	0.261	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.5	7.5
North: PR-6693 Norte											
1 T	8	0.249	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.3	7.3
2 R	9	0.066	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	7.7
West: PR-696 Oeste											
1 L	10	0.662	11.2	6.3	17.5	1.8	15.7	3.8	11.9	10.8	28.3
2 T	12	0.306	2.9	0.2	3.1	1.4	1.8	0.3	1.4	10.4	13.5

dn is average stop-start delay for all vehicles queued and unqueued

---

PR-696 con PR-6693
Condicion Existente, 2004, Hora Pico AM
Intersection ID: 04
Stop Sign Controlled Intersection

```
 Table D.3A - LANE QUEUES (veh)
 ------------------------------------------------------------------------
-
         Deg.  Ovrfl. Average (veh)          Percentile (veh)
Queue
  Lane   Satn  Queue -----------------  ----------------------------
Stor.
  No.      x    No     Nc1   Nc2    Nc    70%   85%   90%   95%   98%
Ratio
 ------------------------------------------------------------------------
-
  SouthEast: PR-6693 Este
  1 L   0.231   0.0    0.2   0.0   0.2    0.2   0.3   0.4   0.5   0.6
0.05
  2 T   0.261   0.0    0.0   0.0   0.0    0.0   0.0   0.0   0.0   0.0
0.00
 ------------------------------------------------------------------------
-
  North: PR-6693 Norte
  1 T   0.249   0.0    0.0   0.0   0.0    0.0   0.0   0.0   0.0   0.0
0.00
  2 R   0.066   0.0    0.0   0.0   0.0    0.0   0.0   0.0   0.0   0.0
0.00
 ------------------------------------------------------------------------
-
  West: PR-696 Oeste
  1 L   0.662   0.5    0.8   0.4   1.2    1.4   2.3   3.0   3.7   4.9
0.02
  2 T   0.306   0.0    0.2   0.0   0.2    0.3   0.5   0.6   0.7   1.0
0.09
 ------------------------------------------------------------------------
-

      Values printed in this table are cycle-average queues (vehicles).

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 PR-696 con PR-6693
 Condicion Existente, 2004, Hora Pico AM
 Intersection ID:    04
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 Table D.3B - LANE QUEUES (metres)
 ------------------------------------------------------------------------
-
         Deg.  Ovrfl. Average (metres)       Percentile (metres)
Queue
  Lane   Satn  Queue -----------------  ----------------------------
Stor.
  No.      x    No     Nc1   Nc2    Nc    70%   85%   90%   95%   98%
Ratio
 ------------------------------------------------------------------------
-
  SouthEast: PR-6693 Este
  1 L   0.231     0      1     0     1      1     2     3     3     4
0.05
  2 T   0.261     0      0     0     0      0     0     0     0     0
0.00
 ------------------------------------------------------------------------
-
  North: PR-6693 Norte
```

```
  1 T   0.249     0      0     0     0      0     0     0     0     0
0.00
  2 R   0.066     0      0     0     0      0     0     0     0     0
0.00
 ---------------------------------------------------------------------------
-
  West: PR-696 Oeste
  1 L   0.662     4      6     3     9     10    17    22    27    35
0.02
  2 T   0.306     0      2     0     2      2     3     4     5     7
0.09
 ---------------------------------------------------------------------------
-

      Values printed in this table are cycle-average queues (metres).

                        --- End of aaSIDRA Output ---

 C:\My Projects\Dorado-noviembre-2004-Dorado Office Park\PR-696-PR-
6693,2004,am.OUT
 Produced by aaSIDRA 2.1.0.346
 Copyright 2000-2004
 Akcelik & Associates Pty Ltd

 Generated   3:35 PM, 30 Nov 2004
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                Akcelik & Associates Pty Ltd - aaSIDRA 2.1.0.346
               ----------------------------------------------------
               Traffic Consulting Group
               Carlos M. Contreras                 User ID: m0276
               Licence Type: Multi Computer

               Time and Date of Analysis    8:04 AM,  2 Dec 2004

 Filename: E:\My Projects\Dorado-noviembre-2004-Dorado Office Park\PR-696-
PR-6693,2004,pm.OUT

 PR-696 con PR-6693
 Condicion Existente, 2004, Hora Pico PM
 Intersection ID:    04


 RUN INFORMATION
 ---------------
 * Basic Parameters:
   Intersection Type: Unsignalised - Two-Way Stop Control
   Driving on the right-hand side of the road
   Input data specified in Metric units
   Default Values File No. 30
   Peak flow period (for performance): 15 minutes
   Unit time (for volumes): 60 minutes (Total Flow Period)
   Delay definition: Control delay
                     Geometric delay included
   aaSIDRA Standard Delay and Queue models used
   Level of Service based on: Delay (HCM method)
   Queue definition: Cycle average queue, Average

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 PR-696 con PR-6693
 Condicion Existente, 2004, Hora Pico PM
 Intersection ID:    04
             Stop Sign Controlled Intersection


 Table S.0 - TRAFFIC FLOW DATA
 ---------------------------------------------------------------------------
        Mov              Left       Through       Right     Flow   Peak
        No.           ---------    ---------    ---------   Scale  Flow
                       LV    HV     LV    HV     LV    HV          Factor
 ---------------------------------------------------------------------------
 VEHICLES       Demand flows in veh/hour as used by the program
 SouthEast: PR-6693 Este
         21           741    23      0     0      0     0   1.00   1.00
         22             0     0    617    19      0     0   1.00   1.00
 ---------------------------------------------------------------------------
 North: PR-6693 Norte
          8             0     0    617    19      0     0   1.00   1.00
          9             0     0      0     0    144     4   1.00   1.00
 ---------------------------------------------------------------------------
 West: PR-696 Oeste
         10            47     1      0     0      0     0   1.00   1.00
         12             0     0    574    18      0     0   1.00   1.00
 ---------------------------------------------------------------------------
 Based on unit time =  60 minutes.
 Flow Scale and Peak Hour Factor effects included in flow values.
```

PR-696 con PR-6693
Condicion Existente, 2004, Hora Pico PM
Intersection ID: 04
Stop Sign Controlled Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Demand Flow (veh/h)	HV (%)	Opposing Movement Flow (veh/h)	HV (%)	Adjust. Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
SouthEast: PR-6693 Este										
21 L	671	3.4	636	3.0	636	671	0.80	-20	100	1.000*
22 LT	729E	2.6	0			1900	0.80	108	100	0.384
North: PR-6693 Norte										
8 T	636	3.0	0			1913	0.80	141	100	0.332
9 R	148	2.7	0			1822	0.80	885	100	0.081
West: PR-696 Oeste										
10 L	48	2.1	1972+	3.0	1973	114	0.80	90	100	0.421
12 T	592	3.0	666+	3.0	666	705	0.80	-5	100	0.840

E "Excess" flow from the short lane of an adjacent movement added to normal flow
\+ Percentage of exiting flow included in total opposing flow

PR-696 con PR-6693
Condicion Existente, 2004, Hora Pico PM
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Stop Sign Controlled Intersection

Table S.3 - INTERSECTION PARAMETERS

Intersection Level of Service	=	NA
Worst movement Level of Service	=	F
Average intersection delay (s)	=	17.9
Largest average movement delay (s)	=	53.1
Largest cycle-average queue, mean (m)	=	34
Performance Index	=	67.24
Degree of saturation (highest)	=	1.000
Practical Spare Capacity (lowest)	=	-20 %
Effective intersection capacity, (veh/h)	=	2825
Total vehicle flow (veh/h)	=	2824
Total person flow (pers/h)	=	4236
Total vehicle delay (veh-h/h)	=	14.01
Total person delay (pers-h/h)	=	21.02
Total effective vehicle stops (veh/h)	=	3096
Total effective person stops (pers/h)	=	4644
Total vehicle travel (veh-km/h)	=	1702.6
Total cost ($/h)	=	1329.85
Total fuel (L/h)	=	220.0
Total CO2 (kg/h)	=	550.70

NA Not Applicable - Intersection Level of Service is not calculated at

two-way stop control or give-way/yield controlled intersections.
See Table S.15 or Movement Displays for individual movement LOS values.

PR-696 con PR-6693
Condicion Existente, 2004, Hora Pico PM
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Stop Sign Controlled Intersection

Table S.5 - MOVEMENT PERFORMANCE

Mov No.	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue Cycle (vehs)	Longest Queue Aver. (m)	Perf. Index	Aver. Speed (km/h)
SouthEast: PR-6693 Este									
21 L	6.13	9.19	32.9	1.00	1.80	4.8	34	24.32	31.5
22 LT	1.55	2.33	7.7	0.00	0.64	0.0	0	11.45	49.6
North: PR-6693 Norte									
8 T	1.28	1.93	7.3	0.00	0.61	0.0	0	9.82	50.1
9 R	0.31	0.47	7.7	0.00	0.60	0.0	0	2.33	49.8
West: PR-696 Oeste									
10 L	0.71	1.06	53.1	0.95	1.05	0.6	4	2.03	24.9
12 T	4.03	6.04	24.5	0.87	1.52	2.3	17	17.29	37.2

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Table S.6 - INTERSECTION PERFORMANCE

Total Flow (veh/h)	Deg. Satn x	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue (m)	Perf. Index	Aver. Speed (km/h)
SouthEast: PR-6693 Este									
1400	1.000	7.68	11.52	19.7	0.48	1.19	34	35.77	38.9
North: PR-6693 Norte									
784	0.332	1.60	2.40	7.3	0.00	0.61	0	12.15	50.0
West: PR-696 Oeste									
640	0.840	4.73	7.10	26.6	0.87	1.48	17	19.32	35.9
ALL VEHICLES:									
2824	1.000	14.01	21.02	17.9	0.44	1.10	34	67.24	40.6
INTERSECTION (persons):									
4236	1.000		21.02	17.9	0.44	1.10		67.24	40.6

Queue values in this table are mean cycle-average queue (metres).

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Table S.7 - LANE PERFORMANCE

Lane No.	Mov No.	Dem Flow (veh /h)	Cap (veh /h)	Deg. Satn x	Aver. Delay (sec)	Eff. Stop Rate	Queue Cycle (vehs)	Queue Aver. (m)	Short Lane (m)
SouthEast: PR-6693 Este									
1 L	21	671	671	1.000	32.9r	1.80	4.8	34<	50
2 LT	22	729	1900	0.384	7.7	1.23	0.0	0	
North: PR-6693 Norte									
1 T	8	636	1913	0.332	7.3	0.61	0.0	0	
2 R	9	148	1822	0.081	7.7	0.60	0.0	0	
West: PR-696 Oeste									
1 L	10	48	114	0.422	53.1	1.05	0.6	4	
2 T	12	592	705	0.840	24.5	1.52	2.3	17	50

< Short lane capacity is reached and there is excess flow into an adjacent lane

r Delay, stops and queue length for this lane have been cut down to fit in the queuing space. The amount cut may not be accounted for fully in the adjacent lane performance statistics. You may wish to change the short lane to a full lane to investigate the extent of this effect.

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Table S.8A - LANE FLOW AND CAPACITY INFORMATION

Lane No.	Mov No.	Dem Flow (veh/h) Lef	Thru	Rig	Tot	Min Cap (veh /h)	Tot Cap (veh /h)	Deg. Satn x	Lane Util %
SouthEast: PR-6693 Este									
1 L	21	671	0	0	671	120	671	1.000	100
2 LT	22	93E	636	0	729	729	1900	0.384	100
North: PR-6693 Norte									
1 T	8	0	636	0	636	636	1913	0.332	100
2 R	9	0	0	148	148	148	1822	0.081	100
West: PR-696 Oeste									

1	L	10	48	0	0	48	48	114	0.422	100
2	T	12	0	592	0	592	120	705	0.840	100

E "Excess" flow from back of an adjacent short lane

The capacity value for priority and continuous movements is obtained by adjusting the basic saturation flow for heavy vehicle and turning vehicle effects. Saturation flow scale applies if specified.

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Table S.12A - FUEL CONSUMPTION, EMISSIONS AND COST - TOTAL

Mov No.	Fuel Total L/h	Cost Total $/h	HC Total kg/h	CO Total kg/h	NOX Total kg/h	CO2 Total kg/h
SouthEast: PR-6693 Este						
21 L	59.2	398.86	0.261	12.33	0.352	148.3
22 LT	52.0	286.27	0.214	10.68	0.319	130.2
	111.3	685.13	0.476	23.02	0.671	278.5
North: PR-6693 Norte						
8 T	44.6	247.31	0.182	8.98	0.272	111.7
9 R	10.3	58.61	0.042	2.01	0.062	25.9
	55.0	305.92	0.224	10.99	0.334	137.6
West: PR-696 Oeste						
10 L	4.4	34.34	0.020	0.82	0.024	11.1
12 T	49.4	304.46	0.212	10.38	0.300	123.6
	53.8	338.80	0.232	11.20	0.324	134.6
INTERSECTION:	220.0	1329.85	0.931	45.20	1.328	550.7

PARAMETERS USED IN COST CALCULATIONS

Pump price of fuel ($/L)	=	0.900
Fuel resource cost factor	=	0.50
Ratio of running cost to fuel cost	=	3.0
Average income ($/h)	=	27.00
Time value factor	=	0.60
Average occupancy (persons/veh)	=	1.5
Light vehicle mass (1000 kg)	=	1.4
Heavy vehicle mass (1000 kg)	=	11.0
Light vehicle idle fuel rate (L/h)	=	1.350
Heavy vehicle idle fuel rate (L/h)	=	2.000

The idle fuel and vehicle mass parameters given above are the default values (data given in RIDES may override some of these parameters).

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Condicion Existente, 2004, Hora Pico PM
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Table S.14 - SUMMARY OF INPUT AND OUTPUT DATA

Lane No.	Demand Flow (veh/h) L	T	R	Tot	%HV	Adj. Basic Satf.	Eff Grn (secs) 1st	2nd	Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
SouthEast: PR-6693 Este												
1 L	671			671	3				1.000	32.9r	34	50
2 LT	93	636		729	3				0.384	7.7	0	
	764	636	0	1400	3				1.000	19.7	34	
North: PR-6693 Norte												
1 T		636		636	3				0.332	7.3	0	
2 R			148	148	3				0.081	7.7	0	
	0	636	148	784	3				0.332	7.3		
West: PR-696 Oeste												
1 L	48			48	2				0.422	53.1	4	
2 T		592		592	3				0.840	24.5	17	50
	48	592	0	640	3				0.840	26.6	17	
ALL VEHICLES				Total Flow 2824	% HV 3				Max X 1.000	Aver. Delay 17.9	Max Queue 34	

Total flow period = 60 minutes. Peak flow period = 15 minutes.

Queue values in this table are mean cycle-average queue (metres).

Note: Basic Saturation Flows are not adjusted at roundabouts or sign-controlled intersections and apply only to continuous lanes.

r Delay, stops and queue length for this lane have been cut down to fit in the queuing space. The amount cut may not be accounted for fully in the adjacent lane performance statistics. You may wish to change the short lane to a full lane to investigate the extent of this effect.

PR-696 con PR-6693
Condicion Existente, 2004, Hora Pico PM
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Table S.15 - CAPACITY AND LEVEL OF SERVICE

Mov	Mov	Total	Total	Deg.	Aver.	LOS	Longest Queue

No.	Typ	Flow (veh /h)	Cap. (veh /h)	of Satn (v/c)	Delay (sec)		Cycle (vehs)	Aver. (m)
SouthEast: PR-6693 Este								
21	L	671	671	1.000*	32.9	D	4.8	34
22	LT	729E	1900	0.384	7.7	A	0.0	0
		1400		1.000	19.7	C	4.8	34
North: PR-6693 Norte								
8	T	636	1913	0.332	7.3	A	0.0	0
9	R	148	1822	0.081	7.7	A	0.0	0
		784		0.332	7.3	A	0.0	0
West: PR-696 Oeste								
10	L	48	114	0.421	53.1	F	0.6	4
12	T	592	705	0.840	24.5	C	2.3	17
		640		0.840	26.6	D	2.3	17
ALL VEHICLES:		2824		1.000	17.9	NA	4.8	34

Level of Service calculations are based on
average control delay including geometric delay (HCM criteria),
independent of the current delay definition used.
For the criteria, refer to the "Level of Service" topic in the
aaSIDRA Output Guide or the Output section of the on-line help.

NA Not Applicable - Intersection Level of Service is not calculated at
two-way stop control or give-way/yield controlled intersections.

* Maximum v/c ratio, or critical green periods
E "Excess" flow from the short lane of an adjacent movement
added to normal flow

PR-696 con PR-6693
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Table D.0 - GEOMETRIC DELAY DATA

From Approach	To Approach	Negn Radius (m)	Negn Speed (km/h)	Negn Dist. (m)	Appr. Dist. (m)	Downstream Distance (m)
SouthEast: PR-6693 Este						
	North	11.8	21.5	10.0	500	104
	West	14.6	23.3	11.5	500	105
North: PR-6693 Norte						
	SouthEast	15.3	23.7	12.1	500	105
	West	20.0	26.2	31.4	500	117
West: PR-696 Oeste						
	SouthEast	16.5	24.4	12.9	500	105
	North	9.0	19.4	14.2	500	106

Downstream Distance calculated by aaSIDRA

Downstream distance is distance travelled from the stopline until exit cruise speed is reached (includes negotiation distance). Acceleration distance is weighted for light and heavy vehicles. The same distance applies for both stopped and unstopped vehicles.

PR-696 con PR-6693
Condicion Existente, 2004, Hora Pico PM
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Stop Sign Controlled Intersection

Table D.1 - LANE DELAYS

Lane No.	Mov No.	Deg. Satn x	Stop-line Delay 1st d1	2nd d2	Total dSL	Acc. Dec. dn	Queuing Total dq	MvUp dqm	Stopd (Idle) di	Geom dig	Control dic
SouthEast: PR-6693 Este											
1 L	21	1.000	7.5	18.1	25.6	4.6	21.0	13.8	7.2	7.3	32.9
2 LT	22	0.384	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	7.7
North: PR-6693 Norte											
1 T	8	0.332	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.3	7.3
2 R	9	0.081	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	7.7
West: PR-696 Oeste											
1 L	10	0.422	33.1	9.2	42.3	1.9	40.4	0.9	39.6	10.8	53.1
2 T	12	0.840	6.3	7.8	14.1	2.1	12.0	8.9	3.1	10.4	24.5

Delay (seconds/veh)

dn is average stop-start delay for all vehicles queued and unqueued

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PR-696 con PR-6693
Condicion Existente, 2004, Hora Pico PM
Intersection ID: 04
Stop Sign Controlled Intersection

Table D.2 - LANE STOPS

Lane No.	Deg. Satn x	Effective Stop Rate he1	he2	Geom. hig	Overall h	Prop. Queued pq	Queue Move-up Rate hqm
SouthEast: PR-6693 Este							
1 L	1.000	1.00	0.80	0.00	1.80	1.000	2.47
2 LT	0.384	0.51	0.41	0.31	1.23	0.000	0.00
North: PR-6693 Norte							
1 T	0.332	0.00	0.00	0.61	0.61	0.000	0.00
2 R	0.081	0.00	0.00	0.60	0.60	0.000	0.00

```
 West: PR-696 Oeste
 1 L   0.422  0.95  0.05  0.05   1.05    0.953   0.20
 2 T   0.840  0.87  0.52  0.13   1.52    0.867   1.55
 -------------------------------------------------------
  hig is the average value for all movements in a shared lane
  hqm is average queue move-up rate for all vehicles queued and unqueued
```

```
PR-696 con PR-6693
Condicion Existente, 2004, Hora Pico PM
Intersection ID:    04
            Stop Sign Controlled Intersection


Table D.3A - LANE QUEUES (veh)
-----------------------------------------------------------------------------
        Deg.  Ovrfl. Average (veh)          Percentile (veh)
Queue
  Lane   Satn  Queue ----------------  ----------------------------
Stor.
  No.      x    No     Nc1   Nc2    Nc    70%   85%   90%   95%   98%
Ratio
-----------------------------------------------------------------------------
  SouthEast: PR-6693 Este
  1 L   1.000   5.0    1.4   3.4   4.8    5.5   8.7* 11.1* 13.7* 17.9*
1.00
  2 LT  0.384   0.0    0.0   0.0   0.0    0.0   0.0   0.0   0.0   0.0
0.00
-----------------------------------------------------------------------------
  North: PR-6693 Norte
  1 T   0.332   0.0    0.0   0.0   0.0    0.0   0.0   0.0   0.0   0.0
0.00
  2 R   0.081   0.0    0.0   0.0   0.0    0.0   0.0   0.0   0.0   0.0
0.00
-----------------------------------------------------------------------------
  West: PR-696 Oeste
  1 L   0.422   0.1    0.4   0.1   0.6    0.7   1.1   1.4   1.8   2.3
0.01
  2 T   0.840   1.5    1.0   1.3   2.3    2.7   4.4   5.7   7.0   9.2*
0.63
-----------------------------------------------------------------------------

      Values printed in this table are cycle-average queues (vehicles).
   *  Queue length exceeds short lane length due to specification of a
      percentile queue in the aaSIDRA Configuration File. For calculation
      of this statistic, you may specify the lane with full length.
```

```
PR-696 con PR-6693
Condicion Existente, 2004, Hora Pico PM
Intersection ID:    04
            Stop Sign Controlled Intersection


Table D.3B - LANE QUEUES (metres)
```

```
 ---------------------------------------------------------------------------
-
         Deg.  Ovrfl. Average (metres)       Percentile (metres)
Queue
  Lane   Satn  Queue ----------------  ----------------------------
Stor.
  No.      x    No     Nc1   Nc2    Nc    70%   85%   90%   95%   98%
Ratio
 ---------------------------------------------------------------------------
-
  SouthEast: PR-6693 Este
  1 L   1.000    36     10    24    34     40    62*   80*   99*  128*
1.00
  2 LT  0.384     0      0     0     0      0     0     0     0     0
0.00
 ---------------------------------------------------------------------------
-
  North: PR-6693 Norte
  1 T   0.332     0      0     0     0      0     0     0     0     0
0.00
  2 R   0.081     0      0     0     0      0     0     0     0     0
0.00
 ---------------------------------------------------------------------------
-
  West: PR-696 Oeste
  1 L   0.422     1      3     1     4      5     8    10    13    17
0.01
  2 T   0.840    10      7     9    17     20    32    41    50    66*
0.63
 ---------------------------------------------------------------------------
-

      Values printed in this table are cycle-average queues (metres).
   *  Queue length exceeds short lane length due to specification of a
      percentile queue in the aaSIDRA Configuration File. For calculation
      of this statistic, you may specify the lane with full length.
```

```
PR-696 con PR-6693
Condicion Existente, 2004, Hora Pico PM
Intersection ID:    04
            Stop Sign Controlled Intersection
```

Table D.4 - MOVEMENT SPEEDS (km/h)

Mov No.	App. Speeds Cruise	App. Speeds Negn	Exit Speeds Negn	Exit Speeds Cruise	Queue Move-up 1st Grn	Queue Move-up 2nd Grn	Av. Section Spd Running	Av. Section Spd Overall
SouthEast: PR-6693 Este								
21	60.0	23.3	23.3	60.0	15.4		35.1	31.5
22	60.0	21.5	21.5	60.0			49.6	49.6
North: PR-6693 Norte								
8	60.0	23.7	23.7	60.0			50.1	50.1
9	60.0	26.2	26.2	60.0			49.8	49.8
West: PR-696 Oeste								
10	60.0	0.0	19.4	60.0	10.7		45.6	24.9
12	60.0	0.0	24.4	60.0	16.0		39.2	37.2

"Running Speed" is the average speed excluding stopped periods.

--- End of aaSIDRA Output ---

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APÉNDICE 3:

Resultados evaluación de Warants

PR-693- Avenida José Efrón

Warrant 1							
Beginning of Period	Both Major	Max Minor	500	750	400	600	A + B (80%)
			150	75	120	60	
			Cond. A	Cond. B	Cond. A	Cond. B	
			100%	100%	80%	80%	
6:00 AM	986	197	1	1	1	1	1
7:00 AM	1337	347	1	1	1	1	1
8:00 AM	1031	291	1	1	1	1	1
9:00 AM	809	225	1	1	1	1	1
10:00 AM	811	196	1	1	1	1	1
11:00 AM	803	365	1	1	1	1	1
12:00 PM	753	242	1	1	1	1	1
1:00 PM	1003	259	1	1	1	1	1
2:00 PM	1065	395	1	1	1	1	1
3:00 PM	997	481	1	1	1	1	1
4:00 PM	684	410	1		1	1	1
5:00 PM	654	426	1		1	1	1
Totales			12	**10**			12

PR696- Avenida José Efrón

Warrant 1							
Beginning of Period	Both Major	Max Minor	500	750	400	600	A + B (80%)
			150	75	120	60	
			Cond. A	Cond. B	Cond. A	Cond. B	
			100%	100%	80%	80%	
6:00 AM	532	284	1		1		
7:00 AM	705	461	1		1	1	1
8:00 AM	623	497	1		1	1	1
9:00 AM	516	310	1		1		
10:00 AM	454	299			1		
11:00 AM	604	287	1		1	1	1
12:00 PM	799	458	1	1	1	1	1
1:00 PM	816	534	1	1	1	1	1
2:00 PM	829	665	1	1	1	1	1
3:00 PM	1048	637	1	1	1	1	1
4:00 PM	869	463	1	1	1	1	1
5:00 PM	858	404	1	1	1	1	1
Totales			11	**6**			9

PR-696 y PR-6693

Warrant 1							
Beginning of Period	Both Major	Max Minor	500	750	400	600	A + B (80%)
			150	75	120	60	
			Cond. A	Cond. B	Cond. A	Cond. B	
			100%	100%	80%	80%	
6:00 AM	334	469					
7:00 AM	516	586	1		1		
8:00 AM	580	423	1		1		
9:00 AM	391	384					
10:00 AM	298	403					
11:00 AM	338	499					
12:00 PM	505	1044	1		1		
1:00 PM	539	1035	1		1		
2:00 PM	654	1023	1		1	1	1
3:00 PM	528	1182	1		1		
4:00 PM	451	1113			1		
5:00 PM	455	916			1		
Totales			6	**0**			1