

9.2. ANEXO 2. ESTUDIO DE TRÁFICO

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1.- ANTECEDENTES Y OBJETO DEL ESTUDIO.

El presente Estudio de tráfico se redacta con la finalidad de comprobar la viabilidad, desde el punto de vista del tráfico, de la implantación del nuevo área industrial correspondiente al Área de Planeamiento Remitido E-3 dentro del Parque Empresarial del Principado de Asturias. Esta nueva actuación afecta especialmente a las carreteras AS-238 Gijón–Luanco y la AS-328 de la red autonómica, que confluyen en la rotonda objeto del presente estudio y sobre la cual se pretende duplicar el carril de entrada procedente de la localidad de Luanco para facilitar la incorporación a la misma de los vehículos que abandonen el nuevo área industrial.

La viabilidad de la glorieta se determinará usando los datos aforados en la propia intersección. El método de cálculo de capacidad empleado ha sido el inglés del TRRL.

Para la elaboración de este Estudio se han seguido las “*Recomendaciones sobre Glorietas*” de mayo de 1989 del antiguo Ministerio de Obras Públicas y las “*Recomendaciones para el diseño de Glorietas en carreteras suburbanas*” de junio de 1989 de la Dirección General de Transportes de la Comunidad de Madrid.

Además se determinará la categoría del tráfico de vehículos pesados de los viales de acuerdo a la clasificación de la “*Norma 6.1-IC: Secciones de firme*”, aprobada por Orden FOM/3460/2003, de 28 de noviembre.

2.- ANÁLISIS DE LA RED DE CARRETERAS.

2.1.- ESTADO ACTUAL.

El área industrial que se pretende implantar, se encuentra en una zona bien situada respecto a las principales vías de comunicación del centro de Asturias.

Por el extremo sur-este limita con la AS-238 y por el extremo sur-oeste con la carretera AS-328. Todas estas carreteras pertenecen a la red autonómica.

2.2.- RED PROYECTADA.

Se ejecutará un nuevo carril de acceso a la rotonda desde Luanco, con el fin de facilitar la incorporación a la misma de los vehículos procedentes del nuevo área industrial, dicho carril con una longitud cercana a los 50 m, discurrirá de forma paralela al existente hasta acceder a la glorieta. La ampliación del polígono conlleva también la creación de un acceso al mismo, el cual se llevará a cabo a través de la carretera AS-328 en sentido a Xagó.

3.- TRÁFICO EN LA SITUACIÓN ACTUAL.

3.1.- DATOS DE LAS ESTACIONES DE AFORO DEL PRINCIPADO.

Una fuente básica de información sobre el tráfico son las estaciones de aforo del Principado de Asturias.

Las principales estaciones de tráfico en el área de estudio se recogen en el cuadro adjunto.

Estaciones del Principado de Asturias									
ESTACIÓN	CARRETERA	año 2002		año 2003		año 2004		año 2005	
		IMD	%pesados	IMD	%pesados	IMD	%pesados	IMD	%pesados
AS-328-2	AS-328	6,106	24.82	6,052	18.95	6,022	22.51	6,048	21.61
AS-238-1	AS-238	15,609	16.37	16,510	13.61	16,627	13.09	17,896	13.63
AS-238-2	AS-238	4,581	7.48	5,692	4.51	5,293	6.65	5,144	5.58

3.2.- AFOROS REALIZADOS.

Se han realizado un aforo manual el 17 de mayo de 2007 en la propia rotonda, con la finalidad de determinar correctamente la Intensidad Horaria.

El período de aforo fue de 08:00 horas a 14:00 horas, aforando todos los movimientos de vehículos ligeros y vehículos pesados (furgonetas con una tara superior a 1.250 Kg).

En el “Apéndice 1: Datos de aforos” se incluyen los datos repartidos en vehículos ligeros y pesados, también se recoge la IMD estimada.

En la siguiente tabla se recogen los resultados, del aforo, transformados en vehículos equivalentes:

Vehiculos	MOVIMIENTOS	8. 9	9. 10	10. 11	11. 12	12. 13	13. 14	SUMA
LIGEROS	Pepa - Luanco	16	17	6	16	32	20	107
	Pepa - Xagó	40	56	34	53	35	46	264
	Pepa - Calafates	4	6	4	0	0	7	21
	Pepa - Avilés	2	2	9	6	14	46	79
	Luanco - Xagó	6	30	33	22	14	22	127
	Luanco - Calafates	30	28	3	15	6	8	90
	Luanco - Avilés	326	276	287	232	229	238	1588
	Luanco - Pepa	18	18	24	20	24	24	128
	Avilés - Pepa	8	12	22	6	10	8	66
	Avilés - Luanco	292	250	220	240	248	224	1474
	Avilés - Xagó	194	236	180	216	228	212	1266
	Avilés - Calafates	10	40	20	12	10	4	96
	Xagó - Calafates	4	6	18	10	6	18	62
	Xagó - Avilés	142	214	248	152	252	294	1302
	Xagó - Pepa	34	28	40	44	44	50	240
	Xagó - Luanco	6	20	24	2	22	10	84
SUMA LIGEROS EQUIVALENTES:		1132	1239	1172	1046	1174	1231	6994

Las matrices de origen y de destino de las IMH de vehículos equivalentes para las diversas horas punta son las siguientes:

Veh. equivalentes hora (8. 9)				
O/D	PEPA	Luanco	Xagó	Avilés
PEPA		16	40	2
Luanco	18		6	326
Xagó	34	6		142
Avilés	8	292	194	

Veh. equivalentes hora (9. 10)				
O/D	PEPA	Luanco	Xagó	Avilés
PEPA		17	56	2
Luanco	18		30	276
Xagó	28	20		214
Avilés	12	250	236	

Veh. equivalentes hora (10. 11)				
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Veh. equivalentes hora (11. 12)				
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O/D	PEPA	Luanco	Xagó	Avilés
PEPA		6	34	9
Luanco	24		33	287
Xagó	40	24		248
Avilés	22	220	180	

O/D	PEPA	Luanco	Xagó	Avilés
PEPA		16	53	6
Luanco	20		22	232
Xagó	44	2		152
Avilés	6	240	216	

Veh. equivalentes hora (12. 13)				
O/D	PEPA	Luanco	Xagó	Avilés
PEPA		32	35	14
Luanco	24		14	229
Xagó	44	22		252
Avilés	10	248	228	

Veh. equivalentes hora (13. 14)				
O/D	PEPA	Luanco	Xagó	Avilés
PEPA		20	46	46
Luanco	24		22	238
Xagó	50	10		294
Avilés	8	224	212	

4.- ANALIS DE DATOS.

4.1.- VEHÍCULOS PESADOS Y VEHÍCULOS EQUIVALENTES.

Los datos fueron tomados en períodos de una hora, con información sobre el tráfico de vehículos pesados para cada movimiento.

Para homogeneizar esta información al analizar los datos se emplean vehículos equivalentes en lugar de los vehículos reales aforados. La relación empleada es de dos vehículos equivalentes por cada vehículo pesado ($V_{eq} = V_L + 2V_P$). Cuando no se disponen de datos aforados de vehículos pesados se emplean los datos de la estación de aforo más cercana.

5.- TRÁFICO GENERADO POR EL NUEVO ÁREA INDUSTRIAL.

5.1.- TRÁFICO TOTAL GENERADO.

Para la estimación de los tráficos generados por el nuevo área industrial, se han tomado los siguientes ratios:

- Área industrial = 7 viajes ida y vuelta por cada 100 m².

- Actividades terciarias = 2 viajes ida y vuelta por cada 100 m².

Según esto, la intensidad media diaria generada es de $(31.628 \text{ m}^2 \times 7 + 9.410 \text{ m}^2 \times 2)/100 = 2.402$ vehículos de los cuales, considerando un 10% de pesados, se obtienen 2.642 vehículos totales diarios por viajes de ida y vuelta, lo que supone un incremento de vehículos totales a incorporarse a la rotonda en el ramal de Luanco de 1.321 al día.

Conocidos los viajes generados, se ha realizado la distribución de tráficos en la nueva red asemejando el nuevo reparto con la distribución de los mismos en la actualidad.

A la distribución de tráficos obtenida, se le han sumado los tráficos existentes, obteniendo la asignación total de tráficos para la futura red.

Las nuevas matrices de origen y de destino de las IMH de vehículos equivalentes para las diversas horas punta son las siguientes:

Veh. equivalentes hora (8. 9)				
O/D	PEPA	Luanco	Xagó	Avilés
PEPA		38	69	0
Luanco	30	41	31	475
Xagó	64	49	41	142
Avilés	42	365	326	

Veh. equivalentes hora (9. 10)				
O/D	PEPA	Luanco	Xagó	Avilés
PEPA		17	86	2
Luanco	31	45	58	439
Xagó	28	20	45	214
Avilés	12	250	381	

Veh. equivalentes hora (10. 11)				
O/D	PEPA	Luanco	Xagó	Avilés
PEPA		6	63	9
Luanco	36	42	59	441
Xagó	40	24	42	248
Avilés	22	220	317	

Veh. equivalentes hora (11. 12)				
O/D	PEPA	Luanco	Xagó	Avilés
PEPA		16	78	6
Luanco	31	38	45	370
Xagó	44	2	38	152
Avilés	6	240	338	

Veh. equivalentes hora (12. 13)				
O/D	PEPA	Luanco	Xagó	Avilés
PEPA		32	52	14
Luanco	36	43	40	383
Xagó	44	22	42	252
Avilés	10	248	365	

Veh. equivalentes hora (13. 14)				
O/D	PEPA	Luanco	Xagó	Avilés
PEPA		20	64	46
Luanco	37	45	49	400
Xagó	50	10	44	294
Avilés	8	224	356	

6.- CAPACIDAD DE GLORIETAS.

6.1.- INTRODUCCIÓN.

El método inglés del TRRL (*Transport and Road Research Laboratory*; “laboratorio de investigación de transporte y carreteras”) se basa en los datos empíricos recogidos a lo largo de los años 70 en múltiples glorietas inglesas. La ventaja del método se basa en la amplitud de los datos recogidos y la variedad de la geometría de las glorietas estudiadas (previas a la implantación de criterios unificados). El principal inconveniente es que los datos estudiados se refieren en todos los casos a carreteras inglesas y que no existe un estudio equivalente sobre la capacidad de las glorietas españolas.

Este procedimiento de cálculo de capacidad de glorietas es uno de los recomendados por la Dirección General de Transportes de la Comunidad de Madrid en las “*Recomendaciones para el diseño de Glorietas en carreteras suburbanas*”.

Para los cálculos de capacidad de glorietas con el método inglés se ha empleado el programa ARCADY 6 (*Assessment of Roundabout CAPacity and DelaY*; “cálculo de capacidad y demora en glorietas”), desarrollado por la empresa TRL Ltd.

Con este programa se puede calcular la capacidad de la entrada a una glorieta en función del tráfico que circula por el anillo y diversos parámetros geométricos, usando el método inglés. Además también se pueden realizar otros cálculos como la longitud de colas, los tiempos de demora y la predicción del número de accidentes; siempre usando fórmulas empíricas inglesas.

6.2.- FORMULACIÓN.

6.2.1.- Capacidad de una entrada.

La relación entre la capacidad de una entrada y el tráfico que circula por una anillo es una relación lineal de la siguiente forma:

$$Q_e = k(F - f_c Q_c)$$

dónde:

Q_e = capacidad de una entrada (veh/h)

Q_c = tráfico que circula por el anillo (veh/h)

k , F y f_c son parámetros dependientes de la geometría de la entrada.

6.2.2.- Parámetros geométricos.

$$k = 1 - 0,00347(\phi - 30) - 0,978\left(\frac{1}{r} - 0,05\right)$$

$$F = 303x_2$$

$$f_c = 0,210t_D(1 + 0,2x_2)$$

$$t_D = 1 + \frac{0,5}{1 + e^{\frac{D-60}{10}}}$$

$$x_2 = v + \frac{e - v}{1 + 2S}$$

$$S = 1,6 \frac{e - v}{l'}$$

dónde:

e = ancho de la entrada (m)

v = semiancho de la vía de aproximación (m)

l' = longitud del abocinamiento (m)

D = diámetro del círculo inscrito (m)

ϕ = ángulo de entrada ($^{\circ}$, grados sexagesimales)

r = radio de entrada (m).

6.3.- NIVEL DE SERVICIO EN GLORIETAS.

El concepto de nivel de servicio y los criterios empleados para su definición provienen del *Highway Capacity Manual* ("manual de capacidad de carreteras"), publicado por la agencia americana TRB (Transportation Research Board, "comisión de investigación del transporte").

En la última edición del manual ("*Highway Capacity Manual 2000*") por primera vez se dan procedimientos para el estudio de las glorietas, incluidas dentro del capítulo de intersecciones no semaforizadas. No se da de forma específica un criterio sobre el nivel de servicio en las glorietas, pero sí dispone de uno genérico referido a intersecciones no semaforizadas:

NIVEL DE SERVICIO	RETRASO MEDIO (S/VEH)
A	0-10
B	10-15
C	15-25
D	25-35
E	35-50
F	>50

En el tiempo de demora usado para determinar el nivel de servicio se tiene en cuenta el tiempo perdido en la cola (depende de la demanda y de la capacidad de la intersección) y el gastado en frenar y acelerar el vehículo (el Manual de Capacidad indica un valor de 5 s para todas las intersecciones). En el nivel de servicio no se tiene en cuenta el tiempo empleado en recorrer la propia intersección (prácticamente nulo en una intersección normal y que aumenta en una glorieta con el tamaño de la misma).

7.- CASOS ESTUDIADOS.

Para conocer el comportamiento de la glorieta se ha estudiado su tráfico durante el periodo horario aforado, es decir, desde las 8:00 horas hasta las 14:00 horas, tanto para la situación actual como para la situación futura (con el polígono industrial funcionando).

En el *“Apéndice 2: Geometría de la glorieta”* se incluyen unas tablas con la geometría de las glorieta en ambas situaciones.

Los dos casos se han estudiado con el programa ARCADY 6, que analiza la capacidad de una glorieta usando el método inglés del TRRL. Los listados de los resultados se incluyen en el *“Apéndice 3: Listados del programa ARCADY”*. La geometría de las glorietas se refleja en los parámetros que se encuentran incluidos en los listados de los cálculos.

7.1.- RESULTADOS.

Los resultados se han estudiado en tramos de cuartos de hora; en la siguiente tabla se resume, en franjas de una hora y para cada entrada, los valores correspondientes al tráfico de la entrada o demanda (en veh./h), el factor de saturación (demanda/capacidad), la cola al final del período, la demora media (s/veh.) y el nivel de servicio. Los valores incluidos en las tablas son los del último cuarto de hora de cada período, que en caso de entradas saturadas dan peores valores para los distintos parámetros.

7.1.1.- Resultados. Situación Actual.

GLORIETA. RESULTADOS.						
Hora	Salida	Demanda (veh/h)	Capacidad (veh/h)	Factor Saturación	Demora media (s/veh)	Nivel de servicio
08:00 - 09:00	PEPA	58	1.808	0,032	3,30	A
	Luanco	350	1.244	0,281	9,61	A
	Xago	182	1.732	0,105	3,04	A
	Avilés	494	1.025	0,482	11,28	B
09:00 - 10:00	PEPA	75	1.800	0,042	3,20	A
	Luanco	324	1.219	0,266	11,26	B
	Xago	262	1.755	0,149	3,11	A
	Avilés	498	1.022	0,487	13,01	B
10:00 - 11:00	PEPA	49	1.840	0,027	3,41	A
	Luanco	344	1.248	0,275	10,54	B
	Xago	312	1.744	0,179	3,08	A
	Avilés	422	1.013	0,416	12,12	B
11:00 - 12:00	PEPA	75	1.823	0,041	2,88	A
	Luanco	274	1.228	0,223	9,89	A
	Xago	198	1.772	0,112	3,03	A
	Avilés	462	1.022	0,452	10,86	B
12:00 - 13:00	PEPA	81	1.804	0,045	2,67	A
	Luanco	267	1.226	0,218	10,34	B
	Xago	318	1.768	0,180	3,02	A
	Avilés	486	1.013	0,480	12,25	B
13:00 - 14:00	PEPA	112	1.829	0,061	2,57	A
	Luanco	284	1.215	0,234	10,91	B
	Xago	354	1.749	0,202	3,19	A
	Avilés	444	1.015	0,437	12,86	B

7.1.2.- Resultados. Situación Futura.

GLORIETA. RESULTADOS.						
Hora	Salida	Demanda (veh/h)	Capacidad (veh/h)	Factor Saturación	Demora media (s/veh)	Nivel de servicio
08:00 - 09:00	PEPA	87	1.706	0,051	2,21	A
	Luanco	577	1.161	0,497	5,82	A
	Xago	223	1.639	0,136	2,47	A
	Avilés	626	991	0,632	8,90	A
09:00 - 10:00	PEPA	105	1.685	0,062	2,29	A
	Luanco	573	1.129	0,508	6,37	A
	Xago	310	1.651	0,188	2,63	A
	Avilés	643	984	0,654	10,07	A
10:00 - 11:00	PEPA	78	1.731	0,045	2,15	A
	Luanco	578	1.162	0,497	6,27	A
	Xago	354	1.646	0,215	2,71	A
	Avilés	559	979	0,571	9,14	A
11:00 - 12:00	PEPA	100	1.727	0,058	2,16	A
	Luanco	484	1.151	0,421	5,60	A
	Xago	236	1.684	0,140	2,54	A
	Avilés	584	995	0,587	8,59	A
12:00 - 13:00	PEPA	98	1.696	0,058	2,21	A
	Luanco	499	1.145	0,436	5,53	A
	Xago	360	1.670	0,216	2,67	A
	Avilés	623	977	0,637	9,56	A
13:00 - 14:00	PEPA	130	1.715	0,076	2,21	A
	Luanco	531	1.130	0,470	5,83	A
	Xago	398	1.646	0,242	2,84	A
	Avilés	588	978	0,601	9,71	A

En vista de los resultados obtenidos, el funcionamiento de la glorieta donde se pretende enlazar el vial de salida del nuevos área industrial es más que aceptable, presentando un nivel de servicio A en todos los brazos y en todo el periodo horario analizado.

Comparando los resultados con los obtenidos para la misma glorieta en el estado actual, se observa que:

- De forma generalizada aumenta la saturación pero disminuye la demora media de todos los brazos.

8.- CONCLUSIÓN.

En vista de los resultados obtenidos, el funcionamiento de la glorieta donde se pretende enlazar el vial de salida del nuevos área industrial es más que aceptable, presentando un nivel de servicio A en todos los brazos y en todo el periodo horario analizado.

Podemos decir entonces, que la rotonda analizada, tiene capacidad más que suficiente para absorber los tráficos generados por el desarrollo del nuevo área industrial prevista.

APÉNDICE 1: AFOROS REALIZADOS.

AFORO DE CARRETERAS										
CLAVE:		DIA	MES	AÑO	SITUACION:		<i>Rotonda Pepa</i>			
DIA DE LA SEMANA :		Jueves	17	5	2007	MUNICIPIO :		<i>Avilés</i>		

Vehiculos	MOVIMIENTOS	8. 9	9. 10	10. 11	11. 12	12. 13	13. 14				SUMA
LIGEROS	Pepa - Luanco	16	17	2	16	24	20				95
	Pepa - Xagó	12	12	4	3	7	34				72
	Pepa - Calafates	4	2	4	0	0	7				17
	Pepa - Avilés	2	2	5	6	10	46				71
	Luanco - Xagó	6	22	21	10	14	22				95
	Luanco - Calafates	30	24	3	15	6	8				86
	Luanco - Avilés	294	244	215	196	197	212				1358
	Luanco - Pepa	16	14	24	16	22	24				116
	Avilés - Pepa	4	10	16	4	6	4				44
	Avilés - Luanco	208	210	184	208	220	210				1240
	Avilés - Xagó	122	140	138	122	162	160				844
	Avilés - Calafates	10	36	20	10	8	4				88
	Xagó - Calafates	4	6	18	4	2	18				52
	Xagó - Avilés	90	130	134	90	156	226				826
	Xagó - Pepa	10	8	10	10	14	32				84
	Xagó - Luanco	2	10	6	2	8	10				38
SUMA LIGEROS:		830	887	804	712	856	1037				5126

PESADOS	Pepa - Luanco	0	0	2	0	4	0				6
	Pepa - Xagó	14	22	15	25	14	6				96
	Pepa - Calafates	0	2	0	0	0	0				2
	Pepa - Avilés	0	0	2	0	2	0				4
	Luanco - Xagó	0	4	6	6	0	0				16
	Luanco - Calafates	0	2	0	0	0	0				2
	Luanco - Avilés	16	16	36	18	16	13				115
	Luanco - Pepa	1	2	0	2	1	0				6
	Avilés - Pepa	2	1	3	1	2	2				11
	Avilés - Luanco	42	20	18	16	14	7				117
	Avilés - Xagó	36	48	21	47	33	26				211
	Avilés - Calafates	0	2	0	1	1	0				4
	Xagó - Calafates	0	0	0	3	2	0				5
	Xagó - Avilés	26	42	57	31	48	34				238
	Xagó - Pepa	12	10	15	17	15	9				78
	Xagó - Luanco	2	5	9	0	7	0				23
SUMA PESADOS:		151	176	184	167	159	97				934

TOTAL:	981	1063	988	879	1015	1134	6060
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NOTA: En vehiculos pesados estan incluidos todo tipo de furgonetas con una tara superior a 1.250 Kg.

APÉNDICE 2: GEOMETRÍA DE LA GLORIETA.

GEOMETRIA DE LA GLORIETA

ESTADO ACTUAL

GLORIETA				
SALIDAS	Pepa	Luanco	Xagó	Aviles
Ancho de aproximación (m) (e)	7,00	3,50	7,00	3,50
Ancho entrada (m) (v)	8,50	4,90	7,00	3,50
Longitud abocinamiento (m)	3,61	9,85	3,03	7,35
Radio entrada (m)	12,04	26,24	14,13	13,36
Diámetro exterior glorieta (m)	83,76	83,76	83,76	83,76
Ángulo entrada (º)	54,00	36,00	55,00	27,00

ESTADO TRAS EJECUCIÓN ÁREA INDUSTRIAL

GLORIETA				
SALIDAS	Pepa	Luanco	Xagó	Aviles
Ancho de aproximación (m) (e)	7,00	7,00	7,00	3,50
Ancho entrada (m) (v)	8,50	7,00	7,00	3,50
Longitud abocinamiento (m)	3,61	10,22	3,03	7,35
Radio entrada (m)	12,04	20,00	14,13	13,36
Diámetro exterior glorieta (m)	83,76	83,76	83,76	83,76
Ángulo entrada (º)	54,00	37,00	55,00	27,00

APÉNDICE 3: LISTADOS PROGRAMA ARCADY.

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 3.0 (JUNE 2005)

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THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"C:\Esteban\PROYECTOS\A0xs\A07017-DOC. ENTREGADA INFOINVEST\PEPA1.vai"
(drive-on-the-right) at 11:40:04 on wednesday, 23 May 2007

FILE PROPERTIES

RUN TITLE: PEPA
LOCATION: Aviles
DATE: 23/05/2007
CLIENT:
ENUMERATOR: econde [ORD-64]
JOB NUMBER:
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - PEPA
ARM B - LUANCO
ARM C - XAGO
ARM D - AVILES

GEOMETRIC DATA

I	ARM	I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)	I
I	ARM A	I	7.00	I	8.50	I	3.60	I	12.00	I	83.80	I	54.0	I	0.489	I	34.124	I
I	ARM B	I	3.50	I	4.90	I	9.90	I	26.20	I	83.80	I	36.0	I	0.410	I	22.334	I
I	ARM C	I	7.00	I	7.00	I	3.00	I	14.10	I	83.80	I	55.0	I	0.469	I	31.560	I
I	ARM D	I	3.50	I	3.50	I	7.30	I	13.40	I	83.80	I	27.0	I	0.367	I	17.433	I

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

I	ARM	I	FLOW	SCALE(%)	I
I	A	I	100		I
I	B	I	100		I
I	C	I	100		I
I	D	I	100		I

TIME PERIOD BEGINS 08.00 AND ENDS 14.00

LENGTH OF TIME PERIOD - 360 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.
DEMAND SET TITLE: PEPA

DEMAND SET TITLE: PEPA

TIME	TURNING PROPORTIONS							
	TURNING COUNTS							
	(PERCENTAGE OF H.V.S)							
	FROM/TO	ARM A	ARM B	ARM C	ARM D			
08.00 - 08.15	ARM A	0.000	0.278	0.691	0.031			
		0.0	0.3	0.7	0.0			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM B	0.051	0.000	0.017	0.931			
		0.3	0.0	0.1	5.4			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM C	0.188	0.033	0.000	0.780			
		0.6	0.1	0.0	2.4			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM D	0.016	0.592	0.392	0.000			
		0.1	4.9	3.2	0.0			
		(0.0)	(0.0)	(0.0)	(0.0)			
08.15 - 08.30	ARM A	0.000	0.278	0.691	0.031			
		0.0	0.3	0.7	0.0			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM B	0.051	0.000	0.017	0.931			
		0.3	0.0	0.1	5.4			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM C	0.188	0.033	0.000	0.780			
		0.6	0.1	0.0	2.4			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM D	0.016	0.592	0.392	0.000			
		0.1	4.9	3.2	0.0			
		(0.0)	(0.0)	(0.0)	(0.0)			

DEMAND SET TITLE: PEPA

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)							
	FROM/TO	ARM A	ARM B	ARM C	ARM D			
08.30 - 08.45	ARM A	0.000 0.0 (0.0)	0.278 0.3 (0.0)	0.691 0.7 (0.0)	0.031 0.0 (0.0)			
	ARM B	0.051 0.3 (0.0)	0.000 0.0 (0.0)	0.017 0.1 (0.0)	0.931 5.4 (0.0)			
	ARM C	0.188 0.6 (0.0)	0.033 0.1 (0.0)	0.000 0.0 (0.0)	0.780 2.4 (0.0)			
	ARM D	0.016 0.1 (0.0)	0.592 4.9 (0.0)	0.392 3.2 (0.0)	0.000 0.0 (0.0)			
08.45 - 09.00	ARM A	0.000 0.0 (0.0)	0.278 0.3 (0.0)	0.691 0.7 (0.0)	0.031 0.0 (0.0)			
	ARM B	0.051 0.3 (0.0)	0.000 0.0 (0.0)	0.017 0.1 (0.0)	0.931 5.4 (0.0)			
	ARM C	0.188 0.6 (0.0)	0.033 0.1 (0.0)	0.000 0.0 (0.0)	0.780 2.4 (0.0)			
	ARM D	0.016 0.1 (0.0)	0.592 4.9 (0.0)	0.392 3.2 (0.0)	0.000 0.0 (0.0)			

DEMAND SET TITLE: PEPA

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)							
	FROM/TO	ARM A	ARM B	ARM C	ARM D			
09.00 - 09.15	ARM A	0.000 0.0 (0.0)	0.226 0.3 (0.0)	0.750 0.9 (0.0)	0.024 0.0 (0.0)			
	ARM B	0.056 0.3 (0.0)	0.000 0.0 (0.0)	0.093 0.5 (0.0)	0.852 4.6 (0.0)			
	ARM C	0.108 0.5 (0.0)	0.076 0.3 (0.0)	0.000 0.0 (0.0)	0.817 3.6 (0.0)			
	ARM D	0.024 0.2 (0.0)	0.502 4.2 (0.0)	0.473 3.9 (0.0)	0.000 0.0 (0.0)			
09.15 - 09.30	ARM A	0.000 0.0 (0.0)	0.226 0.3 (0.0)	0.750 0.9 (0.0)	0.024 0.0 (0.0)			
	ARM B	0.056 0.3 (0.0)	0.000 0.0 (0.0)	0.093 0.5 (0.0)	0.852 4.6 (0.0)			
	ARM C	0.108 0.5 (0.0)	0.076 0.3 (0.0)	0.000 0.0 (0.0)	0.817 3.6 (0.0)			
	ARM D	0.024 0.2 (0.0)	0.502 4.2 (0.0)	0.473 3.9 (0.0)	0.000 0.0 (0.0)			

DEMAND SET TITLE: PEPA

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)							
	FROM/TO	ARM A	ARM B	ARM C	ARM D			
09.30 - 09.45	ARM A	0.000	0.226	0.750	0.024			
		0.0	0.3	0.9	0.0			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM B	0.056	0.000	0.093	0.852			
		0.3	0.0	0.5	4.6			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM C	0.108	0.076	0.000	0.817			
		0.5	0.3	0.0	3.6			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM D	0.024	0.502	0.473	0.000			
		0.2	4.2	3.9	0.0			
		(0.0)	(0.0)	(0.0)	(0.0)			
09.45 - 10.00	ARM A	0.000	0.226	0.750	0.024			
		0.0	0.3	0.9	0.0			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM B	0.056	0.000	0.093	0.852			
		0.3	0.0	0.5	4.6			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM C	0.108	0.076	0.000	0.817			
		0.5	0.3	0.0	3.6			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM D	0.024	0.502	0.473	0.000			
		0.2	4.2	3.9	0.0			
		(0.0)	(0.0)	(0.0)	(0.0)			

DEMAND SET TITLE: PEPA

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)							
	FROM/TO	ARM A	ARM B	ARM C	ARM D			
10.00 - 10.15	ARM A	0.000	0.122	0.695	0.183			
		0.0	0.1	0.6	0.2			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM B	0.070	0.000	0.096	0.834			
		0.4	0.0	0.6	4.8			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM C	0.129	0.077	0.000	0.794			
		0.7	0.4	0.0	4.1			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM D	0.053	0.521	0.426	0.000			
		0.4	3.7	3.0	0.0			
		(0.0)	(0.0)	(0.0)	(0.0)			
10.15 - 10.30	ARM A	0.000	0.122	0.695	0.183			
		0.0	0.1	0.6	0.2			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM B	0.070	0.000	0.096	0.834			
		0.4	0.0	0.6	4.8			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM C	0.129	0.077	0.000	0.794			
		0.7	0.4	0.0	4.1			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM D	0.053	0.521	0.426	0.000			
		0.4	3.7	3.0	0.0			
		(0.0)	(0.0)	(0.0)	(0.0)			

DEMAND SET TITLE: PEPA

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)							
	FROM/TO	ARM A	ARM B	ARM C	ARM D			
10.30 - 10.45	ARM A	0.000 0.0 (0.0)	0.122 0.1 (0.0)	0.695 0.6 (0.0)	0.183 0.2 (0.0)			
	ARM B	0.070 0.4 (0.0)	0.000 0.0 (0.0)	0.096 0.6 (0.0)	0.834 4.8 (0.0)			
	ARM C	0.129 0.7 (0.0)	0.077 0.4 (0.0)	0.000 0.0 (0.0)	0.794 4.1 (0.0)			
	ARM D	0.053 0.4 (0.0)	0.521 3.7 (0.0)	0.426 3.0 (0.0)	0.000 0.0 (0.0)			
10.45 - 11.00	ARM A	0.000 0.0 (0.0)	0.122 0.1 (0.0)	0.695 0.6 (0.0)	0.183 0.2 (0.0)			
	ARM B	0.070 0.4 (0.0)	0.000 0.0 (0.0)	0.096 0.6 (0.0)	0.834 4.8 (0.0)			
	ARM C	0.126 0.7 (0.0)	0.075 0.4 (0.0)	0.000 0.0 (0.0)	0.798 4.2 (0.0)			
	ARM D	0.053 0.4 (0.0)	0.521 3.7 (0.0)	0.426 3.0 (0.0)	0.000 0.0 (0.0)			

DEMAND SET TITLE: PEPA

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)							
	FROM/TO	ARM A	ARM B	ARM C	ARM D			
11.00 - 11.15	ARM A	0.000 0.0 (0.0)	0.216 0.3 (0.0)	0.704 0.9 (0.0)	0.080 0.1 (0.0)			
	ARM B	0.072 0.3 (0.0)	0.000 0.0 (0.0)	0.081 0.4 (0.0)	0.847 3.9 (0.0)			
	ARM C	0.222 0.7 (0.0)	0.009 0.0 (0.0)	0.000 0.0 (0.0)	0.769 2.5 (0.0)			
	ARM D	0.013 0.1 (0.0)	0.519 4.0 (0.0)	0.468 3.6 (0.0)	0.000 0.0 (0.0)			
11.15 - 11.30	ARM A	0.000 0.0 (0.0)	0.216 0.3 (0.0)	0.704 0.9 (0.0)	0.080 0.1 (0.0)			
	ARM B	0.072 0.3 (0.0)	0.000 0.0 (0.0)	0.081 0.4 (0.0)	0.847 3.9 (0.0)			
	ARM C	0.222 0.7 (0.0)	0.009 0.0 (0.0)	0.000 0.0 (0.0)	0.769 2.5 (0.0)			
	ARM D	0.013 0.1 (0.0)	0.519 4.0 (0.0)	0.468 3.6 (0.0)	0.000 0.0 (0.0)			

DEMAND SET TITLE: PEPA

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)							
	FROM/TO	ARM A	ARM B	ARM C	ARM D			
11.30 - 11.45	ARM A	0.000 0.0 (0.0)	0.216 0.3 (0.0)	0.704 0.9 (0.0)	0.080 0.1 (0.0)			
	ARM B	0.072 0.3 (0.0)	0.000 0.0 (0.0)	0.081 0.4 (0.0)	0.847 3.9 (0.0)			
	ARM C	0.222 0.7 (0.0)	0.009 0.0 (0.0)	0.000 0.0 (0.0)	0.769 2.5 (0.0)			
	ARM D	0.013 0.1 (0.0)	0.519 4.0 (0.0)	0.468 3.6 (0.0)	0.000 0.0 (0.0)			
11.45 - 12.00	ARM A	0.000 0.0 (0.0)	0.216 0.3 (0.0)	0.704 0.9 (0.0)	0.080 0.1 (0.0)			
	ARM B	0.072 0.3 (0.0)	0.000 0.0 (0.0)	0.081 0.4 (0.0)	0.847 3.9 (0.0)			
	ARM C	0.222 0.7 (0.0)	0.009 0.0 (0.0)	0.000 0.0 (0.0)	0.769 2.5 (0.0)			
	ARM D	0.013 0.1 (0.0)	0.519 4.0 (0.0)	0.468 3.6 (0.0)	0.000 0.0 (0.0)			

DEMAND SET TITLE: PEPA

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)							
	FROM/TO	ARM A	ARM B	ARM C	ARM D			
12.00 - 12.15	ARM A	0.000 0.0 (0.0)	0.396 0.5 (0.0)	0.433 0.6 (0.0)	0.172 0.2 (0.0)			
	ARM B	0.090 0.4 (0.0)	0.000 0.0 (0.0)	0.052 0.2 (0.0)	0.858 3.8 (0.0)			
	ARM C	0.138 0.7 (0.0)	0.070 0.4 (0.0)	0.000 0.0 (0.0)	0.792 4.2 (0.0)			
	ARM D	0.021 0.2 (0.0)	0.510 4.1 (0.0)	0.469 3.8 (0.0)	0.000 0.0 (0.0)			
12.15 - 12.30	ARM A	0.000 0.0 (0.0)	0.396 0.5 (0.0)	0.433 0.6 (0.0)	0.172 0.2 (0.0)			
	ARM B	0.090 0.4 (0.0)	0.000 0.0 (0.0)	0.052 0.2 (0.0)	0.858 3.8 (0.0)			
	ARM C	0.138 0.7 (0.0)	0.070 0.4 (0.0)	0.000 0.0 (0.0)	0.792 4.2 (0.0)			
	ARM D	0.021 0.2 (0.0)	0.510 4.1 (0.0)	0.469 3.8 (0.0)	0.000 0.0 (0.0)			

DEMAND SET TITLE: PEPA

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)							
	FROM/TO	ARM A	ARM B	ARM C	ARM D			
12.30 - 12.45	ARM A	0.000 0.0 (0.0)	0.396 0.5 (0.0)	0.433 0.6 (0.0)	0.172 0.2 (0.0)			
	ARM B	0.090 0.4 (0.0)	0.000 0.0 (0.0)	0.052 0.2 (0.0)	0.858 3.8 (0.0)			
	ARM C	0.138 0.7 (0.0)	0.070 0.4 (0.0)	0.000 0.0 (0.0)	0.792 4.2 (0.0)			
	ARM D	0.021 0.2 (0.0)	0.510 4.1 (0.0)	0.469 3.8 (0.0)	0.000 0.0 (0.0)			
12.45 - 13.00	ARM A	0.000 0.0 (0.0)	0.396 0.5 (0.0)	0.433 0.6 (0.0)	0.172 0.2 (0.0)			
	ARM B	0.090 0.4 (0.0)	0.000 0.0 (0.0)	0.052 0.2 (0.0)	0.858 3.8 (0.0)			
	ARM C	0.138 0.7 (0.0)	0.070 0.4 (0.0)	0.000 0.0 (0.0)	0.792 4.2 (0.0)			
	ARM D	0.021 0.2 (0.0)	0.510 4.1 (0.0)	0.469 3.8 (0.0)	0.000 0.0 (0.0)			

DEMAND SET TITLE: PEPA

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)							
	FROM/TO	ARM A	ARM B	ARM C	ARM D			
13.00 - 13.15	ARM A	0.000 0.0 (0.0)	0.176 0.3 (0.0)	0.412 0.8 (0.0)	0.412 0.8 (0.0)			
	ARM B	0.084 0.4 (0.0)	0.000 0.0 (0.0)	0.078 0.4 (0.0)	0.838 4.0 (0.0)			
	ARM C	0.141 0.8 (0.0)	0.029 0.2 (0.0)	0.000 0.0 (0.0)	0.831 4.9 (0.0)			
	ARM D	0.018 0.1 (0.0)	0.505 3.7 (0.0)	0.478 3.5 (0.0)	0.000 0.0 (0.0)			
13.15 - 13.30	ARM A	0.000 0.0 (0.0)	0.176 0.3 (0.0)	0.412 0.8 (0.0)	0.412 0.8 (0.0)			
	ARM B	0.084 0.4 (0.0)	0.000 0.0 (0.0)	0.078 0.4 (0.0)	0.838 4.0 (0.0)			
	ARM C	0.141 0.8 (0.0)	0.029 0.2 (0.0)	0.000 0.0 (0.0)	0.831 4.9 (0.0)			
	ARM D	0.018 0.1 (0.0)	0.505 3.7 (0.0)	0.478 3.5 (0.0)	0.000 0.0 (0.0)			

DEMAND SET TITLE: PEPA

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)							
	FROM/TO	ARM A	ARM B	ARM C	ARM D			
13.30 - 13.45	ARM A	0.000 0.0 (0.0)	0.176 0.3 (0.0)	0.412 0.8 (0.0)	0.412 0.8 (0.0)			
	ARM B	0.084 0.4 (0.0)	0.000 0.0 (0.0)	0.078 0.4 (0.0)	0.838 4.0 (0.0)			
	ARM C	0.141 0.8 (0.0)	0.029 0.2 (0.0)	0.000 0.0 (0.0)	0.831 4.9 (0.0)			
	ARM D	0.018 0.1 (0.0)	0.505 3.7 (0.0)	0.478 3.5 (0.0)	0.000 0.0 (0.0)			
13.45 - 14.00	ARM A	0.000 0.0 (0.0)	0.176 0.3 (0.0)	0.412 0.8 (0.0)	0.412 0.8 (0.0)			
	ARM B	0.084 0.4 (0.0)	0.000 0.0 (0.0)	0.078 0.4 (0.0)	0.838 4.0 (0.0)			
	ARM C	0.141 0.8 (0.0)	0.029 0.2 (0.0)	0.000 0.0 (0.0)	0.831 4.9 (0.0)			
	ARM D	0.018 0.1 (0.0)	0.505 3.7 (0.0)	0.478 3.5 (0.0)	0.000 0.0 (0.0)			

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
ARM A	0.97	30.14	0.032		0.0	0.0	0.5		0.03
ARM B	5.83	20.73	0.281		0.0	0.4	5.7		0.07
ARM C	3.03	28.87	0.105		0.0	0.1	1.7		0.04
ARM D	8.23	17.08	0.482		0.0	0.9	13.1		0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
ARM A	0.97	30.11	0.032		0.0	0.0	0.5		0.03
ARM B	5.83	20.72	0.281		0.4	0.4	5.8		0.07
ARM C	3.03	28.86	0.105		0.1	0.1	1.8		0.04
ARM D	8.23	17.08	0.482		0.9	0.9	13.8		0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
ARM A	0.97	30.11	0.032		0.0	0.0	0.5		0.03
ARM B	5.83	20.72	0.281		0.4	0.4	5.9		0.07
ARM C	3.03	28.86	0.105		0.1	0.1	1.8		0.04
ARM D	8.23	17.08	0.482		0.9	0.9	13.9		0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
ARM A	0.97	30.11	0.032		0.0	0.0	0.5		0.03
ARM B	5.83	20.72	0.281		0.4	0.4	5.9		0.07
ARM C	3.03	28.86	0.105		0.1	0.1	1.8		0.04
ARM D	8.23	17.08	0.482		0.9	0.9	13.9		0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
ARM A	1.25	30.00	0.042		0.0	0.0	0.6		0.03
ARM B	5.40	20.33	0.266		0.4	0.4	5.5		0.07
ARM C	4.37	29.25	0.149		0.1	0.2	2.6		0.04
ARM D	8.30	17.03	0.487		0.9	0.9	14.1		0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.15-09.30									
ARM A	1.25	30.00	0.042		0.0	0.0	0.7		0.03
ARM B	5.40	20.32	0.266		0.4	0.4	5.4		0.07
ARM C	4.37	29.25	0.149		0.2	0.2	2.6		0.04
ARM D	8.30	17.03	0.487		0.9	0.9	14.2		0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
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ARM B	5.40	20.32	0.266		0.4	0.4	5.4		0.07
ARM C	4.37	29.25	0.149		0.2	0.2	2.6		0.04
ARM D	8.30	17.03	0.487		0.9	0.9	14.2		0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.45-10.00									
ARM A	1.25	30.00	0.042		0.0	0.0	0.7		0.03
ARM B	5.40	20.32	0.266		0.4	0.4	5.4		0.07
ARM C	4.37	29.25	0.149		0.2	0.2	2.6		0.04
ARM D	8.30	17.03	0.487		0.9	0.9	14.2		0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
10.00-10.15									
ARM A	0.82	30.66	0.027		0.0	0.0	0.4		0.03
ARM B	5.73	20.80	0.275		0.4	0.4	5.6		0.07
ARM C	5.20	29.06	0.179		0.2	0.2	3.2		0.04
ARM D	7.03	16.89	0.416		0.9	0.7	11.1		0.10

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
10.15-10.30									
ARM A	0.82	30.67	0.027		0.0	0.0	0.4		0.03
ARM B	5.73	20.81	0.275		0.4	0.4	5.7		0.07
ARM C	5.20	29.06	0.179		0.2	0.2	3.3		0.04
ARM D	7.03	16.89	0.416		0.7	0.7	10.8		0.10

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
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ARM B	5.73	20.81	0.275		0.4	0.4	5.7		0.07
ARM C	5.20	29.06	0.179		0.2	0.2	3.3		0.04
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TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
10.45-11.00									
ARM A	0.82	30.67	0.027		0.0	0.0	0.4		0.03
ARM B	5.73	20.81	0.275		0.4	0.4	5.7		0.07
ARM C	5.20	29.06	0.179		0.2	0.2	3.3		0.04
ARM D	7.03	16.90	0.416		0.7	0.7	10.7		0.10

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
11.00-11.15									
ARM A	1.25	30.39	0.041		0.0	0.0	0.6		0.03
ARM B	4.57	20.46	0.223		0.4	0.3	4.4		0.06
ARM C	3.30	29.54	0.112		0.2	0.1	1.9		0.04
ARM D	7.70	17.03	0.452		0.7	0.8	12.0		0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
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ARM B	4.57	20.45	0.223		0.3	0.3	4.3		0.06
ARM C	3.30	29.54	0.112		0.1	0.1	1.9		0.04
ARM D	7.70	17.03	0.452		0.8	0.8	12.3		0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
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12.00-12.15									
ARM A	1.35	30.07	0.045		0.0	0.0	0.7		0.03
ARM B	4.45	20.44	0.218		0.3	0.3	4.2		0.06
ARM C	5.30	29.47	0.180		0.1	0.2	3.2		0.04
ARM D	8.10	16.88	0.480		0.8	0.9	13.4		0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
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ARM C	5.30	29.47	0.180		0.2	0.2	3.3		0.04
ARM D	8.10	16.88	0.480		0.9	0.9	13.7		0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
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ARM C	5.30	29.47	0.180		0.2	0.2	3.3		0.04
ARM D	8.10	16.88	0.480		0.9	0.9	13.8		0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
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13.00-13.15									
ARM A	1.87	30.48	0.061		0.0	0.1	1.0		0.03
ARM B	4.73	20.25	0.234		0.3	0.3	4.5		0.06
ARM C	5.90	29.15	0.202		0.2	0.3	3.8		0.04
ARM D	7.40	16.92	0.437		0.9	0.8	12.1		0.11

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
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ARM C	5.90	29.15	0.202		0.3	0.3	3.8		0.04
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ARM C	5.90	29.15	0.202		0.3	0.3	3.8		0.04
ARM D	7.40	16.92	0.437		0.8	0.8	11.7		0.11

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0
09.45	0.0
10.00	0.0
10.15	0.0
10.30	0.0
10.45	0.0
11.00	0.0
11.15	0.0
11.30	0.0
11.45	0.0
12.00	0.0
12.15	0.0
12.30	0.0
12.45	0.0
13.00	0.0
13.15	0.1
13.30	0.1
13.45	0.1
14.00	0.1

 QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.4
08.30	0.4
08.45	0.4
09.00	0.4
09.15	0.4
09.30	0.4
09.45	0.4
10.00	0.4
10.15	0.4
10.30	0.4
10.45	0.4
11.00	0.4
11.15	0.3
11.30	0.3
11.45	0.3
12.00	0.3
12.15	0.3
12.30	0.3
12.45	0.3
13.00	0.3
13.15	0.3
13.30	0.3
13.45	0.3
14.00	0.3

 QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.2
09.30	0.2
09.45	0.2
10.00	0.2
10.15	0.2
10.30	0.2
10.45	0.2
11.00	0.2
11.15	0.1
11.30	0.1
11.45	0.1
12.00	0.1
12.15	0.2
12.30	0.2
12.45	0.2
13.00	0.2
13.15	0.3
13.30	0.3
13.45	0.3
14.00	0.3

QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.9 *
08.30	0.9 *
08.45	0.9 *
09.00	0.9 *
09.15	0.9 *
09.30	0.9 *
09.45	0.9 *
10.00	0.9 *
10.15	0.7 *
10.30	0.7 *
10.45	0.7 *
11.00	0.7 *
11.15	0.8 *
11.30	0.8 *
11.45	0.8 *
12.00	0.8 *
12.15	0.9 *
12.30	0.9 *
12.45	0.9 *
13.00	0.9 *
13.15	0.8 *
13.30	0.8 *
13.45	0.8 *
14.00	0.8 *

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
A	450.6	15.5	0.03
B	1842.6	120.1	0.07
C	1626.0	66.3	0.04
D	2805.6	305.4	0.11
ALL	6724.8	507.4	0.08

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

===== end of file =====

[Printed at 11:40:14 on 23/05/2007]

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 3.0 (JUNE 2005)

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THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"C:\Esteban\PROYECTOS\A0xs\A07017-DOC. ENTREGADA INFOINVEST\PEPA2.vai"
(drive-on-the-right) at 11:38:30 on Wednesday, 23 May 2007

FILE PROPERTIES

RUN TITLE: PEPA
LOCATION: Aviles
DATE: 23/05/2007
CLIENT:
ENUMERATOR: econde [ORD-64]
JOB NUMBER:
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - PEPA
ARM B - LUANCO
ARM C - XAGO
ARM D - AVILES

GEOMETRIC DATA

I	ARM	I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)	I
I	ARM A	I	7.00	I	8.50	I	3.60	I	12.00	I	83.80	I	54.0	I	0.489	I	34.124	I
I	ARM B	I	3.50	I	4.90	I	9.80	I	26.20	I	83.80	I	36.0	I	0.410	I	22.319	I
I	ARM C	I	7.00	I	7.00	I	3.00	I	14.10	I	83.80	I	55.0	I	0.469	I	31.560	I
I	ARM D	I	3.50	I	3.50	I	7.30	I	13.40	I	83.80	I	27.0	I	0.367	I	17.433	I

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

I	ARM	I	FLOW	SCALE(%)	I
I	A	I	100		I
I	B	I	100		I
I	C	I	100		I
I	D	I	100		I

TIME PERIOD BEGINS 08.00 AND ENDS 14.00

LENGTH OF TIME PERIOD - 360 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.
DEMAND SET TITLE: PEPA

DEMAND SET TITLE: PEPA

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)							
	FROM/TO	ARM A	ARM B	ARM C	ARM D			
08.00 - 08.15	ARM A	0.000 0.0 (0.0)	0.186 0.3 (0.0)	0.793 1.1 (0.0)	0.021 0.0 (0.0)			
	ARM B	0.052 0.5 (0.0)	0.071 0.7 (0.0)	0.054 0.5 (0.0)	0.823 7.9 (0.0)			
	ARM C	0.153 0.6 (0.0)	0.027 0.1 (0.0)	0.183 0.7 (0.0)	0.637 2.4 (0.0)			
	ARM D	0.012 0.1 (0.0)	0.467 4.9 (0.0)	0.521 5.4 (0.0)	0.000 0.0 (0.0)			
08.15 - 08.30	ARM A	0.000 0.0 (0.0)	0.002 0.3 (0.0)	0.997 115.0 (0.0)	0.000 0.0 (0.0)			
	ARM B	0.052 0.5 (0.0)	0.071 0.7 (0.0)	0.054 0.5 (0.0)	0.823 7.9 (0.0)			
	ARM C	0.153 0.6 (0.0)	0.027 0.1 (0.0)	0.183 0.7 (0.0)	0.637 2.4 (0.0)			
	ARM D	0.012 0.1 (0.0)	0.467 4.9 (0.0)	0.521 5.4 (0.0)	0.000 0.0 (0.0)			

DEMAND SET TITLE: PEPA

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)							
	FROM/TO	ARM A	ARM B	ARM C	ARM D			
08.30 - 08.45	ARM A	0.000 0.0 (0.0)	0.186 0.3 (0.0)	0.793 1.1 (0.0)	0.021 0.0 (0.0)			
	ARM B	0.052 0.5 (0.0)	0.071 0.7 (0.0)	0.054 0.5 (0.0)	0.823 7.9 (0.0)			
	ARM C	0.153 0.6 (0.0)	0.027 0.1 (0.0)	0.183 0.7 (0.0)	0.637 2.4 (0.0)			
	ARM D	0.012 0.1 (0.0)	0.467 4.9 (0.0)	0.521 5.4 (0.0)	0.000 0.0 (0.0)			
08.45 - 09.00	ARM A	0.000 0.0 (0.0)	0.186 0.3 (0.0)	0.793 1.1 (0.0)	0.021 0.0 (0.0)			
	ARM B	0.052 0.5 (0.0)	0.071 0.7 (0.0)	0.054 0.5 (0.0)	0.823 7.9 (0.0)			
	ARM C	0.153 0.6 (0.0)	0.027 0.1 (0.0)	0.183 0.7 (0.0)	0.637 2.4 (0.0)			
	ARM D	0.012 0.1 (0.0)	0.467 4.9 (0.0)	0.521 5.4 (0.0)	0.000 0.0 (0.0)			

DEMAND SET TITLE: PEPA

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)							
	FROM/TO	ARM A	ARM B	ARM C	ARM D			
09.00 - 09.15	ARM A	0.000 0.0 (0.0)	0.161 0.3 (0.0)	0.822 1.4 (0.0)	0.017 0.0 (0.0)			
	ARM B	0.054 0.5 (0.0)	0.078 0.8 (0.0)	0.101 1.0 (0.0)	0.766 7.3 (0.0)			
	ARM C	0.092 0.5 (0.0)	0.064 0.3 (0.0)	0.146 0.8 (0.0)	0.697 3.6 (0.0)			
	ARM D	0.019 0.2 (0.0)	0.389 4.2 (0.0)	0.592 6.3 (0.0)	0.000 0.0 (0.0)			
09.15 - 09.30	ARM A	0.000 0.0 (0.0)	0.161 0.3 (0.0)	0.822 1.4 (0.0)	0.017 0.0 (0.0)			
	ARM B	0.054 0.5 (0.0)	0.078 0.8 (0.0)	0.101 1.0 (0.0)	0.766 7.3 (0.0)			
	ARM C	0.092 0.5 (0.0)	0.064 0.3 (0.0)	0.146 0.8 (0.0)	0.697 3.6 (0.0)			
	ARM D	0.019 0.2 (0.0)	0.389 4.2 (0.0)	0.592 6.3 (0.0)	0.000 0.0 (0.0)			

DEMAND SET TITLE: PEPA

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)							
	FROM/TO	ARM A	ARM B	ARM C	ARM D			
09.30 - 09.45	ARM A	0.000	0.161	0.822	0.017			
		0.0	0.3	1.4	0.0			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM B	0.054	0.078	0.101	0.766			
		0.5	0.8	1.0	7.3			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM C	0.092	0.064	0.146	0.697			
		0.5	0.3	0.8	3.6			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM D	0.019	0.389	0.592	0.000			
		0.2	4.2	6.3	0.0			
		(0.0)	(0.0)	(0.0)	(0.0)			
09.45 - 10.00	ARM A	0.000	0.161	0.822	0.017			
		0.0	0.3	1.4	0.0			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM B	0.054	0.078	0.101	0.766			
		0.5	0.8	1.0	7.3			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM C	0.092	0.064	0.148	0.696			
		0.5	0.3	0.8	3.6			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM D	0.019	0.389	0.592	0.000			
		0.2	4.2	6.3	0.0			
		(0.0)	(0.0)	(0.0)	(0.0)			

DEMAND SET TITLE: PEPA

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)							
	FROM/TO	ARM A	ARM B	ARM C	ARM D			
10.00 - 10.15	ARM A	0.000	0.077	0.808	0.115			
		0.0	0.1	1.0	0.2			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM B	0.062	0.073	0.102	0.763			
		0.6	0.7	1.0	7.3			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM C	0.114	0.068	0.119	0.700			
		0.7	0.4	0.7	4.1			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM D	0.040	0.394	0.567	0.000			
		0.4	3.7	5.3	0.0			
		(0.0)	(0.0)	(0.0)	(0.0)			
10.15 - 10.30	ARM A	0.000	0.077	0.808	0.115			
		0.0	0.1	1.0	0.2			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM B	0.062	0.073	0.102	0.763			
		0.6	0.7	1.0	7.3			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM C	0.114	0.068	0.119	0.700			
		0.7	0.4	0.7	4.1			
		(0.0)	(0.0)	(0.0)	(0.0)			
	ARM D	0.040	0.394	0.567	0.000			
		0.4	3.7	5.3	0.0			
		(0.0)	(0.0)	(0.0)	(0.0)			

DEMAND SET TITLE: PEPA

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)							
	FROM/TO	ARM A	ARM B	ARM C	ARM D			
10.30 - 10.45	ARM A	0.000 0.0 (0.0)	0.077 0.1 (0.0)	0.808 1.0 (0.0)	0.115 0.2 (0.0)			
	ARM B	0.062 0.6 (0.0)	0.073 0.7 (0.0)	0.102 1.0 (0.0)	0.763 7.3 (0.0)			
	ARM C	0.114 0.7 (0.0)	0.068 0.4 (0.0)	0.119 0.7 (0.0)	0.700 4.1 (0.0)			
	ARM D	0.040 0.4 (0.0)	0.394 3.7 (0.0)	0.567 5.3 (0.0)	0.000 0.0 (0.0)			
10.45 - 11.00	ARM A	0.000 0.0 (0.0)	0.077 0.1 (0.0)	0.808 1.0 (0.0)	0.115 0.2 (0.0)			
	ARM B	0.062 0.6 (0.0)	0.073 0.7 (0.0)	0.102 1.0 (0.0)	0.763 7.3 (0.0)			
	ARM C	0.114 0.7 (0.0)	0.068 0.4 (0.0)	0.119 0.7 (0.0)	0.700 4.1 (0.0)			
	ARM D	0.040 0.4 (0.0)	0.394 3.7 (0.0)	0.567 5.3 (0.0)	0.000 0.0 (0.0)			

DEMAND SET TITLE: PEPA

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)							
	FROM/TO	ARM A	ARM B	ARM C	ARM D			
11.00 - 11.15	ARM A	0.000 0.0 (0.0)	0.162 0.3 (0.0)	0.778 1.3 (0.0)	0.060 0.1 (0.0)			
	ARM B	0.064 0.5 (0.0)	0.078 0.6 (0.0)	0.093 0.8 (0.0)	0.765 6.2 (0.0)			
	ARM C	0.186 0.7 (0.0)	0.008 0.0 (0.0)	0.161 0.6 (0.0)	0.645 2.5 (0.0)			
	ARM D	0.010 0.1 (0.0)	0.411 4.0 (0.0)	0.579 5.6 (0.0)	0.000 0.0 (0.0)			
11.15 - 11.30	ARM A	0.000 0.0 (0.0)	0.162 0.3 (0.0)	0.778 1.3 (0.0)	0.060 0.1 (0.0)			
	ARM B	0.064 0.5 (0.0)	0.078 0.6 (0.0)	0.093 0.8 (0.0)	0.765 6.2 (0.0)			
	ARM C	0.186 0.7 (0.0)	0.008 0.0 (0.0)	0.161 0.6 (0.0)	0.645 2.5 (0.0)			
	ARM D	0.010 0.1 (0.0)	0.411 4.0 (0.0)	0.579 5.6 (0.0)	0.000 0.0 (0.0)			

DEMAND SET TITLE: PEPA

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)							
	FROM/TO	ARM A	ARM B	ARM C	ARM D			
11.30 - 11.45	ARM A	0.000 0.0 (0.0)	0.162 0.3 (0.0)	0.778 1.3 (0.0)	0.060 0.1 (0.0)			
	ARM B	0.064 0.5 (0.0)	0.078 0.6 (0.0)	0.093 0.8 (0.0)	0.765 6.2 (0.0)			
	ARM C	0.186 0.7 (0.0)	0.008 0.0 (0.0)	0.161 0.6 (0.0)	0.645 2.5 (0.0)			
	ARM D	0.010 0.1 (0.0)	0.411 4.0 (0.0)	0.579 5.6 (0.0)	0.000 0.0 (0.0)			
11.45 - 12.00	ARM A	0.000 0.0 (0.0)	0.162 0.3 (0.0)	0.778 1.3 (0.0)	0.060 0.1 (0.0)			
	ARM B	0.064 0.5 (0.0)	0.078 0.6 (0.0)	0.093 0.8 (0.0)	0.765 6.2 (0.0)			
	ARM C	0.186 0.7 (0.0)	0.008 0.0 (0.0)	0.161 0.6 (0.0)	0.645 2.5 (0.0)			
	ARM D	0.010 0.1 (0.0)	0.411 4.0 (0.0)	0.579 5.6 (0.0)	0.000 0.0 (0.0)			

DEMAND SET TITLE: PEPA

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)							
	FROM/TO	ARM A	ARM B	ARM C	ARM D			
12.00 - 12.15	ARM A	0.000 0.0 (0.0)	0.325 0.5 (0.0)	0.534 0.9 (0.0)	0.141 0.2 (0.0)			
	ARM B	0.072 0.6 (0.0)	0.086 0.7 (0.0)	0.080 0.7 (0.0)	0.762 6.4 (0.0)			
	ARM C	0.122 0.7 (0.0)	0.062 0.4 (0.0)	0.117 0.7 (0.0)	0.700 4.2 (0.0)			
	ARM D	0.016 0.2 (0.0)	0.398 4.1 (0.0)	0.586 6.1 (0.0)	0.000 0.0 (0.0)			
12.15 - 12.30	ARM A	0.000 0.0 (0.0)	0.325 0.5 (0.0)	0.534 0.9 (0.0)	0.141 0.2 (0.0)			
	ARM B	0.072 0.6 (0.0)	0.086 0.7 (0.0)	0.080 0.7 (0.0)	0.762 6.4 (0.0)			
	ARM C	0.122 0.7 (0.0)	0.062 0.4 (0.0)	0.117 0.7 (0.0)	0.700 4.2 (0.0)			
	ARM D	0.016 0.2 (0.0)	0.398 4.1 (0.0)	0.586 6.1 (0.0)	0.000 0.0 (0.0)			

DEMAND SET TITLE: PEPA

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)							
	FROM/TO	ARM A	ARM B	ARM C	ARM D			
12.30 - 12.45	ARM A	0.000 0.0 (0.0)	0.325 0.5 (0.0)	0.534 0.9 (0.0)	0.141 0.2 (0.0)			
	ARM B	0.072 0.6 (0.0)	0.086 0.7 (0.0)	0.080 0.7 (0.0)	0.762 6.4 (0.0)			
	ARM C	0.122 0.7 (0.0)	0.062 0.4 (0.0)	0.117 0.7 (0.0)	0.700 4.2 (0.0)			
	ARM D	0.016 0.2 (0.0)	0.398 4.1 (0.0)	0.586 6.1 (0.0)	0.000 0.0 (0.0)			
12.45 - 13.00	ARM A	0.000 0.0 (0.0)	0.325 0.5 (0.0)	0.534 0.9 (0.0)	0.141 0.2 (0.0)			
	ARM B	0.072 0.6 (0.0)	0.086 0.7 (0.0)	0.080 0.7 (0.0)	0.762 6.4 (0.0)			
	ARM C	0.122 0.7 (0.0)	0.062 0.4 (0.0)	0.117 0.7 (0.0)	0.700 4.2 (0.0)			
	ARM D	0.016 0.2 (0.0)	0.398 4.1 (0.0)	0.586 6.1 (0.0)	0.000 0.0 (0.0)			

DEMAND SET TITLE: PEPA

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)							
	FROM/TO	ARM A	ARM B	ARM C	ARM D			
13.00 - 13.15	ARM A	0.000 0.0 (0.0)	0.152 0.3 (0.0)	0.493 1.1 (0.0)	0.355 0.8 (0.0)			
	ARM B	0.070 0.6 (0.0)	0.085 0.8 (0.0)	0.093 0.8 (0.0)	0.753 6.7 (0.0)			
	ARM C	0.125 0.8 (0.0)	0.026 0.2 (0.0)	0.110 0.7 (0.0)	0.739 4.9 (0.0)			
	ARM D	0.013 0.1 (0.0)	0.381 3.7 (0.0)	0.606 5.9 (0.0)	0.000 0.0 (0.0)			
13.15 - 13.30	ARM A	0.000 0.0 (0.0)	0.152 0.3 (0.0)	0.493 1.1 (0.0)	0.355 0.8 (0.0)			
	ARM B	0.070 0.6 (0.0)	0.085 0.8 (0.0)	0.093 0.8 (0.0)	0.753 6.7 (0.0)			
	ARM C	0.125 0.8 (0.0)	0.026 0.2 (0.0)	0.110 0.7 (0.0)	0.739 4.9 (0.0)			
	ARM D	0.013 0.1 (0.0)	0.381 3.7 (0.0)	0.606 5.9 (0.0)	0.000 0.0 (0.0)			

DEMAND SET TITLE: PEPA

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)							
	FROM/TO	ARM A	ARM B	ARM C	ARM D			
13.30 - 13.45	ARM A	0.000 0.0 (0.0)	0.152 0.3 (0.0)	0.493 1.1 (0.0)	0.355 0.8 (0.0)			
	ARM B	0.070 0.6 (0.0)	0.085 0.8 (0.0)	0.093 0.8 (0.0)	0.753 6.7 (0.0)			
	ARM C	0.125 0.8 (0.0)	0.026 0.2 (0.0)	0.110 0.7 (0.0)	0.739 4.9 (0.0)			
	ARM D	0.013 0.1 (0.0)	0.381 3.7 (0.0)	0.606 5.9 (0.0)	0.000 0.0 (0.0)			
13.45 - 14.00	ARM A	0.000 0.0 (0.0)	0.152 0.3 (0.0)	0.493 1.1 (0.0)	0.355 0.8 (0.0)			
	ARM B	0.070 0.6 (0.0)	0.085 0.8 (0.0)	0.093 0.8 (0.0)	0.753 6.7 (0.0)			
	ARM C	0.125 0.8 (0.0)	0.026 0.2 (0.0)	0.110 0.7 (0.0)	0.739 4.9 (0.0)			
	ARM D	0.013 0.1 (0.0)	0.381 3.7 (0.0)	0.606 5.9 (0.0)	0.000 0.0 (0.0)			

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
ARM A	1.45	28.43	0.051		0.0	0.1	0.8		0.04
ARM B	9.62	19.35	0.497		0.0	1.0	14.0		0.10
ARM C	3.72	27.31	0.136		0.0	0.2	2.3		0.04
ARM D	10.43	16.51	0.632		0.0	1.7	23.2		0.16

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
ARM A	1.45	28.37	0.051		0.1	0.1	0.8		0.04
ARM B	9.62	19.22	0.501		1.0	1.0	14.8		0.10
ARM C	3.72	27.29	0.136		0.2	0.2	2.4		0.04
ARM D	10.43	16.50	0.632		1.7	1.7	25.2		0.16

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
ARM A	1.45	28.37	0.051		0.1	0.1	0.8		0.04
ARM B	9.62	19.33	0.498		1.0	1.0	14.9		0.10
ARM C	3.72	27.28	0.136		0.2	0.2	2.4		0.04
ARM D	10.43	16.50	0.632		1.7	1.7	25.4		0.16

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
ARM A	1.45	28.37	0.051		0.1	0.1	0.8		0.04
ARM B	9.62	19.33	0.498		1.0	1.0	14.9		0.10
ARM C	3.72	27.28	0.136		0.2	0.2	2.4		0.04
ARM D	10.43	16.50	0.632		1.7	1.7	25.5		0.16

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
ARM A	1.75	28.09	0.062		0.1	0.1	1.0		0.04
ARM B	9.55	18.81	0.508		1.0	1.0	15.2		0.11
ARM C	5.12	27.52	0.186		0.2	0.2	3.4		0.04
ARM D	10.72	16.40	0.654		1.7	1.8	27.0		0.18

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.15-09.30									
ARM A	1.75	28.08	0.062		0.1	0.1	1.0		0.04
ARM B	9.55	18.80	0.508		1.0	1.0	15.4		0.11
ARM C	5.12	27.52	0.186		0.2	0.2	3.4		0.04
ARM D	10.72	16.40	0.654		1.8	1.9	27.8		0.18

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.30-09.45									
ARM A	1.75	28.08	0.062		0.1	0.1	1.0		0.04
ARM B	9.55	18.80	0.508		1.0	1.0	15.4		0.11
ARM C	5.12	27.52	0.186		0.2	0.2	3.4		0.04
ARM D	10.72	16.40	0.654		1.9	1.9	28.0		0.18

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.45-10.00									
ARM A	1.75	28.08	0.062		0.1	0.1	1.0		0.04
ARM B	9.55	18.80	0.508		1.0	1.0	15.4		0.11
ARM C	5.12	27.52	0.186		0.2	0.2	3.4		0.04
ARM D	10.72	16.40	0.654		1.9	1.9	28.1		0.18

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
10.00-10.15									
ARM A	1.30	28.85	0.045		0.1	0.0	0.7		0.04
ARM B	9.63	19.36	0.497		1.0	1.0	15.1		0.10
ARM C	5.90	27.43	0.215		0.2	0.3	4.0		0.05
ARM D	9.32	16.31	0.572		1.9	1.4	21.3		0.14

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
10.15-10.30									
ARM A	1.30	28.86	0.045		0.0	0.0	0.7		0.04
ARM B	9.63	19.37	0.497		1.0	1.0	14.9		0.10
ARM C	5.90	27.43	0.215		0.3	0.3	4.1		0.05
ARM D	9.32	16.31	0.572		1.4	1.3	20.3		0.14

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
10.30-10.45									
ARM A	1.30	28.86	0.045		0.0	0.0	0.7		0.04
ARM B	9.63	19.37	0.497		1.0	1.0	14.9		0.10
ARM C	5.90	27.43	0.215		0.3	0.3	4.1		0.05
ARM D	9.32	16.31	0.572		1.3	1.3	20.2		0.14

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
10.45-11.00									
ARM A	1.30	28.86	0.045		0.0	0.0	0.7		0.04
ARM B	9.63	19.37	0.497		1.0	1.0	14.9		0.10
ARM C	5.90	27.43	0.215		0.3	0.3	4.1		0.05
ARM D	9.32	16.31	0.572		1.3	1.3	20.1		0.14

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
11.00-11.15									
ARM A	1.67	28.78	0.058		0.0	0.1	0.9		0.04
ARM B	8.07	19.18	0.421		1.0	0.7	11.3		0.09
ARM C	3.93	28.07	0.140		0.3	0.2	2.5		0.04
ARM D	9.73	16.50	0.590		1.3	1.4	20.9		0.15

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
11.15-11.30									
ARM A	1.67	28.78	0.058		0.1	0.1	0.9		0.04
ARM B	8.07	19.17	0.421		0.7	0.7	11.0		0.09
ARM C	3.93	28.08	0.140		0.2	0.2	2.4		0.04
ARM D	9.73	16.50	0.590		1.4	1.4	21.3		0.15

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
11.30-11.45									
ARM A	1.67	28.78	0.058		0.1	0.1	0.9		0.04
ARM B	8.07	19.17	0.421		0.7	0.7	10.9		0.09
ARM C	3.93	28.08	0.140		0.2	0.2	2.4		0.04
ARM D	9.73	16.50	0.590		1.4	1.4	21.4		0.15

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
11.45-12.00									
ARM A	1.67	28.78	0.058		0.1	0.1	0.9		0.04
ARM B	8.07	19.17	0.421		0.7	0.7	10.9		0.09
ARM C	3.93	28.08	0.140		0.2	0.2	2.4		0.04
ARM D	9.73	16.50	0.590		1.4	1.4	21.4		0.15

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
12.00-12.15									
ARM A	1.63	28.26	0.058		0.1	0.1	0.9		0.04
ARM B	8.37	19.09	0.438		0.7	0.8	11.5		0.09
ARM C	6.00	27.84	0.215		0.2	0.3	4.0		0.05
ARM D	10.38	16.29	0.637		1.4	1.7	24.8		0.17

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
12.15-12.30									
ARM A	1.63	28.25	0.058		0.1	0.1	0.9		0.04
ARM B	8.37	19.09	0.439		0.8	0.8	11.6		0.09
ARM C	6.00	27.84	0.216		0.3	0.3	4.1		0.05
ARM D	10.38	16.29	0.637		1.7	1.7	25.8		0.17

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
12.30-12.45									
ARM A	1.63	28.25	0.058		0.1	0.1	0.9		0.04
ARM B	8.37	19.09	0.439		0.8	0.8	11.7		0.09
ARM C	6.00	27.84	0.216		0.3	0.3	4.1		0.05
ARM D	10.38	16.29	0.637		1.7	1.7	26.0		0.17

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
12.45-13.00									
ARM A	1.63	28.25	0.058		0.1	0.1	0.9		0.04
ARM B	8.37	19.09	0.439		0.8	0.8	11.7		0.09
ARM C	6.00	27.84	0.216		0.3	0.3	4.1		0.05
ARM D	10.38	16.29	0.637		1.7	1.7	26.1		0.17

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
13.00-13.15									
ARM A	2.17	28.58	0.076		0.1	0.1	1.2		0.04
ARM B	8.85	18.83	0.470		0.8	0.9	12.9		0.10
ARM C	6.63	27.44	0.242		0.3	0.3	4.7		0.05
ARM D	9.80	16.30	0.601		1.7	1.5	23.8		0.15

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
13.15-13.30									
ARM A	2.17	28.58	0.076		0.1	0.1	1.2		0.04
ARM B	8.85	18.83	0.470		0.9	0.9	13.2		0.10
ARM C	6.63	27.43	0.242		0.3	0.3	4.8		0.05
ARM D	9.80	16.30	0.601		1.5	1.5	23.0		0.15

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
13.30-13.45									
ARM A	2.17	28.58	0.076		0.1	0.1	1.2		0.04
ARM B	8.85	18.83	0.470		0.9	0.9	13.2		0.10
ARM C	6.63	27.43	0.242		0.3	0.3	4.8		0.05
ARM D	9.80	16.30	0.601		1.5	1.5	22.8		0.15

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
13.45-14.00									
ARM A	2.17	28.58	0.076		0.1	0.1	1.2		0.04
ARM B	8.85	18.83	0.470		0.9	0.9	13.3		0.10
ARM C	6.63	27.43	0.242		0.3	0.3	4.8		0.05
ARM D	9.80	16.30	0.601		1.5	1.5	22.8		0.15

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1
09.30	0.1
09.45	0.1
10.00	0.1
10.15	0.0
10.30	0.0
10.45	0.0
11.00	0.0
11.15	0.1
11.30	0.1
11.45	0.1
12.00	0.1
12.15	0.1
12.30	0.1
12.45	0.1
13.00	0.1
13.15	0.1
13.30	0.1
13.45	0.1
14.00	0.1

 QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	1.0	*
08.30	1.0	*
08.45	1.0	*
09.00	1.0	*
09.15	1.0	*
09.30	1.0	*
09.45	1.0	*
10.00	1.0	*
10.15	1.0	*
10.30	1.0	*
10.45	1.0	*
11.00	1.0	*
11.15	0.7	*
11.30	0.7	*
11.45	0.7	*
12.00	0.7	*
12.15	0.8	*
12.30	0.8	*
12.45	0.8	*
13.00	0.8	*
13.15	0.9	*
13.30	0.9	*
13.45	0.9	*
14.00	0.9	*

 QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	0.2	
08.30	0.2	
08.45	0.2	
09.00	0.2	
09.15	0.2	
09.30	0.2	
09.45	0.2	
10.00	0.2	
10.15	0.3	
10.30	0.3	
10.45	0.3	
11.00	0.3	
11.15	0.2	
11.30	0.2	
11.45	0.2	
12.00	0.2	
12.15	0.3	
12.30	0.3	
12.45	0.3	
13.00	0.3	
13.15	0.3	
13.30	0.3	
13.45	0.3	
14.00	0.3	

QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	1.7	**
08.30	1.7	**
08.45	1.7	**
09.00	1.7	**
09.15	1.8	**
09.30	1.9	**
09.45	1.9	**
10.00	1.9	**
10.15	1.4	*
10.30	1.3	*
10.45	1.3	*
11.00	1.3	*
11.15	1.4	*
11.30	1.4	*
11.45	1.4	*
12.00	1.4	*
12.15	1.7	**
12.30	1.7	**
12.45	1.7	**
13.00	1.7	**
13.15	1.5	**
13.30	1.5	**
13.45	1.5	**
14.00	1.5	**

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
A	598.2	22.3	0.04
B	3245.4	323.0	0.10
C	1878.0	84.6	0.05
D	3622.8	572.4	0.16
ALL	9344.4	1002.3	0.11

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

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