

Technical Memorandum

To: Kathy Garcia, City of Del Mar
From: Dawn Wilson, STC Traffic, Inc.
Date: December 10, 2015
Re: Supplemental Traffic Assessment for Del Mar City Hall

During the EIR public review period and Community Participation process for the Del Mar City Hall project several issues relating to traffic circulation have arisen. STC Traffic has been asked by City of Del Mar to provide an assessment of potential changes to the project site plan and address specific traffic related concerns raised by the community. The focus of this memorandum is on the potential environmental impacts associated with the following:

- Change in access restrictions for the parking garage from Right Turn Only onto 11th Street to no access restrictions.
- Change in access to the lower parking lot on 11th Street such that the surface parking lot access would be gated and accessible only through the parking garage.
- Concerns related to traffic volume along 11th Street at the existing parking access easement in the 1100 Block located on the north side of City Hall and parallel to Camino del Mar behind commercial buildings.

Change in Access Restrictions for the Parking Garage

The Traffic Impact Analysis report prepared for the EIR included a Right Turn Only restriction from the parking garage exit onto 11th Street. The surface parking lot has no access restrictions. Distribution to the parking garage entrances and exits was based on existing traffic patterns observed in the field in June 2015 and traffic counts collected at the project driveways. Data collected specific at the project driveways and intersections along Camino del Mar demonstrated that the majority of the traffic heading to and from City Hall access the site from Camino del Mar (92%). The remaining 8% of the trips to and from City Hall arrive from either 11th Street or 10th Street heading east from Stratford Court.

The new City Hall site is anticipated to have very similar traffic patterns to those observed in the field for two reasons. First, the City Hall use is not changing. The services and the staff located at City Hall are anticipated to remain unchanged. As a result, there is no reason to believe travel patterns to and from the site would alter significantly from the existing conditions. Second, the additional trips assigned to site as a result of the increase in parking are anticipated to be persons destined for businesses along the Camino del Mar corridor. Currently the City Hall site provides for public parking which is primarily used by employees of businesses within close proximity of the site as well as beach goers. It is therefore reasonable to assume the majority of the vehicles arriving at City Hall to park their vehicle will arrive from Camino del Mar. As a result, the 92% of the trips destined to park at City Hall were assumed to take Camino del Mar, with the remaining 8% arriving at the City Hall site from Stratford Court. These distribution patterns are clearly illustrated in Figure 4-3 of the September 2015 Traffic Impact Analysis Report prepared for the EIR.

Since outbound access from the project site was restricted to Right Turn Only, the distribution in the TIA assumes that all trips arriving at City Hall along 11th Street from Stratford Court parked in the surface parking lot where the outbound access was not restricted. All trips heading to and from the site from Camino del Mar along 11th Street were assumed to turn into the parking structure.

Removal of the Right Turn Only restriction is not expected to result in a change in the distribution of trips to and from the project site, but may result in a redistribution of trips on 11th Street between the two project driveways. The operational analysis conducted in the TIA (Table 6-1 Existing Plus Project Peak Hour Intersection LOS and Table 7-1 Horizon Year Peak Hour Intersection LOS) demonstrate the two driveways on 11th Street are forecast to operate at LOS A (Intersections 3 and 6 in the aforementioned tables). The redistribution of trips between the two driveways on 11th Street and the removal of the Right Turn Only restriction is not expected to result in a change in operating that would result in a CEQA related impact.

Change in Access at the Surface Parking Lot

The site plan evaluated in the EIR provided two driveways on 11th Street: one that provided access solely into the surface parking lot on the western edge of the project site and one that provided access solely into the parking garage. There was no connection provided between the parking garage and the surface parking lot in the site plan evaluated in the EIR.

The City is considering an access alternative that would provide a connection between the parking garage and the surface parking lot that would in-turn allow the proposed driveway leading into the surface parking lot to be gated. This would in turn shift all trips into and out of the project site to the parking structure driveway.

In the traffic impact analysis report, the following trips were forecast for the surface parking lot:

Table 1: Project Only Inbound/Outbound Volumes on 11th Street at the Surface Parking Lot

Location	AM Peak		PM Peak	
	Inbound	Outbound	Inbound	Outbound
Surface Parking Lot Entrance on 11 th <i>(Figure 7-2)</i>	26	9	6	23

The inbound/outbound trips at the surface lot driveway would shift to the parking structure driveway such that the total parking structure volume would be as follows:

Table 2: Project Only Trips at 11th Street Driveways

Trip Source	AM Peak		PM Peak	
	Inbound	Outbound	Inbound	Outbound
Garage Parking Lot Entrance on 11 th <i>(Figures 7-2)</i>	58	14	8	42
Surface Parking Lot Entrance on 11 th <i>(Figure 7-2)</i>	26	9	6	23
New 11th Street Garage Entrance Project Only Volume	84	23	14	65

Restricting access into the surface parking lot would not result in a change in trip distribution or forecast volumes on 11th Street, but would shift the volumes further east toward Camino del Mar. As explained in the previous section of the report, distribution of trips to and from the site is based on traffic patterns primarily oriented toward Camino del Mar.

Analysis of the driveway operations were updated to determine the forecast year 2035 AM and PM peak hour operating conditions. The table below summarizes the results of the analysis:

Table 3: Year 2035 Operating Conditions at 11th Street / Garage Entrance Without Surface Lot Access on 11th Street

Study Scenario	AM Peak		PM Peak	
	Delay/LOS	WB Queue	Delay/LOS	WB Queue
Restricted Right Turn Only Access at 11 th Street ^(a)	8.9/A (NB LT) ^(c)	0 vehicles	8.9/A (NB LT) ^(c)	0 vehicles
Full Access at 11 th Street with Adjusted Traffic Volumes ^(b)	9.2 / A (NB LT) ^(c)	1 vehicle ^(d)	9.2 / A (NB LT) ^(c)	0 vehicles ^(d)

Notes:

- (a) As evaluated in the EIR, which includes a full access driveway into the surface parking lot. As reported in Table 7-1 of the September 2015 TIA.
- (b) As evaluated in this memorandum, which includes no access into the surface parking lot from 11th Street. Access to the surface parking lot would be provided from the parking garage, as described in this technical memorandum.
- (c) Delay for side street stop controlled intersections is based upon the movement with the highest delay. The movement shown in parenthesis corresponds to the delay reported in this table.
- (d) The HCM analysis may calculate a fraction of a vehicle when estimating queues as this represents the average condition across a one-hour period. In all cases where a fraction of a vehicle is reported in the queue, the number of vehicles in queue was rounded up to the nearest whole number.

As stated in the EIR, an impact at this location would occur if the addition of the project trips to this intersection resulted in a change in LOS from acceptable (LOS A through D) to deficient (LOS E or F). The table above demonstrates the intersection is forecast to maintain an acceptable operating condition when all projected trips on 11th Street access the site at the parking garage entrance. Therefore, the removal of the Right Turn Only access restriction coupled with the shift in traffic from

the surface parking lot to the parking garage entrance did not result in a change in delay that would result in a CEQA impact.

A second operational metric that should be considered is the potential queue on the westbound approach for vehicles waiting to turn into the parking garage. Due to the proximity of the driveway to the Camino del Mar/11th Street intersection, a queue that exceeds the available storage would potentially affect operations and safety along 11th Street. Queues will only form on 11th Street when eastbound opposing traffic volume prevent drivers from making a left turn into the parking garage entrance. The queue analysis conducted with the level of service analysis demonstrates that the gaps in through traffic on Camino del Mar not only provide sufficient gaps for vehicles to turn into the parking garage, one the average not more than one vehicle will queue westbound to enter the parking garage.

The project site plan included in the EIR shows that the curb on the south side of 11th Street will be extended to the width of the parking lane along much of the project frontage. This curb extension will narrow the travel way and improve visibility for drivers entering and exiting the project driveway. Narrowing the road will also restrict driver's ability to make a U-Turn in the middle of the street or "by-pass" left turn queued vehicles turning into the parking garage. In turn, the narrowing and additional volume into and out of the driveway will help to reduce traffic speeds heading westbound on 11th Street along the project frontage and improve overall safety along 11th Street near the project driveway.

Based on the analysis conducted, the potential change in access would not result in a change in the traffic related findings presented in the EIR.

Existing Parking Access Easement on 11th Street

During the EIR public comment period, concerns were raised regarding the level of turning activity that occurs between Camino del Mar and City Hall as a result of both the entrance into the existing City Hall parking lot as well as the existing private parking access easement located on the north side of 11th Street directly across from City Hall.

During the data collection period (June 2016), data was not reported for the parking access easement on the north side of the street. However, volumes were collected at Camino Del Mar/11th Street, at the City Hall Driveway on the south side of 11th Street, and at Stratford Court/11th Street. It is possible to interpolate the volumes at the parking access easement by calculating the difference in volume between the counts at these three locations. However, this level of interpolation would not provide the team sufficient detail as to the actual traffic patterns to and from the parking access easement.

Therefore, field observations were conducted in December 2015 to monitor traffic patterns along 11th Street between Camino del Mar and Stratford Court. Key traffic patterns observed during that time included:

- Turning movements into and out of the parking access easement
- Driver behavior on 11th Street
- Travel patterns for vehicles on 11th Street

A comparison of the total volume on 11th Street was conducted to determine if the conditions in December were significantly different from those collected in June 2015. The traffic count worksheets for the December field assessment are provided as an attachment to this report. Overall,

the through volumes on 11th Street and volumes into and out of City Hall were consistent with traffic patterns observed in June 2015. With volumes as low as those reported on 11th Street, a 4 to 20 vehicle variation over a one-hour period (1 to 5 vehicles per 15-minute period) is not uncommon. Variations in EB volumes in the PM Peak could be attributed to daylight savings time or other factors, but fall within a reasonable range. The table below summarizes the eastbound and westbound through volume comparison for the June and December field assessments:

Table 4: Comparison of June 2015 and December 2015 Traffic Volumes on 11th Street

Study Scenario	AM Peak			PM Peak		
	EB	WB	Total	EB	WB	Total
June 2015 (Figure XX)	29	45	74	56	38	94
December 2015 (See attached traffic count worksheet)	41	57	98	37	34	71
Net Change						

The field observations revealed that during the AM peak there were 9 vehicles turning inbound and 1 vehicle turning outbound from the parking access easement. In the PM peak the inbound and outbound volumes from the parking access easement were observed to be 5 and 4, respectively.

Overlaying these volumes on the existing and year 2035 baseline and with project conditions reported in the TIA, the level of service analysis was re-assessed for the project driveways. Level of service worksheets are provided with this technical memorandum. As shown in the table below, the additional trips associated with the parking access easement result in no change to the level of service analysis.

Table 5: Revised Operational Analysis with Parking access easement Parking access easement Volumes Included

Study Scenario	AM Peak		PM Peak	
	Delay/LOS	WB Queue	Delay/LOS	WB Queue
2035 with Project Conditions – Restricted Access at Parking Garage & Full Access at Surface Lot (Parking access easement evaluated with Parking Garage Driveway)				
11 th Street / Parking Garage Driveway – <u>no</u> parking access easement volumes ^(a)	8.9/A (NB LT) ^(c)	0 vehicles	8.9/A (NB LT) ^(c)	0 vehicles
11 th Street / Parking Garage Driveway – <u>with</u> parking access easement volumes	11.0/B (SB LT) ^(c)	1 vehicle	10.2/B (SB LT) ^(c)	0 vehicles
2035 with Project Conditions – Full Access at Parking Garage & No Access at Surface Lot (Parking access easement evaluated with Parking Garage Driveway)				
11 th Street / Parking Garage Driveway – <u>no</u> parking access easement volumes ^(b)	9.2/A (NB LT) ^(c)	1 vehicle	9.1/A (NB LT) ^(c)	0 vehicles
11 th Street / Parking Garage Driveway – <u>with</u> parking access easement volumes	11.4/B (SB LT) ^(c)	1 vehicle	10.5/B (NB LT) ^(c)	0 vehicles

Notes:

- (a) As evaluated in the EIR, which includes a full access driveway into the surface parking lot. As reported in Table 7-1 of the September 2015 TIA.
- (b) As evaluated in this memorandum, which includes no access into the surface parking lot from 11th Street. Access to the surface parking lot would be provided from the parking garage, as described in this technical memorandum.
- (c) Delay for side street stop controlled intersections is based upon the movement with the highest delay. The movement shown in parenthesis corresponds to the delay reported in this table.
- (d) The HCM analysis may calculate a fraction of a vehicle when estimating queues as this represents the average condition across a one-hour period. In all cases where a fraction of a vehicle is reported in the queue, the number of vehicles in queue was rounded up to the nearest whole number.

As shown in the table above, regardless of the intersection configuration or study scenario, the operating conditions of the 11th Street access into and out of the parking garage is not impacted by the volume of traffic along the private parking access easement on the north side of Camino del Mar.

As discussed in the previous section, queue can be another factor that will affect operations and safety along 11th Street. The table above provides not only the delay and LOS for the study intersection, the westbound queue is also presented, which shows that the combined City Hall, parking access easement and through volume will not result in a queue that exceeds the available storage from the project driveway to Camino del Mar.

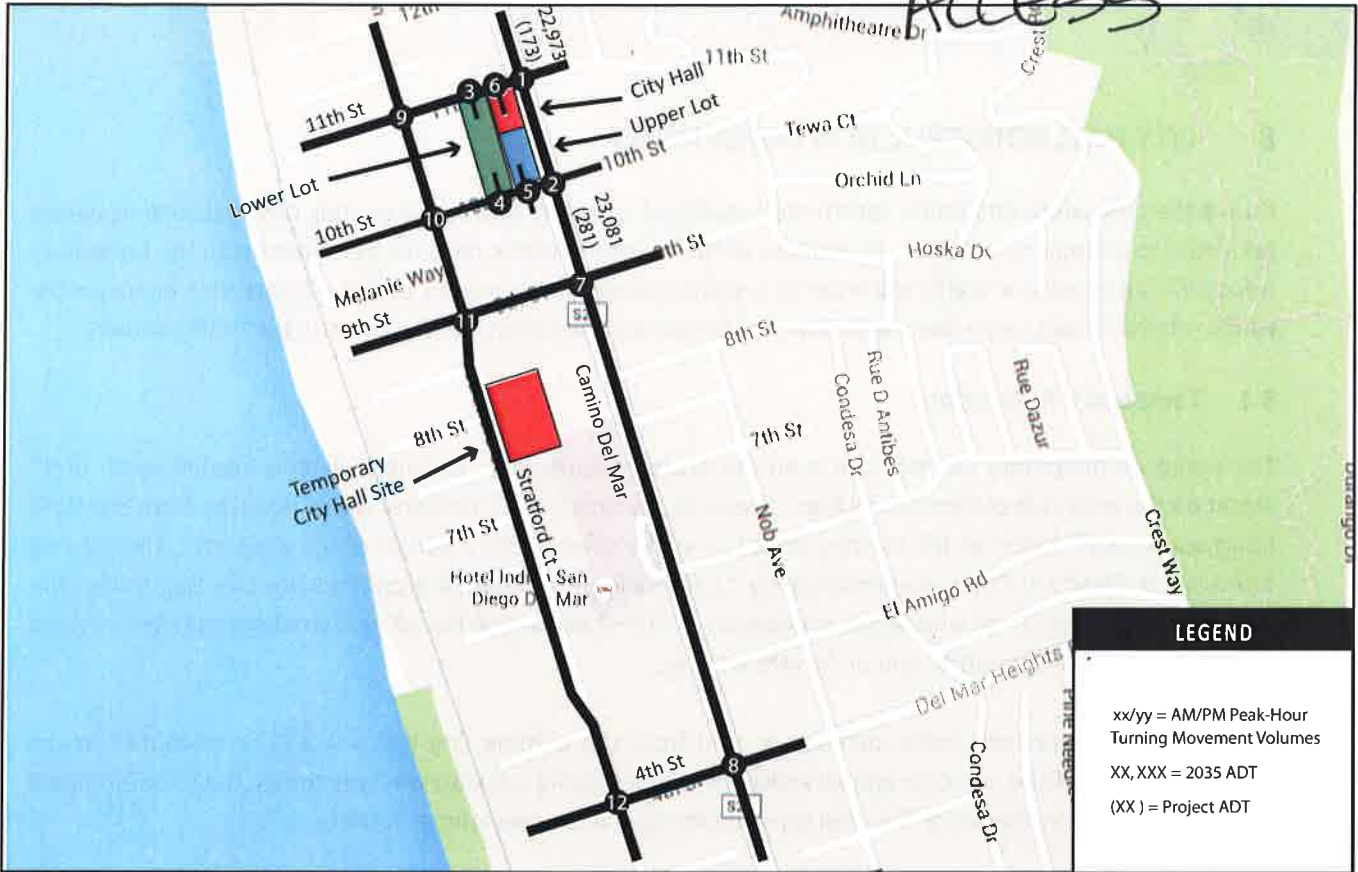
Other operational observations from the field visit include:

- In the AM peak all vehicles observed turning into the parking access easement either parked or stopped to drop off/pick up a package. No cut through vehicles were observed during the AM peak.
- In the PM peak, a portion of the trips turning into the parking access easement used the corridor as a cut through route.
- Throughout the observation period, vehicles were observed u-turning in the street to access on-street parking
- Several vehicles turned left from northbound Camino del Mar during the PM peak when the turn restriction is in place. More than half of the 10 observed left turn violations were destined to residences along the 11th Street corridor. None of the left turn violators turned into the parking access easement or into City Hall.

**2035 with Full Access into
Parking Structure and No
Access into the Surface Lot**

Del Mar City Hall

Future Full Access



<p>1 Camino Del Mar & 11th St</p> <p>52/34 863/907 45/78 19/26 3/3 52/68 44/54 2/2 43/66 104/105 512/1441 32/39</p>	<p>2 Camino Del Mar & 10th</p> <p>33/34 921/989 12/28 34/43 641/1357 33/35</p>	<p>3 City Hall Access & 11th St</p> <p>75/69 85/119 72/67 5/2 0/0 57/0 4/13</p>	<p>4 Lower Lot Access & 10th St</p> <p>17/5 32/42</p>
<p>5 Upper Lot Access & 10th St</p> <p>0/0 0/0 28/27 18/3 1/4 5/3 32/42 0/1 0/3 1/1</p>	<p>6 11th @ New Access</p> <p>72/67 80/109 79/112 5/2 5/10 18/55</p>	<p>7 Camino Del Mar & 9th St</p> <p>34/13 729/625 24/22 6/9 2/4 13/18 36/14 1/0 31/22 40/21 441/915 8/17</p>	<p>8 Camino Del Mar & 4th St</p> <p>7/10 334/261 327/415 431/487 69/143 532/114 12/10 103/58 38/21 24/58 150/584 64/438</p>
<p>9 Stratford Ct & 11th St</p> <p>2/6 6/12 7/13 9/18 12/7 5/12 2/2 17/11 0/3 3/2 9/54 15/14</p>	<p>10 Stratford Ct & 10th St</p> <p>1/2 11/25 5/3 0/3 1/2 -2/-4 3/1 1/2 0/1 1/3 21/59 2/2</p>	<p>11 Stratford Ct & 9th St</p> <p>3/3 10/21 4/3 6/11 5/3 22/13 2/2 4/3 0/1 1/4 15/82 18/22</p>	<p>12 Stratford Ct & 4th St</p> <p>4/3 2/5 95/29 39/115 8/9 20/35 1/5 8/4 1/1 0/0 2/7 29/15</p>



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Figure 7-2
Year 2035 with City Hall Project ADT and Peak Hour Volumes
(85% Occupied Parking)

Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	72	5	79	80	5	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	76	5	83	84	5	19

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	81	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.218	-
Pot Cap-1 Maneuver	-	-	1517	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1517	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.7	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	875	-	-	1517	-
HCM Lane V/C Ratio	0.028	-	-	0.055	-
HCM Control Delay (s)	9.2	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.2	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	67	2	12	109	10	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	2	13	115	11	58

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	73	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.218	-
Pot Cap-1 Maneuver	-	-	1527	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1527	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	948	-	-	1527	-
HCM Lane V/C Ratio	0.072	-	-	0.008	-
HCM Control Delay (s)	9.1	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Traffic Counts at Driveway (December 2015)

Project ID: Del Mar City Hall (STC Traffic Counts)

Day: Tuesday

City: Del Mar

Date: 12/1/2015

		AM												
NS/EW Streets:		City Hall			Alley			11th St			11th St			
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:		0	1	0	0	1	0	0	1	0	0	1	0	
7:00 AM		0	0	0	0	0	0	0	2	0	0	7	0	9
7:15 AM		0	0	0	2	0	0	0	5	0	0	18	0	25
7:30 AM		0	0	0	0	0	0	0	14	0	0	11	0	25
7:45 AM		0	0	1	1	0	0	0	8	0	0	11	0	21
8:00 AM		0	0	0	0	0	0	0	8	0	1	15	3	27
8:15 AM		0	0	0	0	0	0	0	9	0	1	16	0	26
8:30 AM		0	0	0	0	0	0	2	14	0	2	14	4	36
8:45 AM		2	0	3	1	0	0	0	10	0	0	12	0	28
TOTAL VOLUMES :		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
APPROACH %'s :		2	0	4	4	0	0	2	104	0	4	104	7	231
		33.33%	0.00%	66.67%	100.00%	0.00%	0.00%	1.89%	98.11%	0.00%	3.48%	90.43%	6.09%	
PEAK HR START TIME :		800 AM												TOTAL
PEAK HR VOL :		2	0	3	1	0	0	2	41	0	4	57	7	117
PEAK HR FACTOR :		0.250			0.250			0.672			0.850			0.813

CONTROL : Side Street Stop

Project ID: Del Mar City Hall (STC Traffic Counts)

Day: Tuesday

City: Del Mar

Date: 12/1/2015

PM

NS/EW Streets:	City Hall			Alley			11th St			11th St			TOTAL
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0	1	0	0	1	0	0	1	0	0	1	0	
3:45 PM	0	0	2	2	0	0	0	8	0	1	6	2	21
4:00 PM	0	0	1	0	0	0	2	5	0	1	6	2	17
4:15 PM	0	0	0	1	0	0	0	10	0	1	10	0	22
4:30 PM	0	0	2	0	0	0	0	7	0	1	5	0	15
4:45 PM	0	0	1	1	0	0	1	5	3	1	11	3	26
5:00 PM	1	0	2	2	0	0	0	15	1	0	8	1	30
5:15 PM	0	0	1	1	0	0	0	10	0	0	4	0	16
5:30 PM	0	0	1	0	0	0	0	12	0	0	5	0	18
TOTAL VOLUMES :	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
APPROACH %'s :	1	0	10	7	0	0	3	72	4	5	55	8	165
	9.09%	0.00%	90.91%	100.00%	0.00%	0.00%	3.80%	91.14%	5.06%	7.35%	80.88%	11.76%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	1	0	5	4	0	0	1	37	4	3	34	4	93
PEAK HR FACTOR :	0.500			0.500			0.656			0.683			0.775

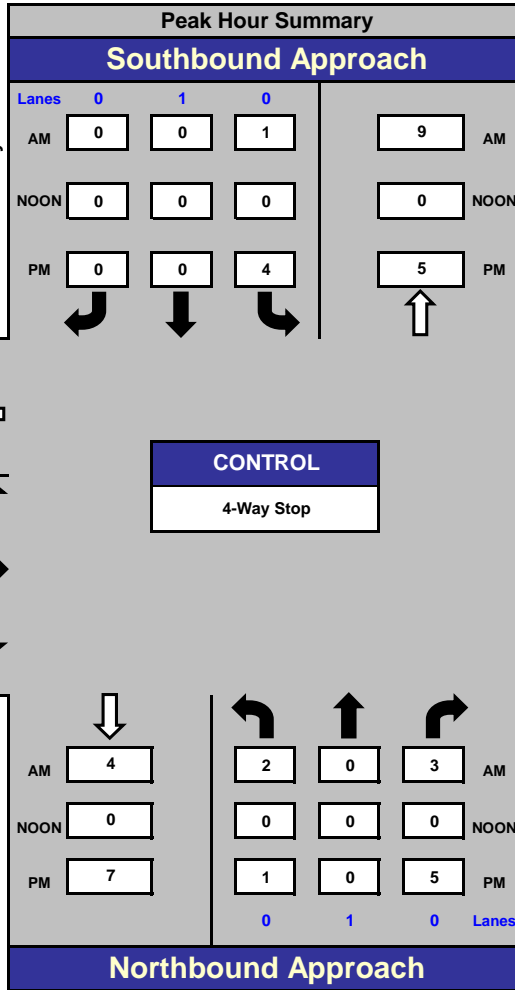
CONTROL : 4-Way Stop

Alley - City Hall Driveway and 11th St, Del Mar

Date: 12/1/2015
Day: Tuesday



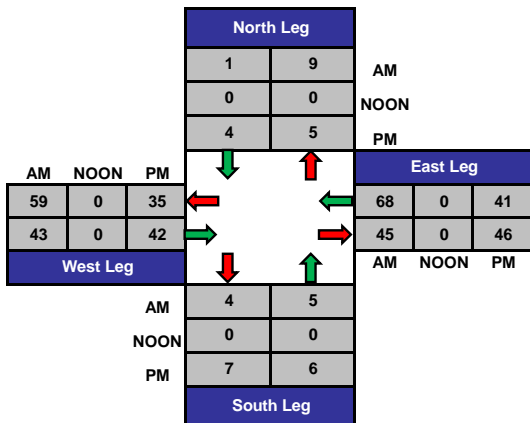
Project #: Del Mar City Hall (Counts by STC Traffic)
City: Del Mar



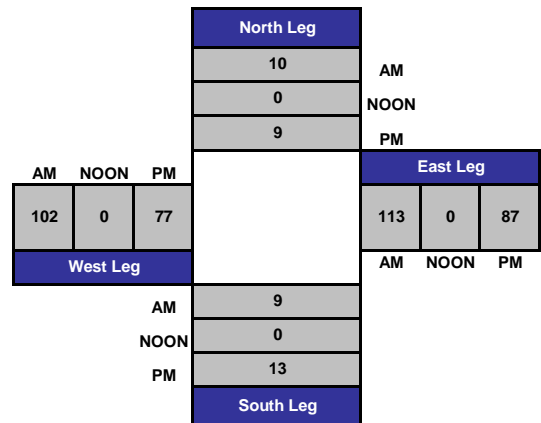
AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	430 PM

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	3:45 PM	5:45 PM

Total Ins & Outs



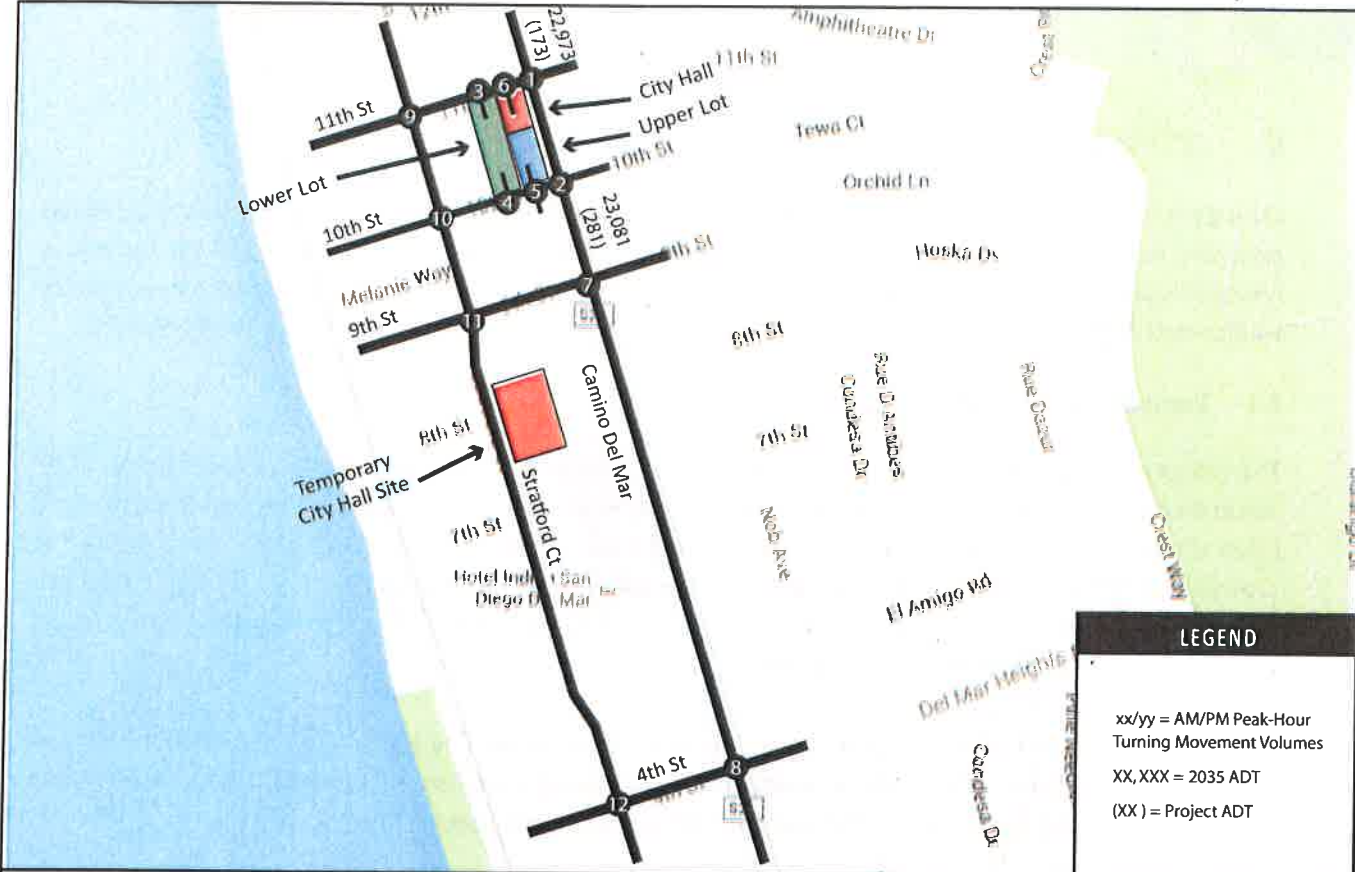
Total Volume Per Leg



**2035 with Alley Analysis
with Surface Lot Driveway &
Restricted Access at the
Parking Structure**

RESTRICTED w/Away

Del Mar City Hall



<p>1 Camino Del Mar & 11th St</p> <p>11th St: 52/34, 863/907, 45/78, 19/26, 3/3, 52/68</p> <p>Camino Del Mar: 44/54, 2/2, 43/66, 104/105, 512/1441, 32/39</p>	<p>2 Camino Del Mar & 10th</p> <p>10th St: 33/34, 921/989, 12/28</p> <p>Camino Del Mar: 34/43, 641/1357, 33/35</p>	<p>3 City Hall Access & 11th St</p> <p>11th St: 80/109, 21/4</p> <p>City Hall Access: 72/67, 5/2, 5/10, 4/13</p>	<p>4 Lower Lot Access & 10th St</p> <p>10th St: 17/5, 32/42</p>
<p>5 Upper Lot Access & 10th St</p> <p>10th St: 0/0, 0/0, 28/27, 18/3, 1/4</p> <p>Upper Lot Access: 5/3, 32/42, 0/1, 0/3, 1/1</p>	<p>6 11th @ New Access</p> <p>11th St: 90, 4/1, 7/4, 101/113, 58/8</p> <p>New Access: 76/80, 0/0, 14/42</p>	<p>7 Camino Del Mar & 9th St</p> <p>9th St: 34/13, 729/625, 24/22, 6/9, 2/4, 13/18</p> <p>Camino Del Mar: 36/14, 1/0, 31/22, 40/21, 441/915, 8/17</p>	<p>8 Camino Del Mar & 4th St</p> <p>4th St: 7/10, 534/261, 327/415, 431/487, 69/143, 532/114</p> <p>Camino Del Mar: 12/10, 103/58, 38/21, 24/58, 150/584, 64/438</p>
<p>9 Stratford Ct & 11th St</p> <p>11th St: 2/6, 6/12, 7/13, 9/18, 12/7, 5/12</p> <p>Stratford Ct: 2/2, 17/11, 0/3, 3/2, 9/54, 15/14</p>	<p>10 Stratford Ct & 10th St</p> <p>10th St: 1/2, 11/25, 5/3, 0/3, 1/2, -2/-4</p> <p>Stratford Ct: 3/1, 1/2, 0/1, 1/3, 21/59, 2/2</p>	<p>11 Stratford Ct & 9th St</p> <p>9th St: 3/3, 10/21, 4/3, 6/11, 5/3, 22/13</p> <p>Stratford Ct: 2/2, 4/3, 0/1, 1/4, 15/62, 18/22</p>	<p>12 Stratford Ct & 4th St</p> <p>4th St: 4/3, 2/5, 95/29, 39/115, 8/9, 20/35</p> <p>Stratford Ct: 1/5, 8/4, 1/1, 0/0, 2/7, 29/15</p>



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Figure 7-2
Year 2035 with City Hall Project ADT and Peak Hour Volumes
(85% Occupied Parking)

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	1	76	0	58	101	7	0	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	80	0	61	106	7	0	0	15

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	114	80	314
Stage 1	-	-	82
Stage 2	-	-	232
Critical Hdwy	4.12	4.12	7.12
Critical Hdwy Stg 1	-	-	6.12
Critical Hdwy Stg 2	-	-	6.12
Follow-up Hdwy	2.218	2.218	3.518
Pot Cap-1 Maneuver	1475	1518	639
Stage 1	-	-	926
Stage 2	-	-	771
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1475	1518	618
Mov Cap-2 Maneuver	-	-	618
Stage 1	-	-	925
Stage 2	-	-	738

Approach	EB	WB	NB
HCM Control Delay, s	0.1	2.6	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	980	1475	-	-	1518	-	-	608
HCM Lane V/C Ratio	0.015	0.001	-	-	0.04	-	-	0.007
HCM Control Delay (s)	8.7	7.4	0	-	7.5	0	-	11
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0.1	-	-	0

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	4	0	0
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	95	95	95
Heavy Vehicles, %	2	2	2
Mvmt Flow	4	0	0

Major/Minor

Minor2

Conflicting Flow All	314	314	110
Stage 1	232	232	-
Stage 2	82	82	-
Critical Hdwy	7.12	6.52	6.22
Critical Hdwy Stg 1	6.12	5.52	-
Critical Hdwy Stg 2	6.12	5.52	-
Follow-up Hdwy	3.518	4.018	3.318
Pot Cap-1 Maneuver	639	601	943
Stage 1	771	713	-
Stage 2	926	827	-
Platoon blocked, %			
Mov Cap-1 Maneuver	608	575	943
Mov Cap-2 Maneuver	608	575	-
Stage 1	770	682	-
Stage 2	911	826	-

Approach

SB

HCM Control Delay, s
 HCM LOS

11
 B

Minor Lane/Major Mvmt

Intersection

Int Delay, s/veh 1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	2	80	0	8	113	4	0	0	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	84	0	8	119	4	0	0	44

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	123	84	226
Stage 1	-	-	88
Stage 2	-	-	138
Critical Hdwy	4.12	4.12	7.12
Critical Hdwy Stg 1	-	-	6.12
Critical Hdwy Stg 2	-	-	6.12
Follow-up Hdwy	2.218	2.218	3.518
Pot Cap-1 Maneuver	1464	1513	729
Stage 1	-	-	920
Stage 2	-	-	865
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1464	1513	725
Mov Cap-2 Maneuver	-	-	725
Stage 1	-	-	919
Stage 2	-	-	860

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0.5	8.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	975	1464	-	-	1513	-	-	692
HCM Lane V/C Ratio	0.045	0.001	-	-	0.006	-	-	0.002
HCM Control Delay (s)	8.9	7.5	0	-	7.4	0	-	10.2
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	1	0	0
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	95	95	95
Heavy Vehicles, %	2	2	2
Mvmt Flow	1	0	0

Major/Minor

	Minor2		
Conflicting Flow All	226	226	121
Stage 1	138	138	-
Stage 2	88	88	-
Critical Hdwy	7.12	6.52	6.22
Critical Hdwy Stg 1	6.12	5.52	-
Critical Hdwy Stg 2	6.12	5.52	-
Follow-up Hdwy	3.518	4.018	3.318
Pot Cap-1 Maneuver	729	673	930
Stage 1	865	782	-
Stage 2	920	822	-
Platoon blocked, %			
Mov Cap-1 Maneuver	692	668	930
Mov Cap-2 Maneuver	692	668	-
Stage 1	864	777	-
Stage 2	877	821	-

Approach

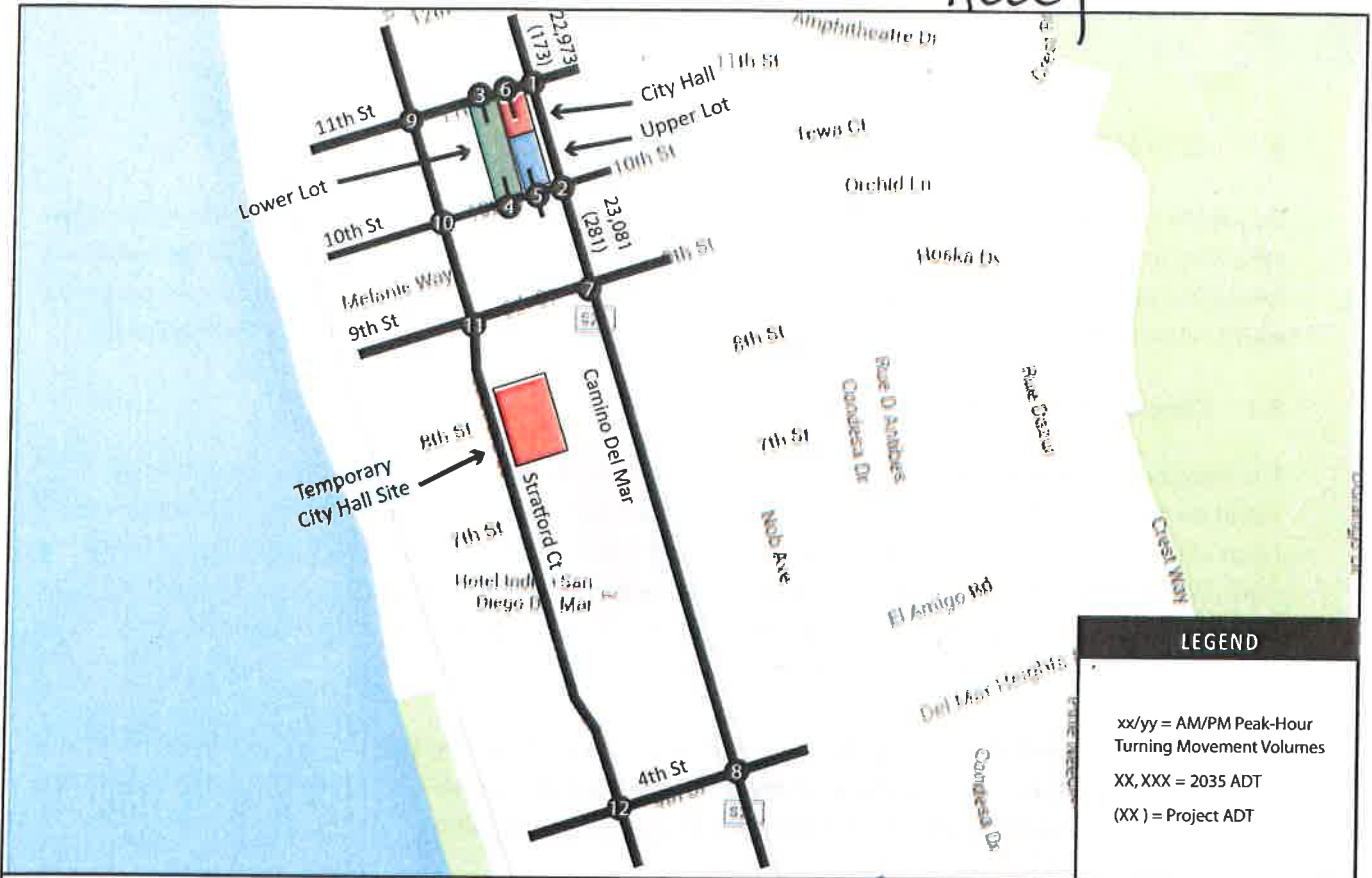
	SB
HCM Control Delay, s	10.2
HCM LOS	B

Minor Lane/Major Mvmt

**2035 with Alley Analysis
with Full Access at the
Parking Structure &
No Surface Lot Driveway**

Del Mar City Hall

Full Access w/
Ave



<p>1 Camino Del Mar & 11th St</p> <p>11th St 52/34 863/907 45/78 3/3 52/68</p> <p>Camino Del Mar 44/54 2/2 43/66</p> <p>10th St 104/105 512/1441 32/39</p>	<p>2 Camino Del Mar & 10th</p> <p>10th St 33/34 921/989</p> <p>Camino Del Mar 34/43 641/1357 33/35</p> <p>10th St 12/28</p>	<p>3 City Hall Access & 11th St</p> <p>11th St 80/109 21/4</p> <p>City Hall Access 72/67 5/2 5/10 4/13</p>	<p>4 Lower Lot Access & 10th St</p> <p>10th St 17/5</p> <p>32/42</p>
<p>5 Upper Lot Access & 10th St</p> <p>10th St 0/0 0/0 5/3 32/42 0/1</p> <p>Upper Lot Access 28/27 18/3 1/4</p> <p>10th St 0/3 1/1</p>	<p>6 11th @ New Access</p> <p>11th St 7/4 80/109 79/12 5/10 5/5 5/5 19/5</p> <p>New Access 72/67</p>	<p>7 Camino Del Mar & 9th St</p> <p>9th St 34/13 729/625 24/22</p> <p>Camino Del Mar 6/9 2/4 13/18</p> <p>Camino Del Mar 36/14 1/0 31/22</p> <p>9th St 40/21 441/915 8/17</p>	<p>8 Camino Del Mar & 4th St</p> <p>4th St 7/10 534/261 327/415</p> <p>Del Mar Heights Rd 431/487 69/143 532/114</p> <p>Camino Del Mar 12/10 103/58 38/21</p> <p>Camino Del Mar 24/58 150/584 64/438</p>
<p>9 Stratford Ct & 11th St</p> <p>11th St 2/6 6/12 7/13</p> <p>Stratford Ct 9/18 12/7 5/12</p> <p>Stratford Ct 2/2 17/11 0/3</p> <p>11th St 3/2 9/54 15/14</p>	<p>10 Stratford Ct & 10th St</p> <p>10th St 1/2 11/25 5/3</p> <p>Stratford Ct 0/3 1/2 -2/-4</p> <p>Stratford Ct 3/1 1/2 0/1</p> <p>10th St 1/3 21/59 2/2</p>	<p>11 Stratford Ct & 9th St</p> <p>9th St 3/3 10/21 4/3</p> <p>Stratford Ct 6/11 5/3 22/13</p> <p>Stratford Ct 2/2 4/3 0/1</p> <p>9th St 1/4 15/62 18/22</p>	<p>12 Stratford Ct & 4th St</p> <p>4th St 4/3 2/5 95/29</p> <p>Stratford Ct 39/115 8/9 20/35</p> <p>Stratford Ct 1/5 8/4 1/1</p> <p>4th St 0/0 2/7 29/15</p>



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Figure 7-2
Year 2035 with City Hall Project ADT and Peak Hour Volumes
(85% Occupied Parking)

Intersection

Int Delay, s/veh 3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	1	72	5	79	80	7	5	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	76	5	83	84	7	5	0	19

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	92	81	335
Stage 1	-	-	81
Stage 2	-	-	254
Critical Hdwy	4.12	4.12	7.12
Critical Hdwy Stg 1	-	-	6.12
Critical Hdwy Stg 2	-	-	6.12
Follow-up Hdwy	2.218	2.218	3.518
Pot Cap-1 Maneuver	1503	1517	619
Stage 1	-	-	927
Stage 2	-	-	750
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1503	1517	591
Mov Cap-2 Maneuver	-	-	591
Stage 1	-	-	926
Stage 2	-	-	707

Approach	EB	WB	NB
HCM Control Delay, s	0.1	3.6	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	859	1503	-	-	1517	-	-	571
HCM Lane V/C Ratio	0.028	0.001	-	-	0.055	-	-	0.007
HCM Control Delay (s)	9.3	7.4	0	-	7.5	0	-	11.4
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.2	-	-	0

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	4	0	0
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	95	95	95
Heavy Vehicles, %	2	2	2
Mvmt Flow	4	0	0

Major/Minor	Minor2		
Conflicting Flow All	344	337	88
Stage 1	254	254	-
Stage 2	90	83	-
Critical Hdwy	7.12	6.52	6.22
Critical Hdwy Stg 1	6.12	5.52	-
Critical Hdwy Stg 2	6.12	5.52	-
Follow-up Hdwy	3.518	4.018	3.318
Pot Cap-1 Maneuver	610	584	970
Stage 1	750	697	-
Stage 2	917	826	-
Platoon blocked, %			
Mov Cap-1 Maneuver	571	550	970
Mov Cap-2 Maneuver	571	550	-
Stage 1	749	657	-
Stage 2	898	825	-

Approach	SB
HCM Control Delay, s	11.4
HCM LOS	B

Minor Lane/Major Mvmt

Intersection

Int Delay, s/veh 2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	2	67	2	12	109	4	10	0	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	71	2	13	115	4	11	0	58

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	119	73	218
Stage 1	-	-	76
Stage 2	-	-	142
Critical Hdwy	4.12	4.12	7.12
Critical Hdwy Stg 1	-	-	6.12
Critical Hdwy Stg 2	-	-	6.12
Follow-up Hdwy	2.218	2.218	3.518
Pot Cap-1 Maneuver	1469	1527	738
Stage 1	-	-	933
Stage 2	-	-	861
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1469	1527	732
Mov Cap-2 Maneuver	-	-	732
Stage 1	-	-	932
Stage 2	-	-	853

Approach	EB	WB	NB
HCM Control Delay, s	0.2	0.7	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	939	1469	-	-	1527	-	-	661
HCM Lane V/C Ratio	0.073	0.001	-	-	0.008	-	-	0.002
HCM Control Delay (s)	9.1	7.5	0	-	7.4	0	-	10.5
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	1	0	0
Conflicting Peds, #/hr	0	0	0
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	95	95	95
Heavy Vehicles, %	2	2	2
Mvmt Flow	1	0	0

Major/Minor	Minor2		
Conflicting Flow All	247	219	117
Stage 1	142	142	-
Stage 2	105	77	-
Critical Hdwy	7.12	6.52	6.22
Critical Hdwy Stg 1	6.12	5.52	-
Critical Hdwy Stg 2	6.12	5.52	-
Follow-up Hdwy	3.518	4.018	3.318
Pot Cap-1 Maneuver	707	679	935
Stage 1	861	779	-
Stage 2	901	831	-
Platoon blocked, %			
Mov Cap-1 Maneuver	661	672	935
Mov Cap-2 Maneuver	661	672	-
Stage 1	860	772	-
Stage 2	847	830	-

Approach	SB
HCM Control Delay, s	10.5
HCM LOS	B

Minor Lane/Major Mvmt