



# memorandum

date January 5, 2012  
to Monica Moravec  
from Mark Johnson  
subject Air Quality Technical Memorandum-REVISED, Mercer West Two-way Conversion Project

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## Acronyms and Abbreviations

CO	Carbon Monoxide
LOS	Level of Service
NAAQS	National Ambient Air Quality Standards
ppm	Parts per million
WASIST	Washington State Intersection Screening Tool

## Introduction

This technical memorandum presents the results of carbon monoxide (CO) emissions modeling for the proposed project.

## Proposed Project

The City of Seattle, Washington, in cooperation with the Federal Highway Administration, proposes to make improvements to the Mercer Corridor, which includes Mercer and Roy Streets and adjoining cross streets, in the Uptown neighborhood of Seattle. The Mercer West Two-way Conversion Project will complete the City’s vision for a direct, two-way connection between I-5 and Elliott Avenue West.

The project area covered in this analysis includes Mercer Street and West Mercer Street from Fifth Avenue North to Fifth Avenue West and Roy Street and West Roy Street from Aurora Avenue North to Fifth Avenue West (Exhibit 2-1 attached). The purpose of the project is to improve local safety, access, and circulation within the Uptown neighborhood for motorized vehicles, bicycles and pedestrians, and to provide for more direct movement of traffic and freight through the corridor.

Currently, from Fifth Avenue North to First Avenue North, Mercer Street is a one-way principal arterial with four eastbound lanes, operating as a couplet with Roy Street. Roy Street is a principal arterial with two westbound lanes from Fifth Avenue North to First Avenue North and three westbound lanes from First Avenue North to Queen Anne Avenue North. West of First Avenue North, Mercer Street, which becomes West Mercer Street at Queen Anne Avenue North, is a two-way street. West of Queen Anne Avenue North, West Roy Street is a two-way street. Roy Street is also a two-way street to the east of Fifth Avenue North.

The project would modify channelization and signals to replace the existing Mercer/Roy couplet with a two-way Mercer Street, which would eliminate the extra turns required to travel from east to west through this area and reduce vehicle and pedestrian conflicts. The project would also convert Roy Street to a two-way street with bicycle lanes between Fifth Avenue North and Queen Anne Avenue North.

### **Mercer Street/West Mercer Street Improvements**

Mercer Street would operate as a two-way street, with two lanes in each direction. This would be accomplished by restriping lanes, adding appropriate signs and signals, and modifying an existing curb bulb to provide room for two lanes in each direction. Other changes would include left-turn lanes at some intersections and modifications to parking. Curb ramps would be installed at locations where they are missing to comply with American with Disability Act (ADA) requirements (Exhibits 2-2 and 2-3 attached). Curb bulb modification and ADA improvements could lead to minimal storm drainage improvements as required by governing codes. All changes to Mercer Street between Fourth Avenue North and Queen Anne Avenue North would be within the existing street width and right-of-way. Minimal changes could be made to sidewalks, street trees, or planting strips. Right-of-way will be required along the south side of Mercer Street in the block between Fourth Avenue North and Fifth Avenue North to widen Mercer Street and transition to the future widened, six-lane Mercer Street Underpass east of Fifth Avenue North (part of the Alaskan Way Viaduct Replacement Project).

West of Queen Anne Avenue North, West Mercer Street would remain a two-way street, and minimal changes could be made to sidewalks, parking, street trees, or planting strips. Pedestrian crossing enhancements, such as curb bulbs or a median refuge, would be constructed on West Mercer Street at Fourth Avenue West or Fifth Avenue West, maintaining the existing one lane in each direction on West Mercer Street.

### **Roy Street Improvements**

The one-way portion of Roy Street between Fifth Avenue North and Queen Anne Avenue North would be converted to two-way operation, reconfigured to have one travel lane in each direction, bike lanes, and parking on one side of the street. This would be accomplished by restriping lanes and adding appropriate signs and signals. The existing sidewalks would remain. The project also includes an option to convert Queen Anne Avenue North and/or First Avenue North to two-way operation between Mercer and Roy streets. Bicycle sharrows or other bicycle pavement markings would be added to West Roy Street between Queen Anne Avenue North and Fifth Avenue West.

In the block between Taylor Avenue North and Fifth Avenue North, curbs and parking would be modified within the existing right-of-way to add a westbound bicycle lane and eastbound bicycle sharrows connecting to existing bicycle facilities on Taylor Avenue North. Curb ramps would be added and modified at the intersection of Roy Street and Taylor Avenue North.

Bicycle lanes would be added to Fifth Avenue North between Mercer and Roy streets to connect the bicycle lanes on Roy Street to the bicycle path on Mercer Street that is part of the separate Mercer Underpass improvements. In addition, a later phase of the project may include installing a two-way, separated bicycle path on the west side of Fifth Avenue North between Mercer Street and Harrison Street. The bicycle path would require approximately 12 feet of right-of-way along the west side of Fifth Avenue North starting from a point mid-way between Mercer Street and Republican Street to Harrison Street. Other options under consideration for this segment of Fifth Avenue North include bicycle lanes or sharrows.

### **Affected Environment**

The proposed Mercer Corridor Improvements project is located in the Uptown neighborhood, to the north of downtown Seattle. The project area is a mixed commercial, residential, and entertainment district that includes retail businesses, professional offices, apartments, and the Seattle Center, which includes theaters, open space and other recreational uses.

### **Regulatory**

The U.S. Environmental Protection Agency designates the Seattle-Tacoma Urban Area (as defined by the Washington Department of Transportation urban area maps) as a Maintenance Area for carbon monoxide (CO). The project is within the Maintenance Area. A Maintenance Area is defined as an area that formerly exceeded Federal air quality standards and now meets those standards; however, the area requires ongoing attention to ensure that air quality standards are maintained. Federal General Conformity Requirements state that projects in nonattainment areas and maintenance areas are required to perform project-level air quality and dispersion analysis for project-related intersections where traffic delays may result in increased CO levels.

The proposed Mercer Corridor Improvements project is included in the applicable Metropolitan Transportation Plan. Transportation 2040 was adopted by the Puget Sound Regional Council on May 20, 2010 and meets all federal and state air quality conformity requirements.

### **Project Operation Effects**

As the project would change air quality in the project area, CO modeling or hot spot analysis has been conducted to determine if the project would result in increased CO levels. Carbon Monoxide (CO) microscale modeling estimates CO pollutant concentrations resulting from motor vehicle emissions at sensitive receptors adjacent to intersections. To estimate total pollutant concentrations at a site, background concentrations are added to the project contribution to account for the total CO concentrations at receptor locations. The Washington State Intersection Screening Tool (WASIST) was used to quantify CO concentrations at intersections affected by the project. The WASIST uses a background concentration for CO of 3 parts per million (ppm) for determining worst-case one-hour and eight-hour CO concentrations at signalized intersections throughout the State of Washington.

Intersections were selected for CO modeling study based on the level of traffic congestion expected at these sites, as indicated by their calculated level of service (LOS). Consistent with WSDOT guidance for air quality studies,

the study includes all intersections that would have LOS levels of D, E, and F for no build and build scenarios. Intersection turning movements, peak hour traffic volumes, and LOS were developed by DKS Associates transportation consultants and KPFF Consulting Engineers in January 2011. The turning movements and peak hour traffic data for Existing, 2015, 2030, and 2040 scenarios were utilized in the CO modeling calculations. The Appendix A includes pages from traffic document that contain the information used. The 2040 data was obtained by taking the 2030 intersection turning movements and multiplying them by growth rate percentages of 2.0% for the AM peak period, and 3.2% for the PM peak period. The growth rate percentages used are from the 2011 Air Quality Discipline Report of the nearby Alaskan Way Viaduct Replacement Project FEIS.

Other assumptions used in assigning input values to the WASIST model include using sensitive receptors located at a worst case scenario distance of 10 feet from roadways, a worst case scenario red light cycle time, and a background concentration of 3 ppm for each location. More information can be found in the WASIST data outputs in Appendix B. The maximum one-hour and eight-hour CO concentrations at the chosen intersections are shown in Table 2 and are compared to the National Ambient Air Quality Standards (NAAQS).

**TABLE 2**  
**ESTIMATED CARBON MONOXIDE CONCENTRATIONS**

Intersection	LOS	Concentrations (ppm) <sup>a</sup>				Significant? (Yes or No)
		1 hour standard	1 hour modeled emissions	8 hour standard	8 hour modeled emissions	
<b>Mercer St and Queen Anne Ave (AM)</b>						
Existing AM	D	35 ppm	4.6	9 ppm	4.1	No
2015 No Build AM	C	35 ppm	5.3	9 ppm	4.6	No
2015 Build AM	E	35 ppm	4.5	9 ppm	4.0	No
2030 No Build AM	C	35 ppm	4.7	9 ppm	4.2	No
2030 Build AM	F	35 ppm	4.8	9 ppm	4.3	No
2040 No Build AM	NA	35 ppm	4.4	9 ppm	4.0	No
2040 Build AM	NA	35 ppm	4.9	9 ppm	4.3	No
<b>Mercer St and Queen Anne Ave (PM)</b>						
Existing PM	B	35 ppm	4.5	9 ppm	4.0	No
2015 No Build PM	B	35 ppm	4.4	9 ppm	4.0	No
2015 Build PM	B	35 ppm	4.5	9 ppm	4.0	No
2030 No Build PM	B	35 ppm	4.6	9 ppm	4.1	No
2030 Build PM	F	35 ppm	4.8	9 ppm	4.3	No
2040 No Build PM	NA	35 ppm	4.6	9 ppm	4.1	No
2040 Build PM	NA	35 ppm	4.8	9 ppm	4.3	No
<b>Mercer St and 1<sup>st</sup> Ave W (AM)</b>						
Existing AM	A	35 ppm	4.2	9 ppm	3.8	No
2015 No Build AM	A	35 ppm	3.9	9 ppm	3.6	No
2015 Build AM	A	35 ppm	4.0	9 ppm	3.7	No
2030 No Build AM	A	35 ppm	4.2	9 ppm	3.8	No
2030 Build AM	A	35 ppm	4.3	9 ppm	3.9	No
2040 No Build AM	NA	35 ppm	4.2	9 ppm	3.8	No
2040 Build AM	NA	35 ppm	4.3	9 ppm	3.9	No
<b>Mercer St and 1<sup>st</sup> Ave W (PM)</b>						
Existing PM	B	35 ppm	4.2	9 ppm	3.8	No
2015 No Build PM	C	35 ppm	4.3	9 ppm	3.9	No
2015 Build PM	C	35 ppm	4.3	9 ppm	3.9	No
2030 No Build PM	C	35 ppm	4.5	9 ppm	4.0	No
2030 Build PM	E	35 ppm	4.5	9 ppm	4.0	No
2040 No Build PM	NA	35 ppm	4.5	9 ppm	4.0	No
2040 Build PM	NA	35 ppm	4.5	9 ppm	4.0	No

Intersection	LOS	Concentrations (ppm) <sup>a</sup>				Significant? (Yes or No)
		1 hour standard	1 hour modeled emissions	8 hour standard	8 hour modeled emissions	
<b>Mercer St and 1<sup>st</sup> Ave N</b>						
Existing PM	C	35 ppm	4.8	9 ppm	4.3	No
2015 No Build PM	B	35 ppm	4.9	9 ppm	4.3	No
2015 Build PM	B	35 ppm	5.1	9 ppm	4.5	No
2030 No Build PM	B	35 ppm	4.7	9 ppm	4.2	No
2030 Build PM	C	35 ppm	4.8	9 ppm	4.3	No
2040 No Build PM	NA	35 ppm	4.7	9 ppm	4.2	No
2040 Build PM	NA	35 ppm	4.8	9 ppm	4.3	No
<b>Mercer St and 5th Ave N (AM)</b>						
Existing AM	B	35 ppm	4.6	9 ppm	4.1	No
2015 No Build AM	E	35 ppm	4.9	9 ppm	4.3	No
2015 Build AM	D	35 ppm	4.9	9 ppm	4.3	No
2030 No Build AM	F	35 ppm	5.3	9 ppm	4.6	No
2030 Build AM	F	35 ppm	5.3	9 ppm	4.6	No
2040 No Build AM	NA	35 ppm	5.3	9 ppm	4.6	No
2040 No Build AM	NA	35 ppm	5.3	9 ppm	4.6	No
<b>Mercer St and 5th Ave N (PM)</b>						
Existing PM	B	35 ppm	5.4	9 ppm	4.7	No
2015 No Build PM	F	35 ppm	6.0	9 ppm	5.1	No
2015 Build PM	E	35 ppm	5.9	9 ppm	5.0	No
2030 No Build PM	F	35 ppm	5.4	9 ppm	4.7	No
2030 Build PM	F	35 ppm	5.4	9 ppm	4.7	No
2040 No Build PM	NA	35 ppm	5.1	9 ppm	4.5	No
2040 Build PM	NA	35 ppm	5.4	9 ppm	4.7	No
<b>Roy St and Queen Anne Ave (AM)</b>						
Existing AM	C	35 ppm	4.4	9 ppm	4.0	No
2015 No Build AM	C	35 ppm	4.5	9 ppm	4.0	No
2015 Build AM	D	35 ppm	4.6	9 ppm	4.1	No
2030 No Build AM	C	35 ppm	4.1	9 ppm	3.8	No
2030 Build AM	D	35 ppm	4.2	9 ppm	3.8	No
2040 No Build AM	NA	35 ppm	4.1	9 ppm	3.8	No
2040 Build PM	NA	35 ppm	4.2	9 ppm	3.8	No
<b>Roy St and Queen Anne Ave (PM)</b>						
Existing PM	C	35 ppm	4.4	9 ppm	4.0	No
2015 No Build PM	B	35 ppm	4.2	9 ppm	3.8	No
2015 Build PM	E	35 ppm	4.7	9 ppm	4.2	No
2030 No Build PM	B	35 ppm	4.1	9 ppm	3.8	No
2030 Build PM	F	35 ppm	4.4	9 ppm	4.0	No
2040 No Build PM	NA	35 ppm	4.1	9 ppm	3.8	No
2040 Build PM	NA	35 ppm	4.1	9 ppm	3.8	No
<b>Roy St and 1<sup>st</sup> Ave N (AM)</b>						
Existing AM	A	35 ppm	3.9	9 ppm	3.6	No
2015 No Build AM	A	35 ppm	4.2	9 ppm	3.8	No
2015 Build AM	B	35 ppm	3.9	9 ppm	3.6	No
2030 No Build AM	A	35 ppm	3.9	9 ppm	3.6	No
2030 Build AM	B	35 ppm	3.7	9 ppm	3.5	No
2040 No Build AM	NA	35 ppm	3.9	9 ppm	3.6	No
2040 Build AM	NA	35 ppm	3.7	9 ppm	3.5	No

Intersection	LOS	Concentrations (ppm) <sup>a</sup>				Significant? (Yes or No)
		1 hour standard	1 hour modeled emissions	8 hour standard	8 hour modeled emissions	
<b>Roy St and 1<sup>st</sup> Ave N (PM)</b>						
Existing PM	B	35 ppm	4.6	9 ppm	4.1	No
2015 No Build PM	B	35 ppm	4.3	9 ppm	3.9	No
2015 Build PM	D	35 ppm	4.3	9 ppm	3.9	No
2030 No Build PM	B	35 ppm	4.1	9 ppm	3.8	No
2030 Build PM	D	35 ppm	4.1	9 ppm	3.8	No
2040 No Build PM	NA	35 ppm	4.1	9 ppm	3.8	No
2040 Build PM	NA	35 ppm	4.0	9 ppm	3.7	No
<b>Roy St and 5<sup>th</sup> Ave N (AM)</b>						
Existing AM	C	35 ppm	4.0	9 ppm	3.7	No
2015 No Build AM	D	35 ppm	4.0	9 ppm	3.7	No
2015 Build AM	C	35 ppm	4.0	9 ppm	3.7	No
2030 No Build AM	E	35 ppm	4.3	9 ppm	3.9	No
2030 Build AM	C	35 ppm	4.1	9 ppm	3.8	No
2040 No Build AM	NA	35 ppm	4.1	9 ppm	3.8	No
2040 Build AM	NA	35 ppm	4.1	9 ppm	3.8	No
<b>Roy St and 5<sup>th</sup> Ave N (PM)</b>						
Existing PM	D	35 ppm	4.2	9 ppm	3.8	No
2015 No Build PM	D	35 ppm	4.1	9 ppm	3.8	No
2015 Build PM	C	35 ppm	3.9	9 ppm	3.6	No
2030 No Build PM	E	35 ppm	4.3	9 ppm	3.9	No
2030 Build PM	C	35 ppm	4.4	9 ppm	4.0	No
2040 No Build PM	NA	35 ppm	4.4	9 ppm	4.0	No
2040 Build PM	NA	35 ppm	4.1	9 ppm	3.8	No

<sup>a</sup> Emissions were estimated using the WASIST MODEL (See Appendix A). Emissions shown are at the worst of 4 sensitive receptor quadrants located at a worst case scenario distance of 10 feet from roadways, a worst case scenario red light cycle time, and a background concentration of 3 ppm added to the project modeled CO concentrations at each location. More information can be found in the appendix.

SOURCE: ESA 2011

As shown in Table 1, project CO levels at all modeled locations are well below both the 1-hour and 8-hour NAAQS CO emission standards. Because among the intersections within the project corridor these intersections have the highest levels of congestion (LOS of D, E, or F), and there are no exceedances of the NAAQS, it can be assumed that other intersections affected by the project would also have CO concentrations well below the 1-hour and 8-hour NAAQS CO emission standards. Therefore the project meets transportation Conformity Requirements based on the WASIST estimation model and the project would not cause or contribute to new localized CO violations or increase the violation frequency.

## References

- U.S. Environmental Protection Agency (USEPA). 2011. Greenbook Carbon Monoxide Information, <http://www.epa.gov/air/oaqps/greenbk/cindex.html>, updated April 21, 2011.
- U.S. Environmental Protection Agency (USEPA). 2011. National Ambient Air Quality Standards. <http://www.epa.gov/air/criteria.html>, updated April 18, 2011.

## **Attachments**

Figure 2-1. Project Vicinity

Figure 2-2. Project Area East

Figure 2-3. Project Area West and Central

Appendix A- Transportation Data

Appendix B- WASIST CO Modeling Results



S:\GIS\Projects\210152\Drawings\210152\_Mercer\_West\map\Project\_Vicinity\_02.mxd (DLP: 02/27/2013)

SOURCE: City of Seattle, 2009; NAIP (USDA), 2009 (Aerial)

Mercer West Corridor. 210152

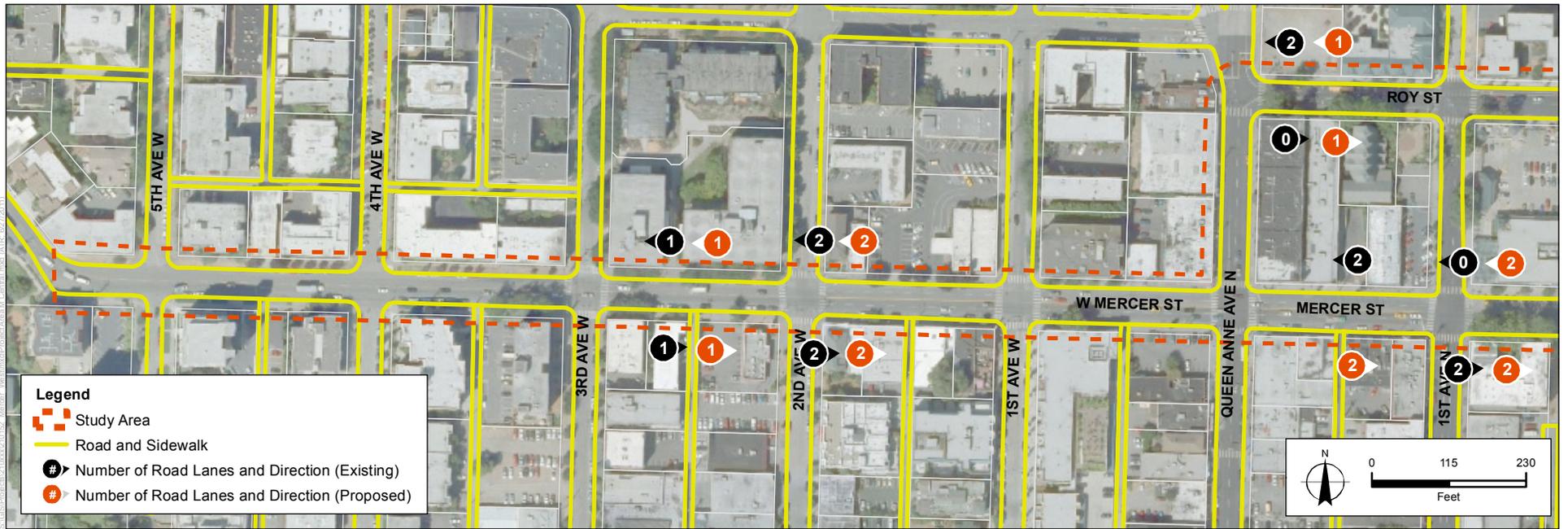
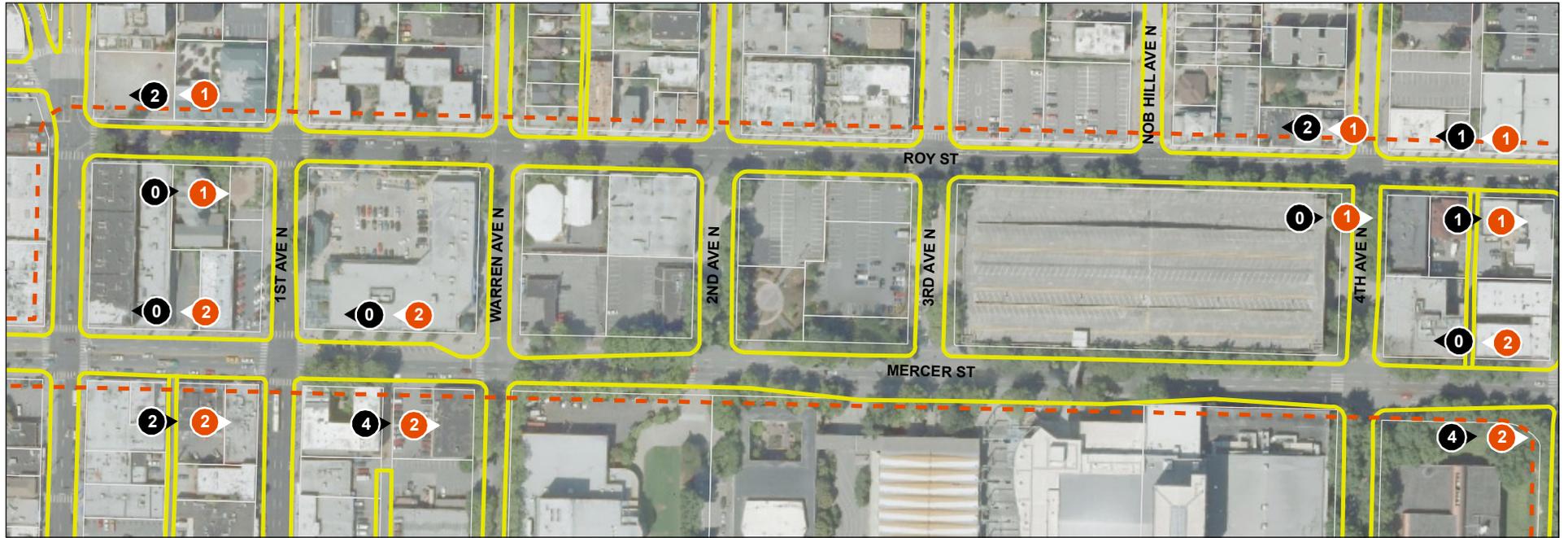
**Exhibit 2-1**  
Project Vicinity  
Seattle, Washington



S:\GIS\Projects\210152\Mercer West\MapProject\Area M - Final v2.mxd (D.L.P. 7/5/2011)

SOURCE: City of Seattle, 2009; NAIP (USDA), 2009 (Aerial)

Mercer West Corridor. 210152  
**Exhibit 2-2**  
 Project Area  
 Seattle, Washington



SOURCE: City of Seattle, 2009; NAIP (USDA), 2009 (Aerial)

**Appendix A**

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**Transportation Data**



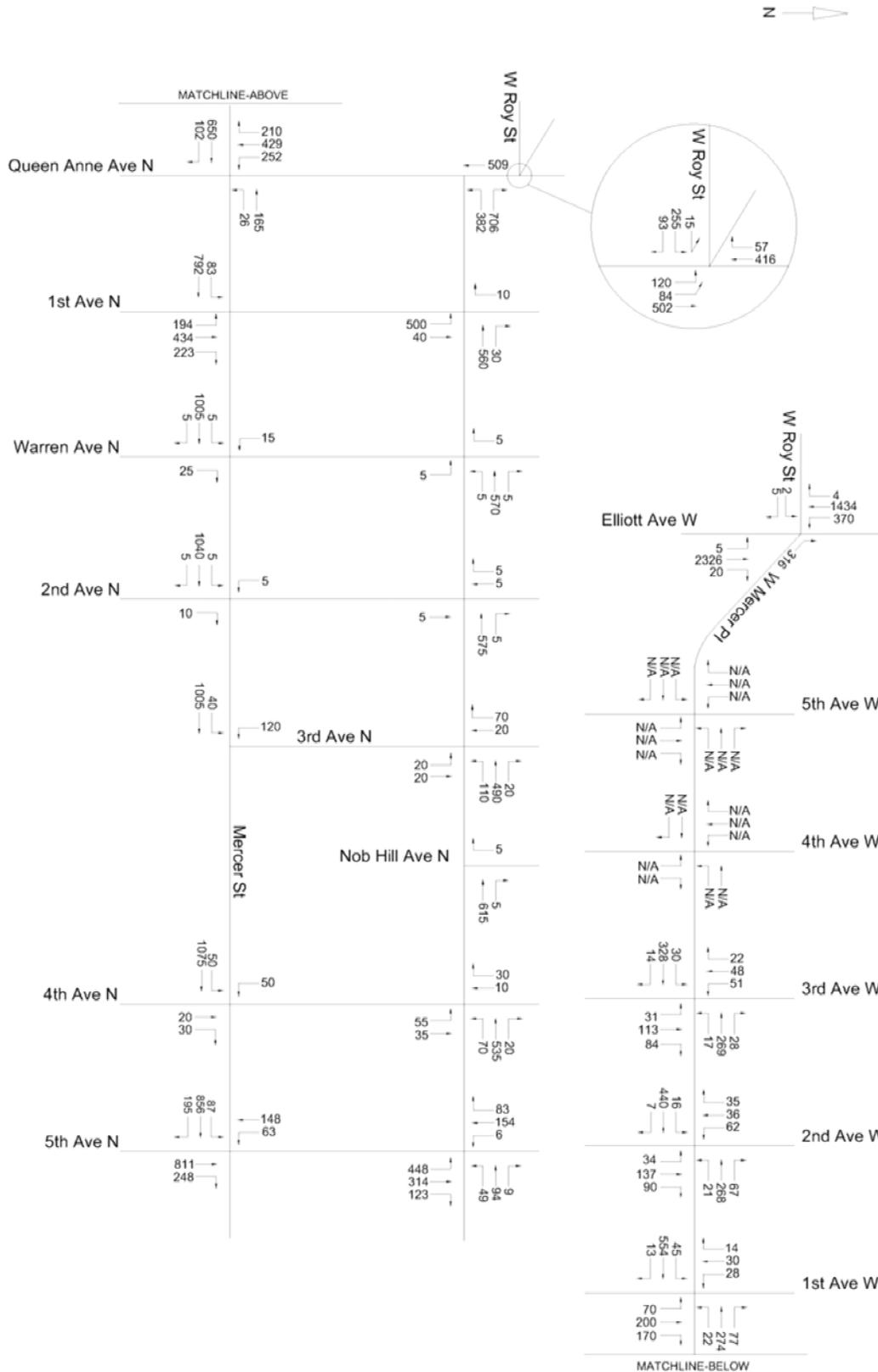


Exhibit 4-3: Existing Condition Volumes (PM Peak Hour)  
 Source: DKS Associates, 2010

Source: Transportation Research Board, *Highway Capacity Manual* 2000 (Chapters 16 and 17).

To determine delay and LOS, specialized software tools are available. The software tool used for the intersection operational analysis in the study area is Synchro.

Synchro is macroscopic traffic simulation software that allows for the delay and LOS to be determined based upon the existing conditions traffic operations at studied intersections. This includes intersection geometrics, signal timing and phasing and resulting traffic volumes. The existing conditions analysis was conducted for the studied intersections for both AM and PM peak hour periods.

The existing conditions roadway network was developed from information collected from field reviews, aerial photographs and data provided by the City of Seattle and the AWV project team. Operational analysis of existing AM and PM peak-hour conditions were performed for each studied intersection along Mercer Street and Roy Street using Synchro to determine intersection delay and associated LOS. AM and PM analysis results are shown in Exhibit 4-4 and Exhibit 4-5 respectively.

Under AM peak-hour conditions, most intersections operated at LOS C or better. Only one intersection, Mercer Street and Queen Anne Avenue North, operated at LOS D because of high traffic volume demand at the southbound and eastbound approaches, resulting in long delays.

Under PM peak-hour conditions, most intersections operated at LOS C or better. Only one intersection operated at LOS D. The Roy Street and Fifth Avenue North intersection operates at LOS D due to high traffic volume demand at the northbound approach.

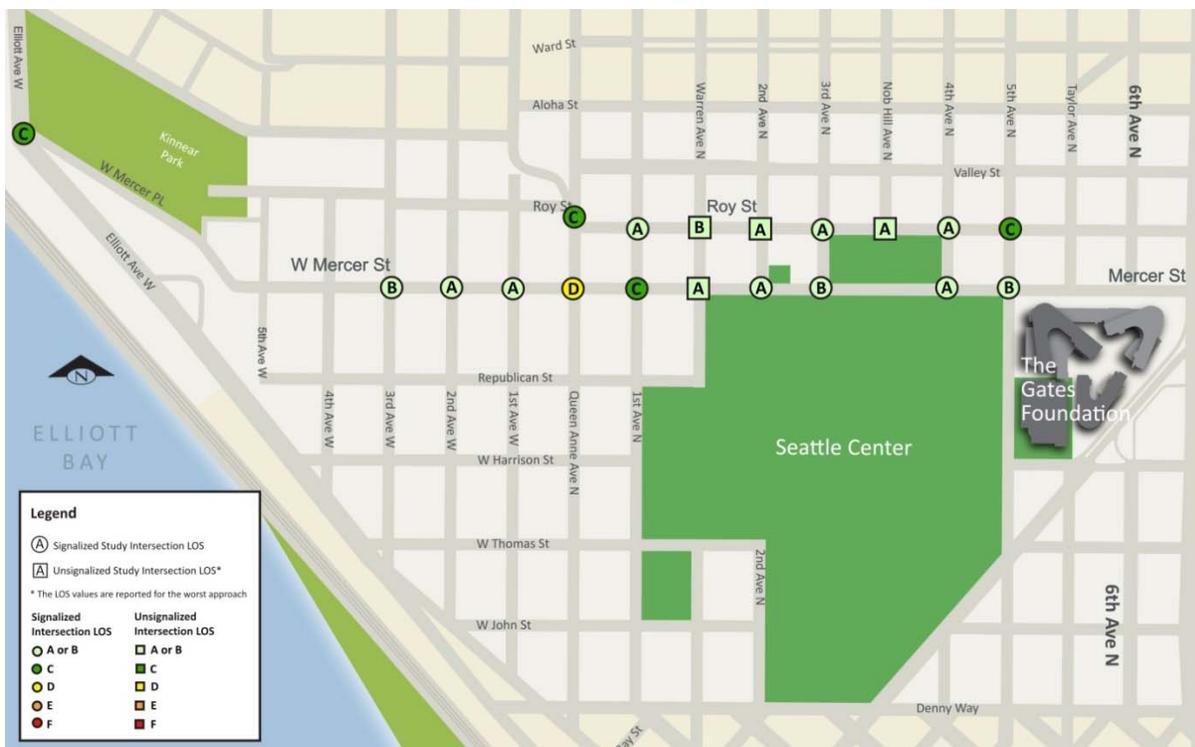


Exhibit 4-4: Existing 2010 Condition Traffic Operations (AM Peak Hour)

Source: DKS Associates, 2010



Exhibit 4-5: Existing 2010 Condition Traffic Operations (PM Peak Hour)  
 Source: DKS Associates, 2010

## Transit Routes and Service

As a corridor within the City of Seattle, the study area carries many transit routes. This service is operated by King County Department of Transportation Metro Transit division or King County Metro. The transit routes operated by King County Metro in the study area are listed in Table 4-2.

Table 4-2: Transit Route Destination Summary

Route Number	Route Destinations
Route 1	Downtown/Kinnear
Route 2	Downtown/ Madrona Park/ Queen Anne
Route 3/4	Downtown/ Madrona Park/ Judkins Park/ Queen Anne Hill
Route 8	Seattle Center/ Capitol Hill/ Rainier Beach
Route 13	Downtown/ Seattle Pacific University
Route 15/ 18	Downtown/ Ballard/ Blue Ridge/ North Beach
Route 16	Downtown/ Northgate Transit Center
Route 19/24	Downtown/ Magnolia
Route 30	Seattle Center/ University District/ San Point
Route 33	Downtown/ Discovery Park
Route 45	Queen Anne/ University District
Route 81	Ballard/ Loyal Heights (Night Owl)
Route 82	Queen Anne/ Green Lake/ Greenwood (Night Owl)
Route 994	Downtown/ Lakeside Schools

Source: King County Metro

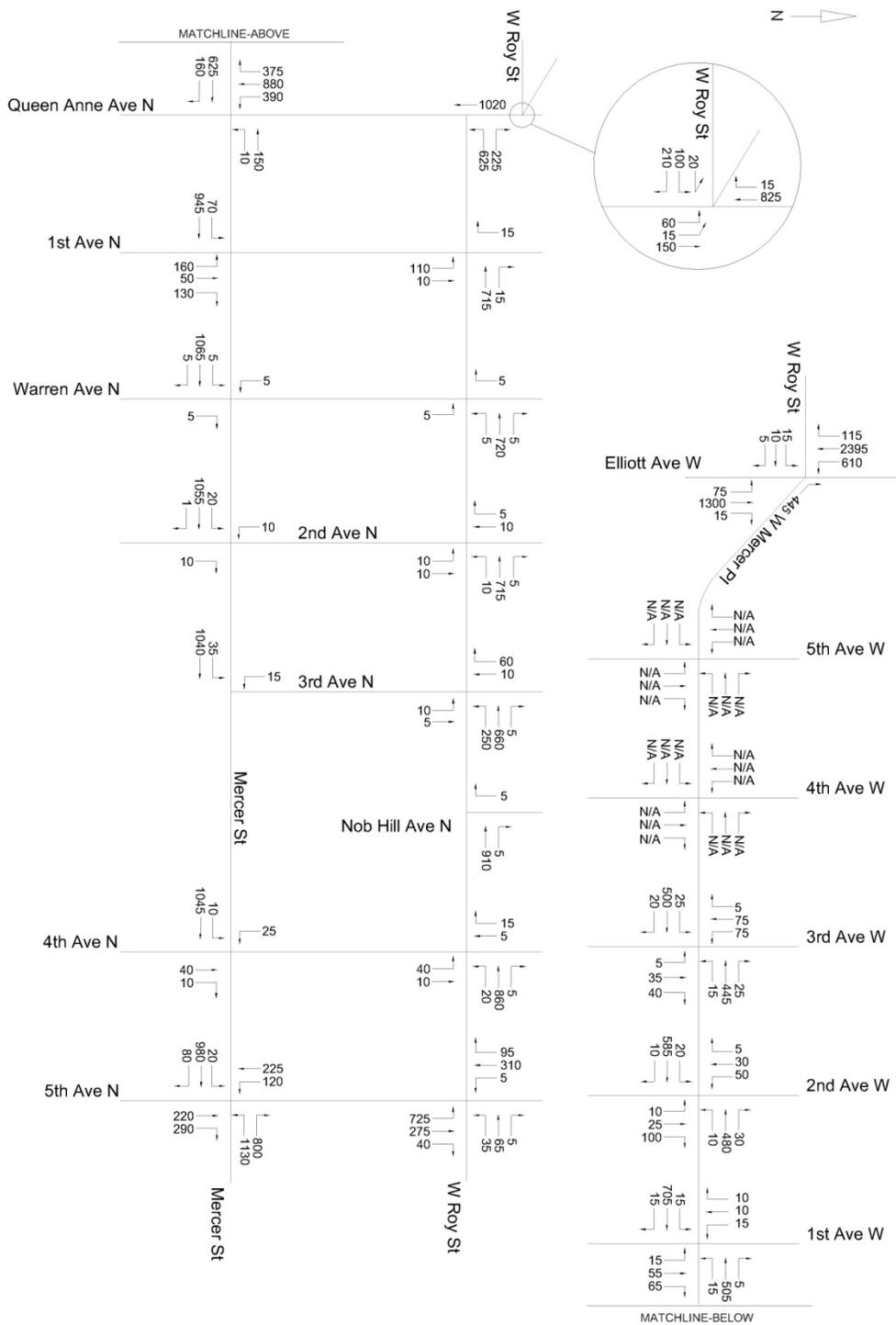


Exhibit 5-1: 2015 No Build Volumes (AM)

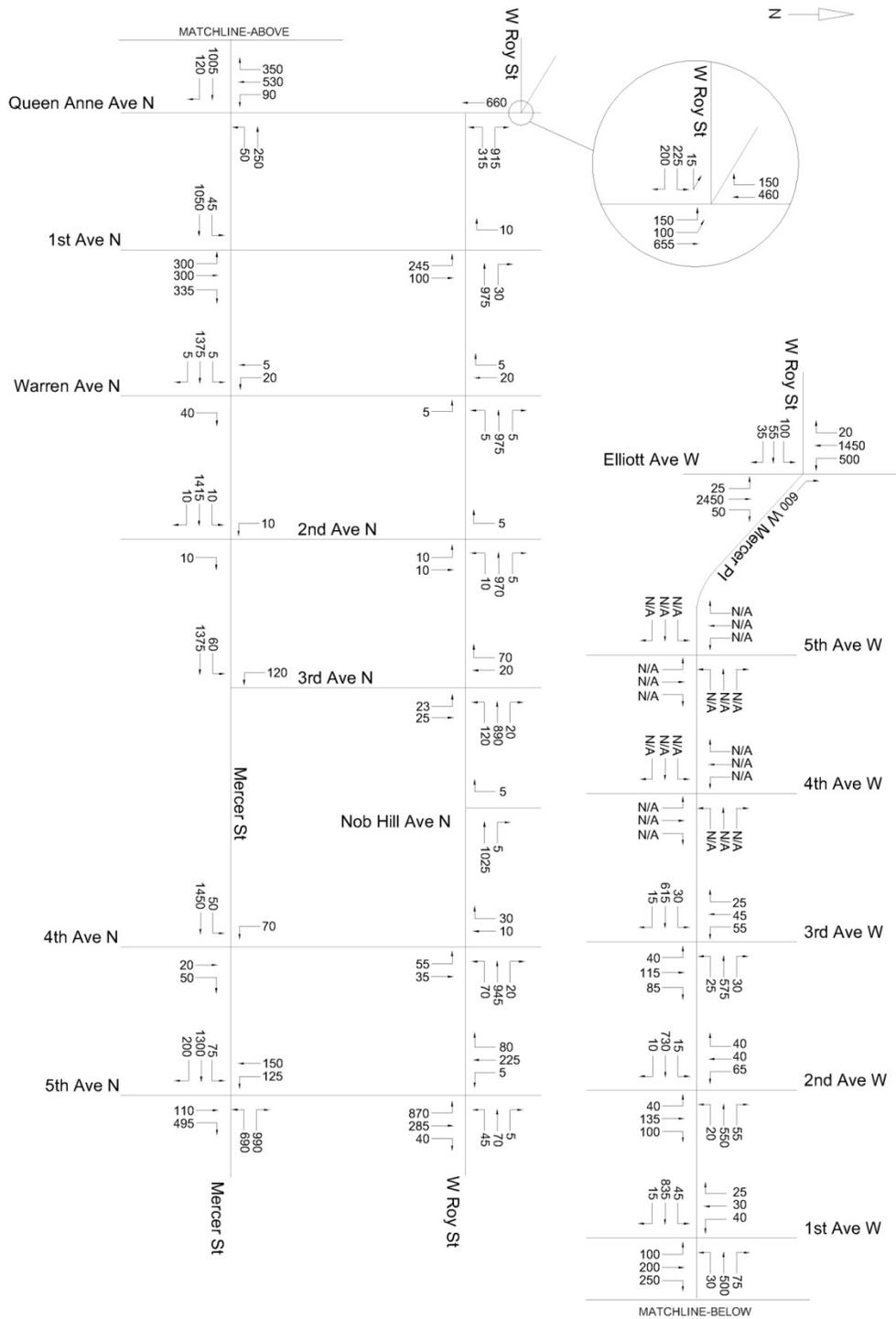


Exhibit 5-2: 2015 No Build Volumes (PM)

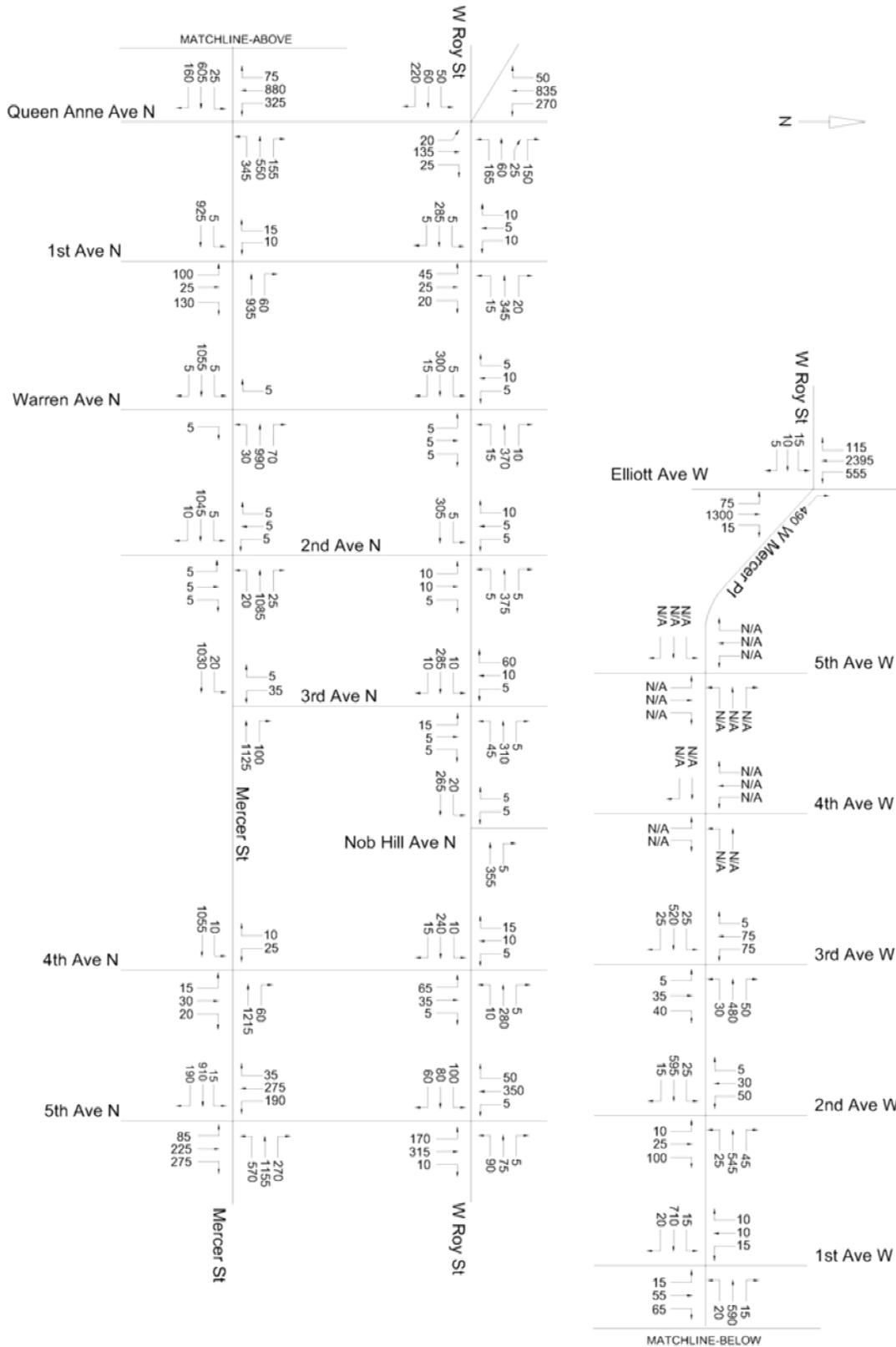


Exhibit 5-3: 2015 Build Volumes (AM)

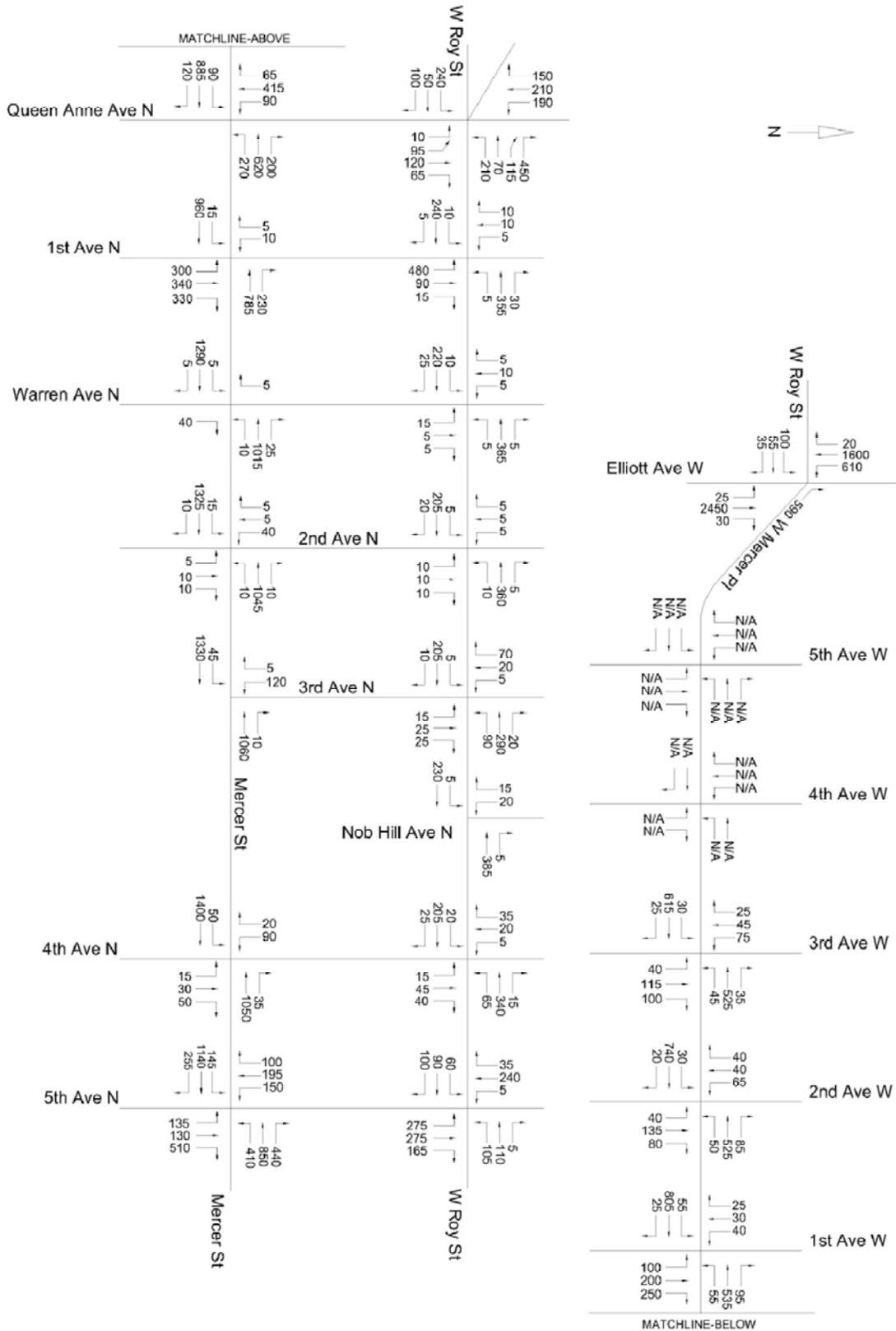


Exhibit 5-4: 2015 Build Volumes (PM)

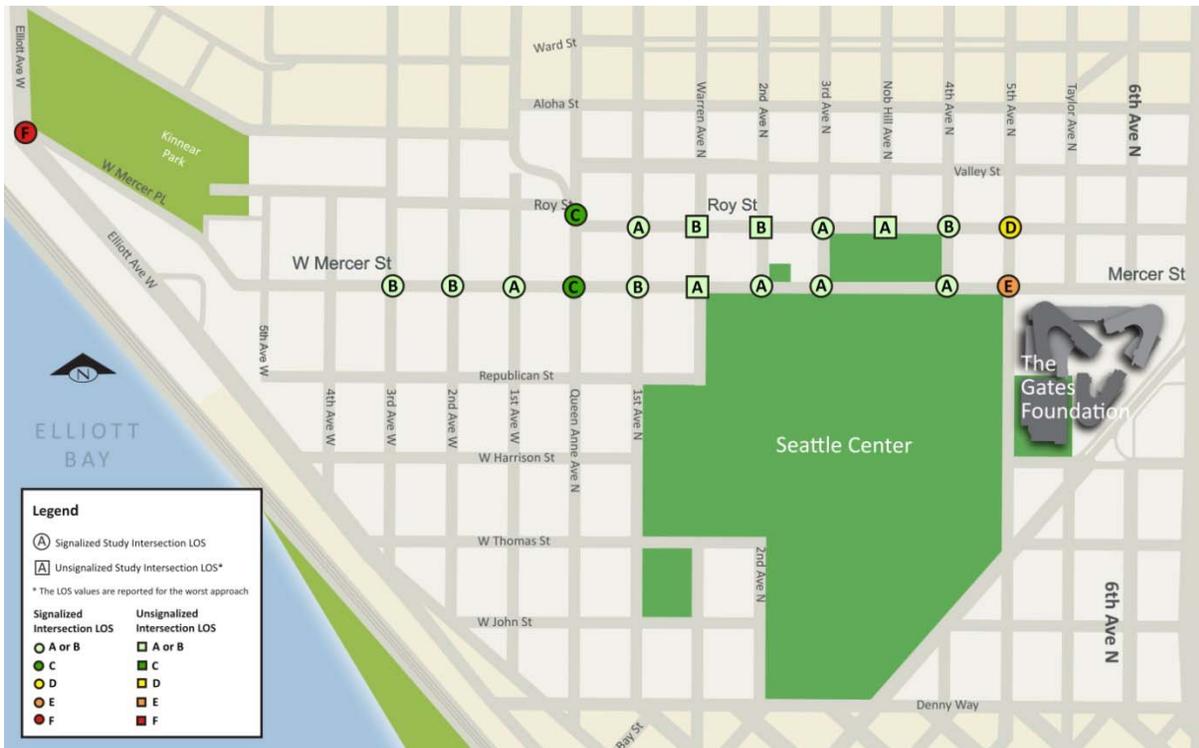


Exhibit 5-5: 2015 No Build Traffic Operations (AM)



Exhibit 5-6: 2015 No Build Traffic Operations (PM)

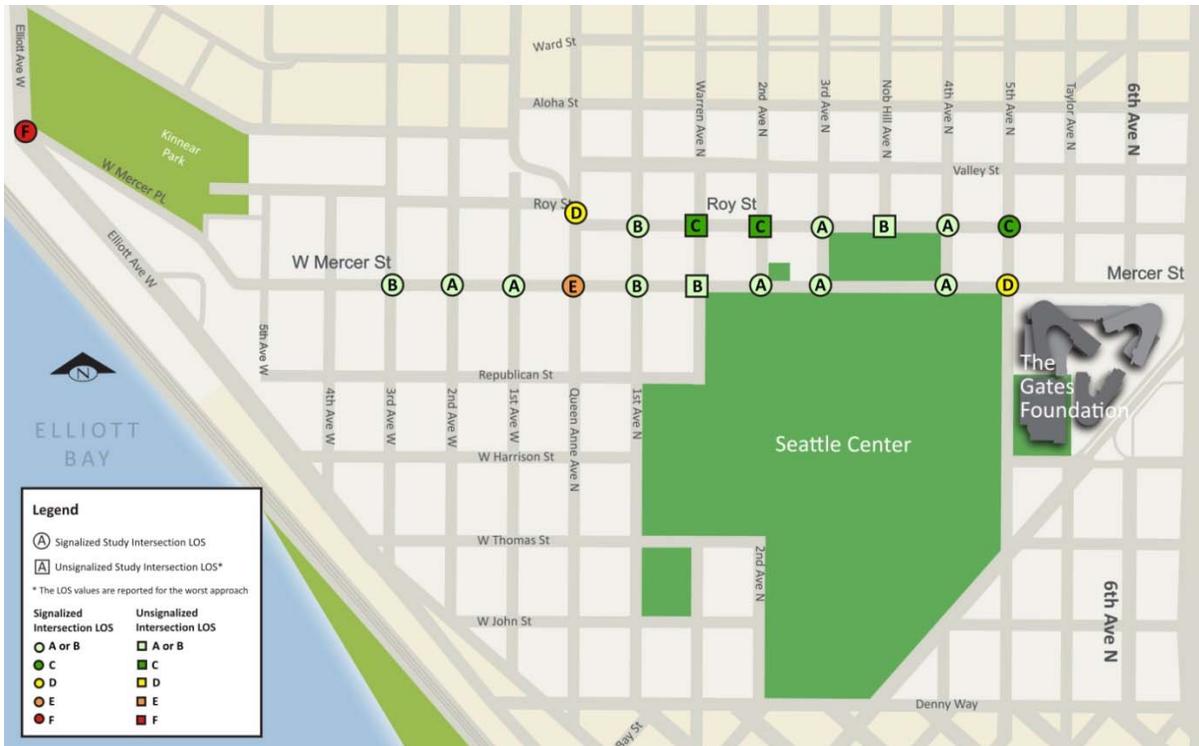


Exhibit 5-7: 2015 Build Traffic Operations (AM)

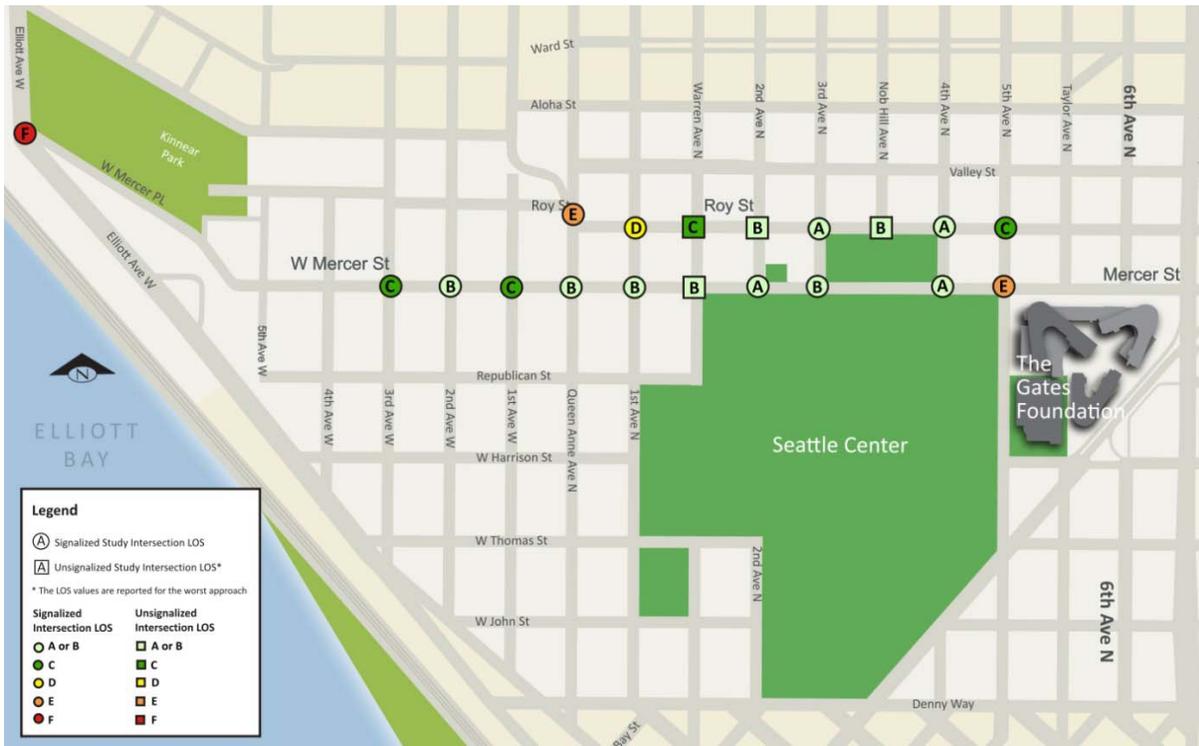


Exhibit 5-8: 2015 Build Traffic Operations (PM)

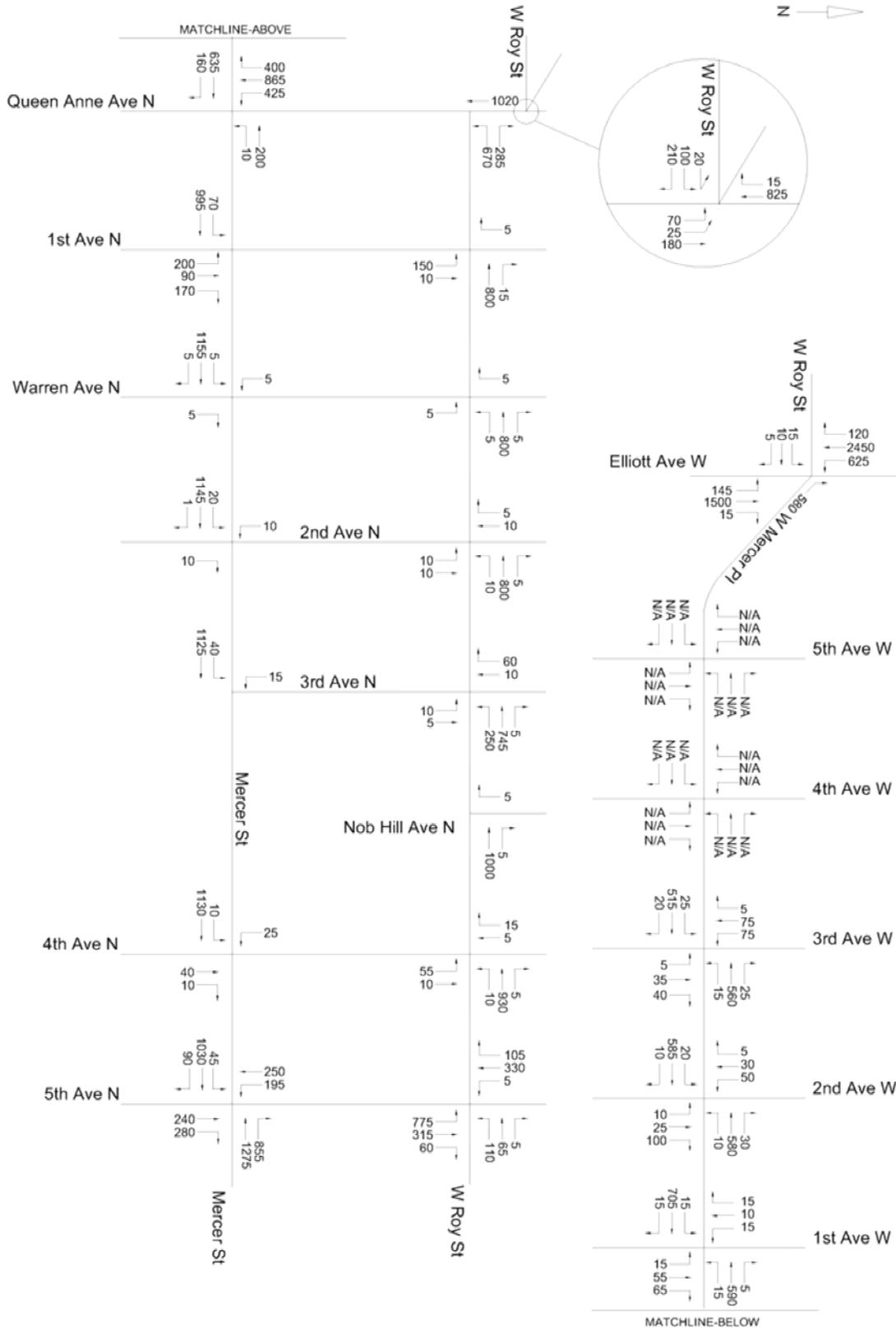


Exhibit 5-9 2030 No Build Volumes (AM)

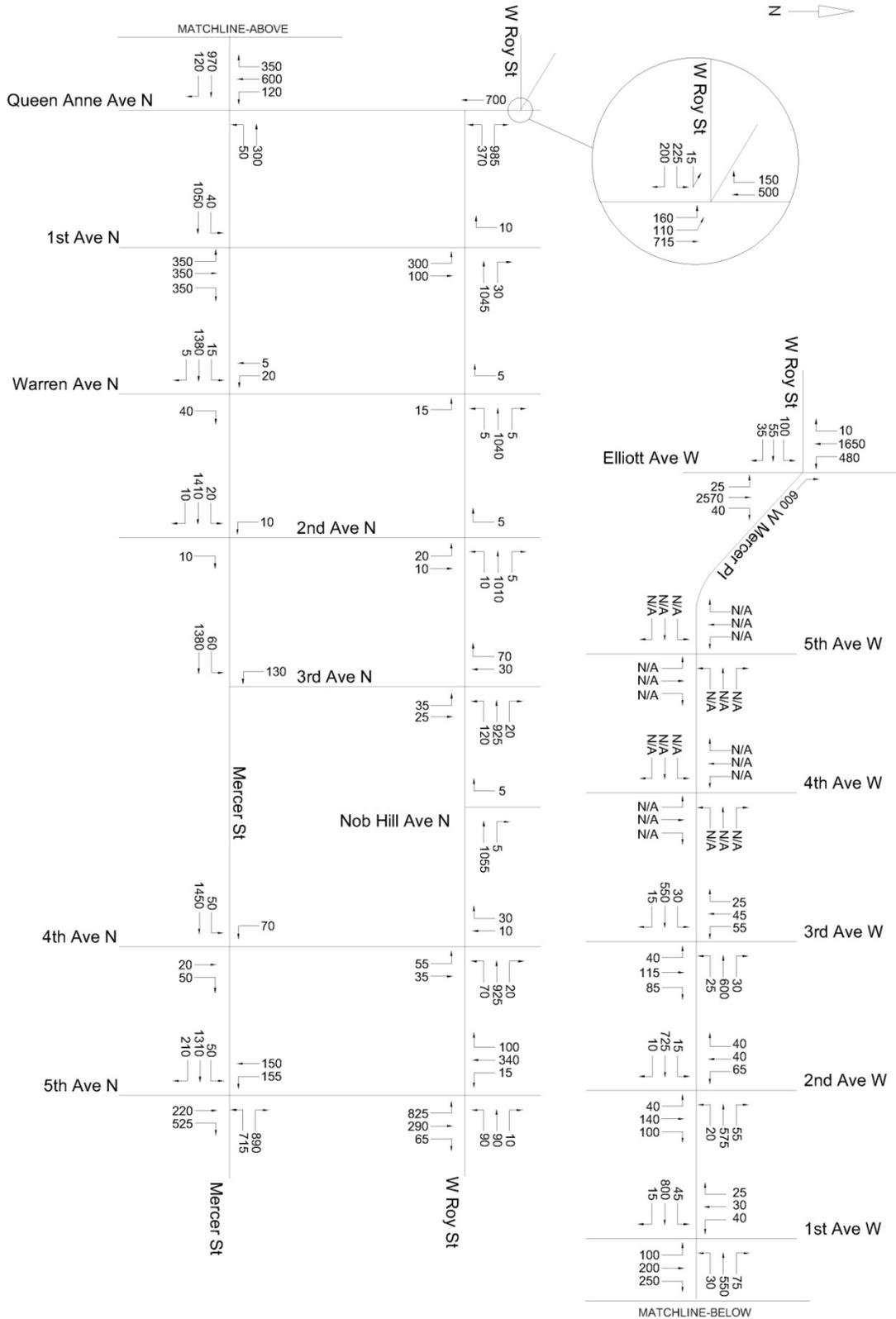


Exhibit 5-10 2030 No Build Volumes (PM)

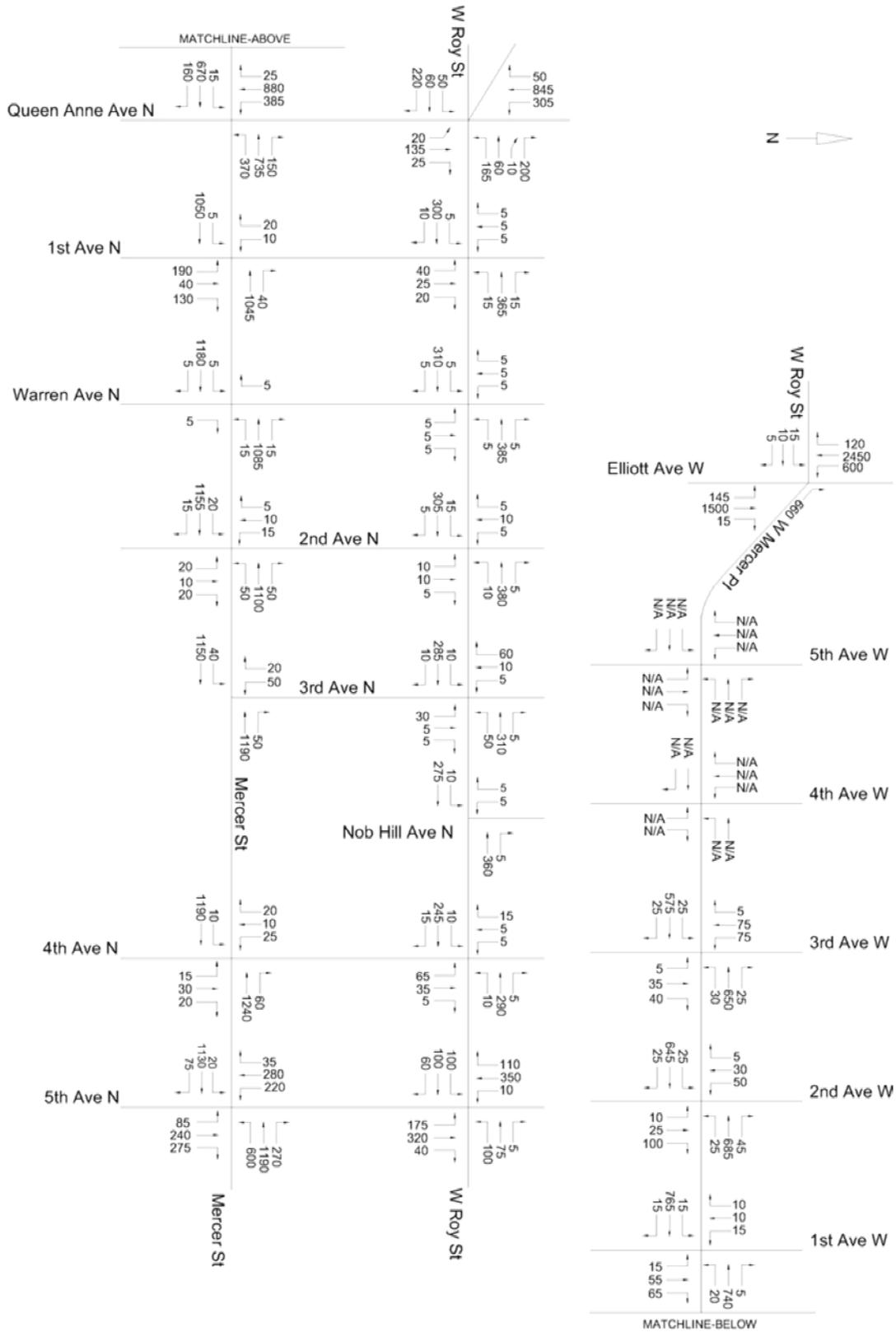


Exhibit 5-11 2030 Build Volumes (AM)

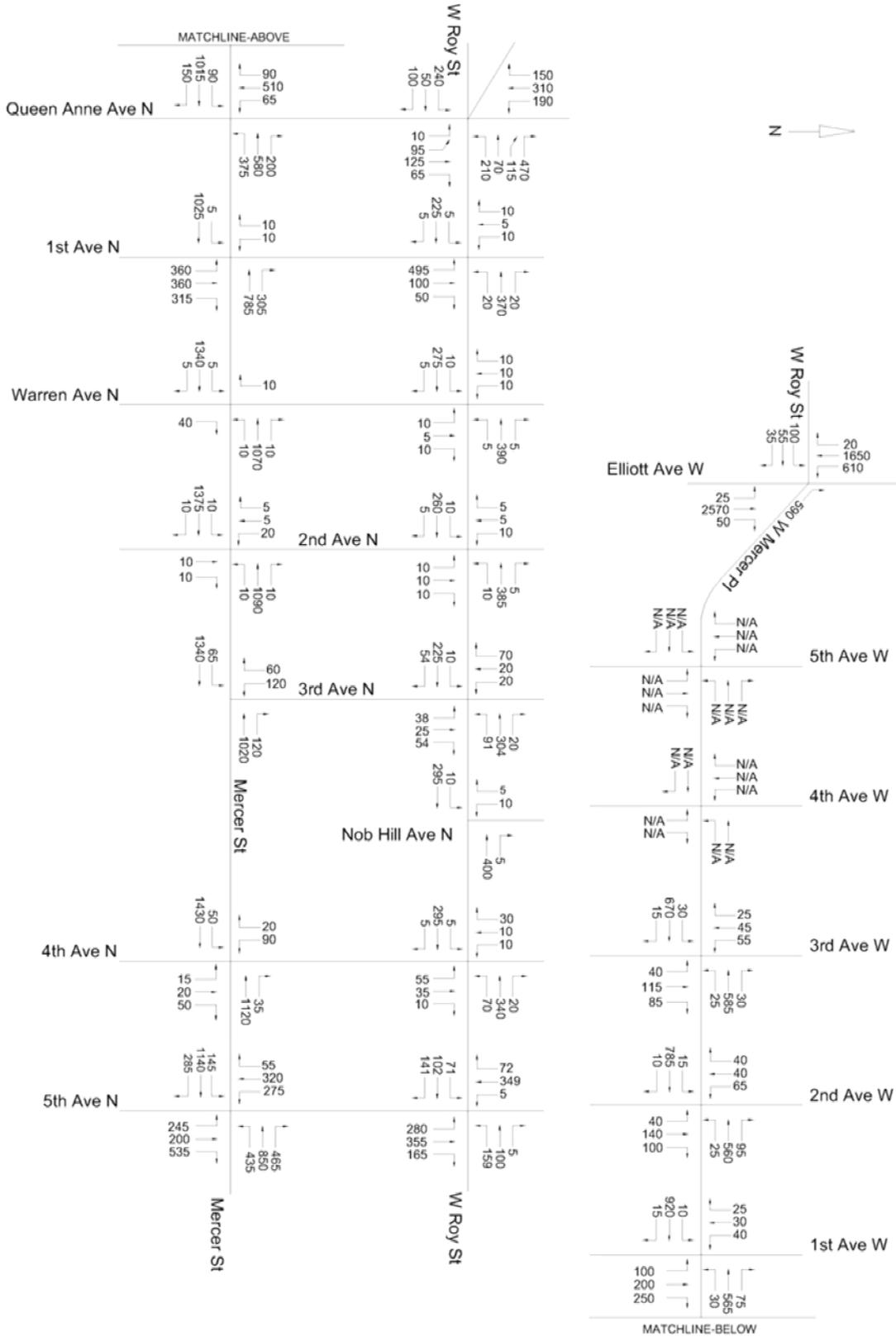


Exhibit 5-12: 2030 Build Volumes (PM)



Exhibit 5-13: 2030 No Build Traffic Operations (AM)



Exhibit 5-14: 2030 No Build Traffic Operations (PM)

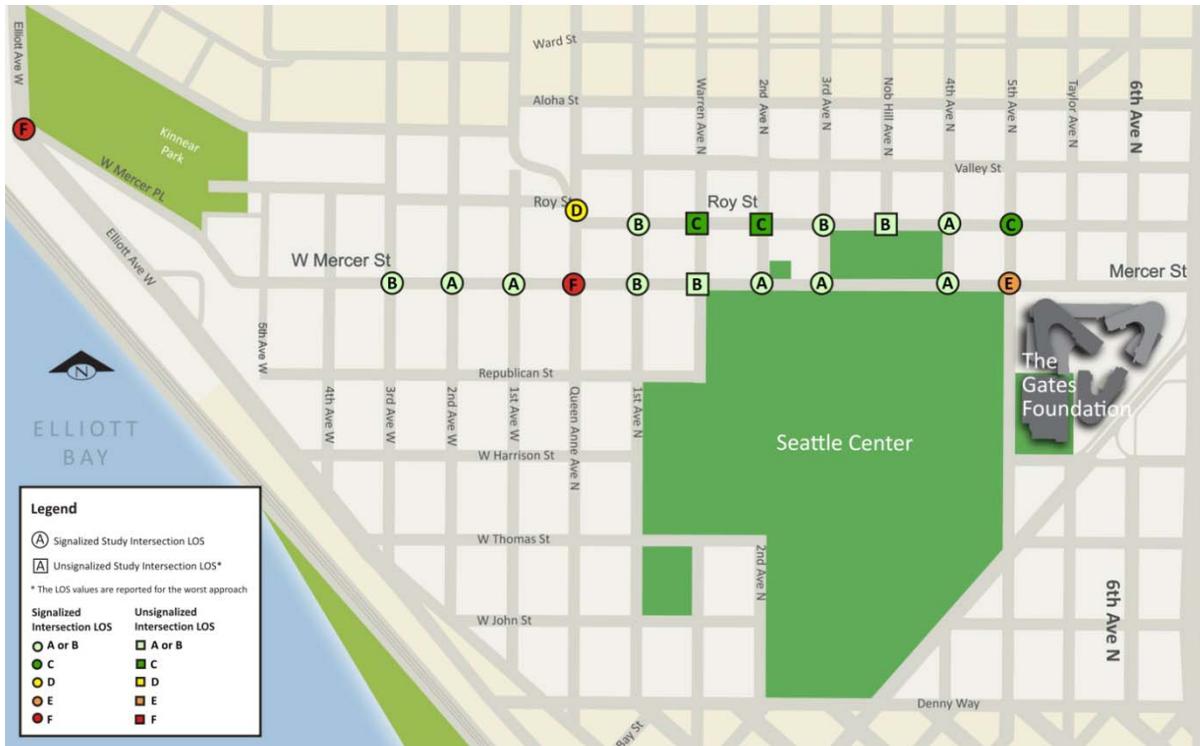


Exhibit 5-15: 2030 Build Traffic Operations (AM)



Exhibit 5-16: 2030 Build Traffic Operations (PM)

**Appendix B**

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**WASIST CO Modeling Results**

# Washington State Intersection Screening Tool 2.0

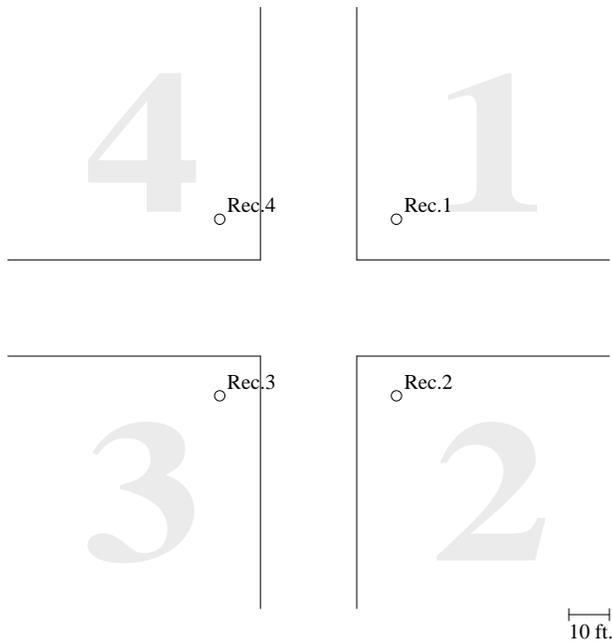
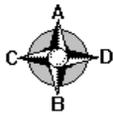
05-10-11

10:27 AM

mercer west



Description: **W Mercer St and Queen Anne Ave Existing**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: W Mercer St C-D: Queen Anne Ave**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.1	3.8	Pass
2	2	10	10	4.2	3.8	Pass
3	3	10	10	4.6	4.1	Pass
4	4	10	10	4.2	3.8	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 3**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

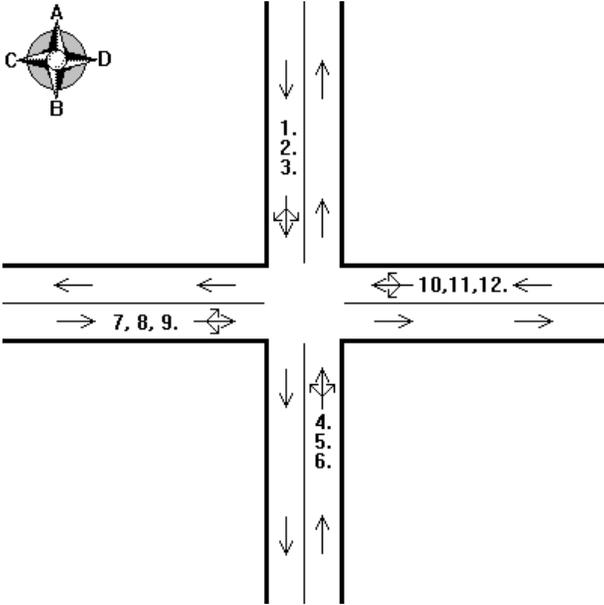
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	588
2	A-D Left Turn	398
3	A-C Right Turn	146
4	B-A Thru	3
5	B-C Left Turn	3
6	B-D Right Turn	3
7	C-D Thru	597
8	C-A Left Turn	3
9	C-B Right Turn	107
10	D-C Thru	50
11	D-B Left Turn	6
12	D-A Right Turn	3



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **Yes**  
Model Year: **2011**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **74.97**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	8.72
Leg B	15	8.72
Leg C	15	8.72
Leg D	15	8.72

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

07-26-11

12:49 PM

mercer west

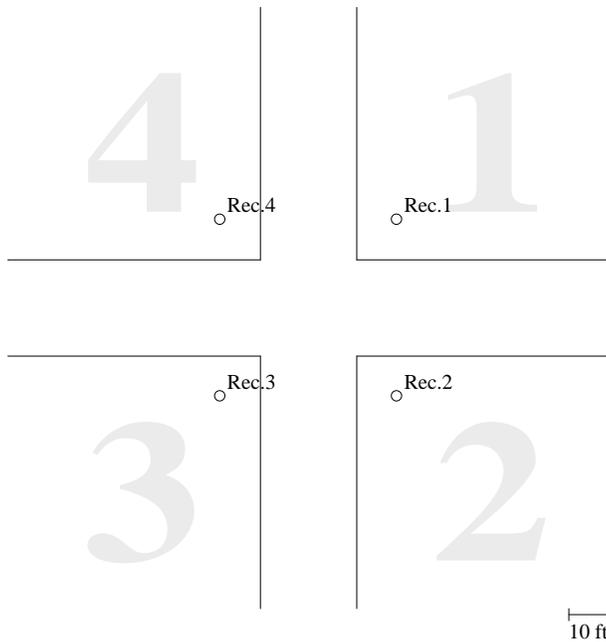
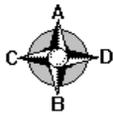


Description: **w mercer st and queen anne ave 2015 no build**

Performed by: **dsa - esa**

Intersection Type: **Four-Way Intersection, 2 x 2**

Street Names: **A-B: Queen Anne Ave C-D: W Mercer St**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.7	4.2	Pass
2	2	10	10	5.3	4.6	Pass
3	3	10	10	5.2	4.5	Pass
4	4	10	10	4.6	4.1	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 2**.

- All CO concentrations include a background concentration of **3.0 ppm**.

- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

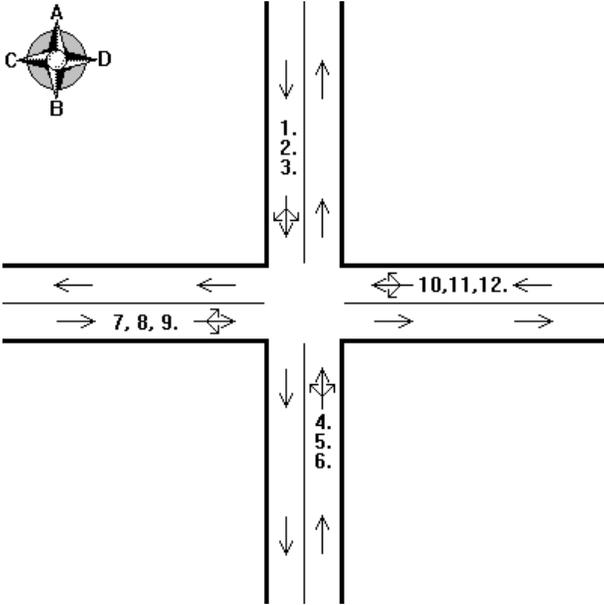
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	588
2	A-D Left Turn	398
3	A-C Right Turn	146
4	B-A Thru	3
5	B-C Left Turn	3
6	B-D Right Turn	3
7	C-D Thru	3597
8	C-A Left Turn	3
9	C-B Right Turn	107
10	D-C Thru	50
11	D-B Left Turn	6
12	D-A Right Turn	3



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **Yes**  
Model Year: **2015**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **58.91**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	6.95
Leg B	15	6.95
Leg C	15	6.95
Leg D	15	6.95

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

07-26-11

12:53 PM

mercer west



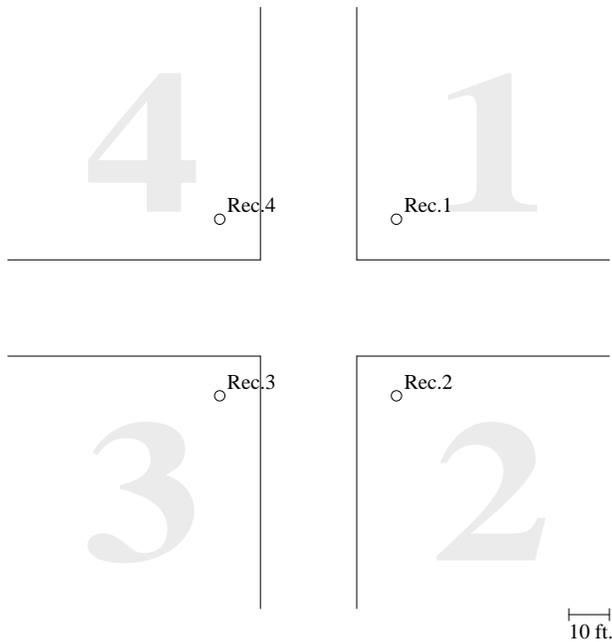
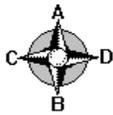
Description: **W Mercer St and Queen Anne Ave 2015 Build AM**

Performed by: **dsa - esa**

**User's Phone Number - User's Email Address**

Intersection Type: **Four-Way Intersection, 2 x 2**

Street Names: **A-B: W Mercer St C-D: Queen Anne Ave**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.3	3.9	Pass
2	2	10	10	4.3	3.9	Pass
<u>3</u>	<u>3</u>	<u>10</u>	<u>10</u>	<u>4.5</u>	<u>4.0</u>	<u>Pass</u>
4	4	10	10	4.5	4.0	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 3**.

- All CO concentrations include a background concentration of **3.0 ppm**.

- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

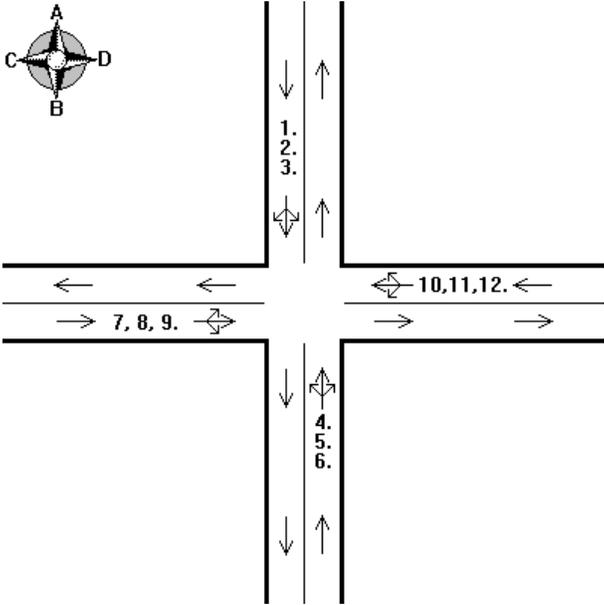
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	880
2	A-D Left Turn	325
3	A-C Right Turn	75
4	B-A Thru	3
5	B-C Left Turn	3
6	B-D Right Turn	3
7	C-D Thru	605
8	C-A Left Turn	25
9	C-B Right Turn	160
10	D-C Thru	550
11	D-B Left Turn	345
12	D-A Right Turn	155



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **Yes**  
Model Year: **2015**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **58.91**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	6.95
Leg B	15	6.95
Leg C	15	6.95
Leg D	15	6.95

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

07-26-11

12:54 PM

mercer west



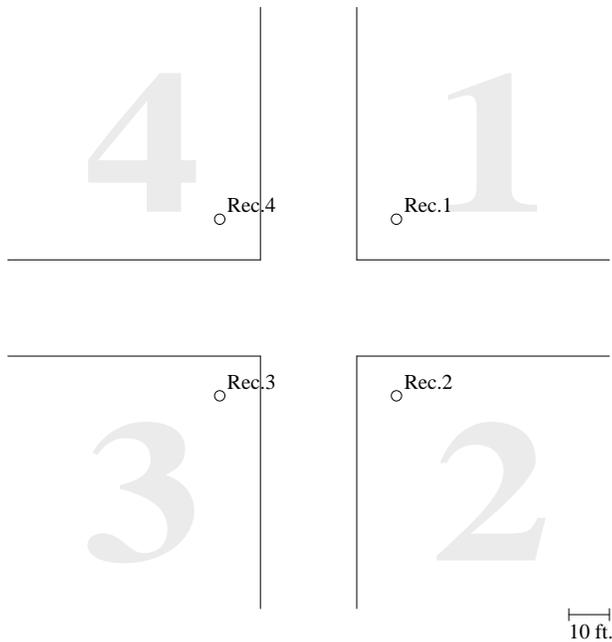
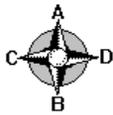
Description: **W MErcer St and Queen Anne Ave 2030 No Build**

Performed by: **dsa - esa**

**User's Phone Number - User's Email Address**

Intersection Type: **Four-Way Intersection, 2 x 2**

Street Names: **A-B: W Mercer St C-D: Queen Anne Ave**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.3	3.9	Pass
2	2	10	10	4.3	3.9	Pass
<u>3</u>	<u>3</u>	<u>10</u>	<u>10</u>	<u>4.7</u>	<u>4.2</u>	<u>Pass</u>
4	4	10	10	4.3	3.9	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 3**.

- All CO concentrations include a background concentration of **3.0 ppm**.

- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

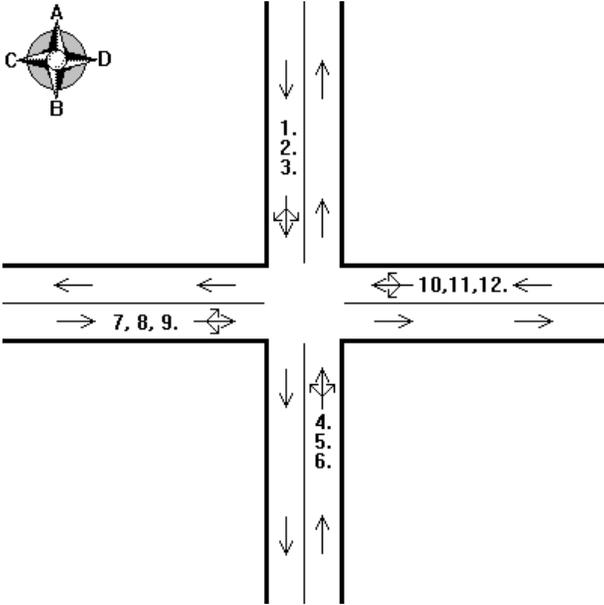
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	865
2	A-D Left Turn	425
3	A-C Right Turn	400
4	B-A Thru	3
5	B-C Left Turn	3
6	B-D Right Turn	3
7	C-D Thru	635
8	C-A Left Turn	3
9	C-B Right Turn	160
10	D-C Thru	200
11	D-B Left Turn	10
12	D-A Right Turn	3



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **Yes**  
Model Year: **2030**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **66.06**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.76
Leg B	15	7.76
Leg C	15	7.76
Leg D	15	7.76

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

07-26-11

12:54 PM

mercer west



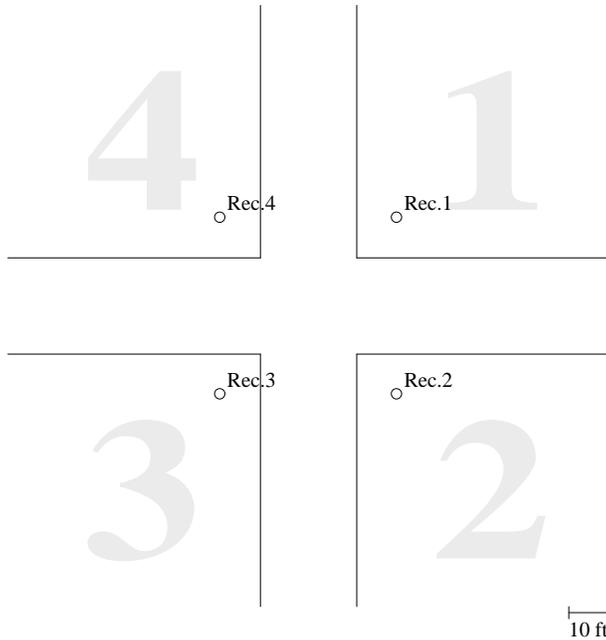
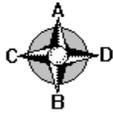
Description: **W Mercer St and Queen Anne Ave 2030 Build**

Performed by: **dsa - esa**

User's Phone Number - User's Email Address

Intersection Type: **Four-Way Intersection, 2 x 2**

Street Names: **A-B: W Mercer St C-D: Queen Anne Ave**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.5	4.0	Pass
2	2	10	10	4.6	4.1	Pass
3	3	10	10	4.7	4.2	Pass
4	4	10	10	4.8	4.3	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 4**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

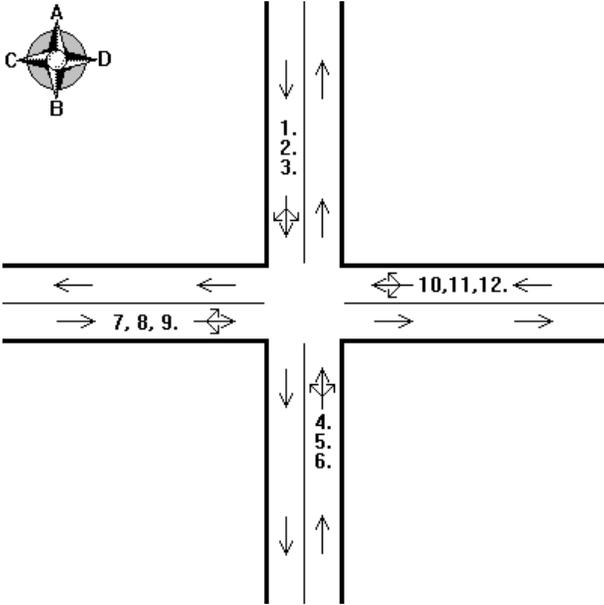
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	880
2	A-D Left Turn	385
3	A-C Right Turn	25
4	B-A Thru	3
5	B-C Left Turn	3
6	B-D Right Turn	3
7	C-D Thru	670
8	C-A Left Turn	15
9	C-B Right Turn	160
10	D-C Thru	735
11	D-B Left Turn	370
12	D-A Right Turn	150



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **Yes**  
Model Year: **2030**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **66.06**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.76
Leg B	15	7.76
Leg C	15	7.76
Leg D	15	7.76

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

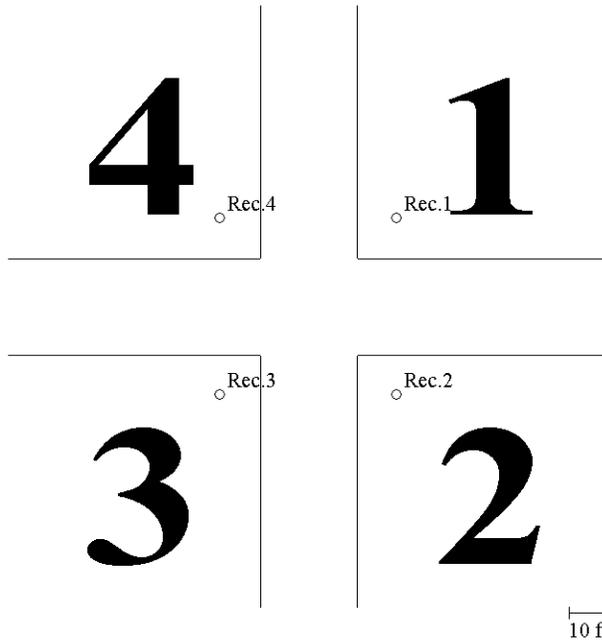
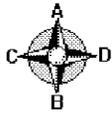
**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

11-01-11  
01:14 PM  
mercero west



Description: W Mercer St and Queen Anne Ave 2040 No Build  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: Four-Way Intersection, 2 x 2  
 Street Names: A-B: W Mercer St C-D: Queen Anne Ave



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.3	3.9	Pass
2	2	10	10	4.3	3.9	Pass
3	3	10	10	4.7	4.2	Pass
4	4	10	10	4.4	4.0	Pass

\*Project PASSES 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at receptor 3.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

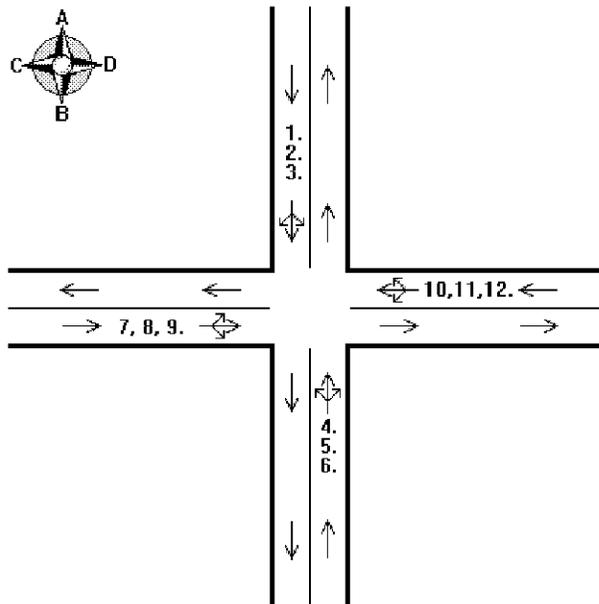
mercier west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	893
2	A-D Left Turn	439
3	A-C Right Turn	413
4	B-A Thru	3
5	B-C Left Turn	3
6	B-D Right Turn	3
7	C-D Thru	655
8	C-A Left Turn	3
9	C-B Right Turn	165
10	D-C Thru	206
11	D-B Left Turn	10
12	D-A Right Turn	3



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2040  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 65.73

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.72
Leg B	15	7.72
Leg C	15	7.72
Leg D	15	7.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

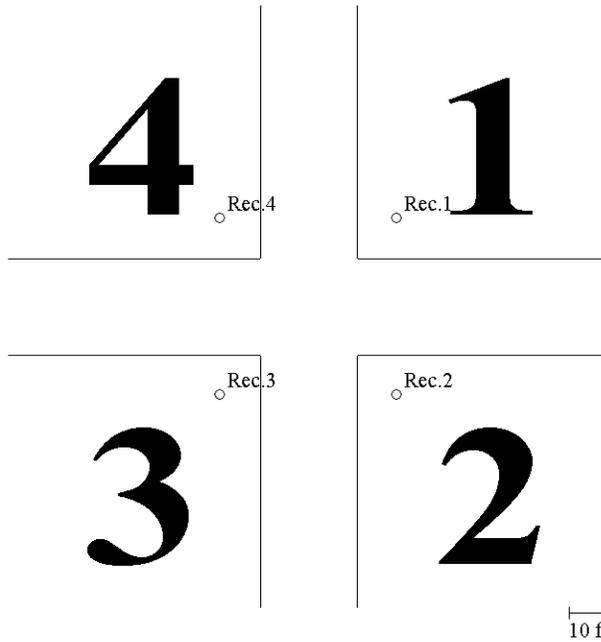
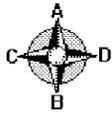
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

11-01-11  
12:49 PM  
mercero west



Description: W Mercer St and Queen Anne Ave 2040 Build  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: Four-Way Intersection, 2 x 2  
 Street Names: A-B: W Mercer St C-D: Queen Anne Ave



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.6	4.1	Pass
2	2	10	10	4.6	4.1	Pass
3	3	10	10	4.8	4.3	Pass
4	4	10	10	4.9	4.3	Pass

\*Project PASSES 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at receptor 4.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

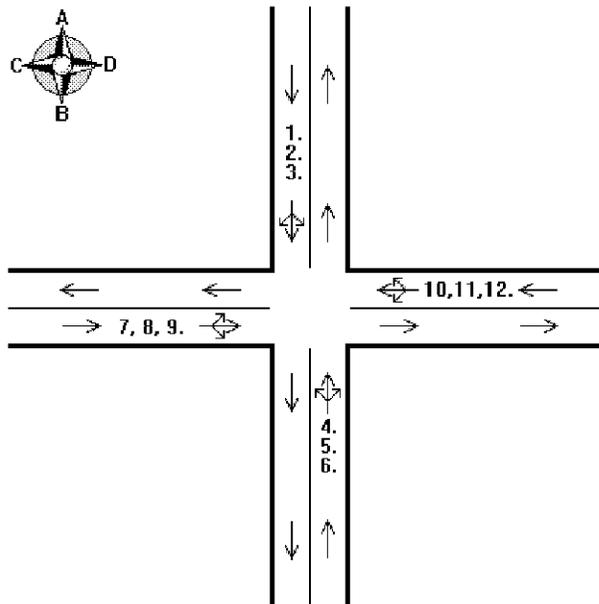
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	908
2	A-D Left Turn	397
3	A-C Right Turn	36
4	B-A Thru	3
5	B-C Left Turn	3
6	B-D Right Turn	3
7	C-D Thru	691
8	C-A Left Turn	15
9	C-B Right Turn	165
10	D-C Thru	759
11	D-B Left Turn	382
12	D-A Right Turn	155



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2040  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 65.73

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.72
Leg B	15	7.72
Leg C	15	7.72
Leg D	15	7.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0



## USER COMMENTS

mercier west

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User Comments:

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1. < blank >

# Washington State Intersection Screening Tool 2.0

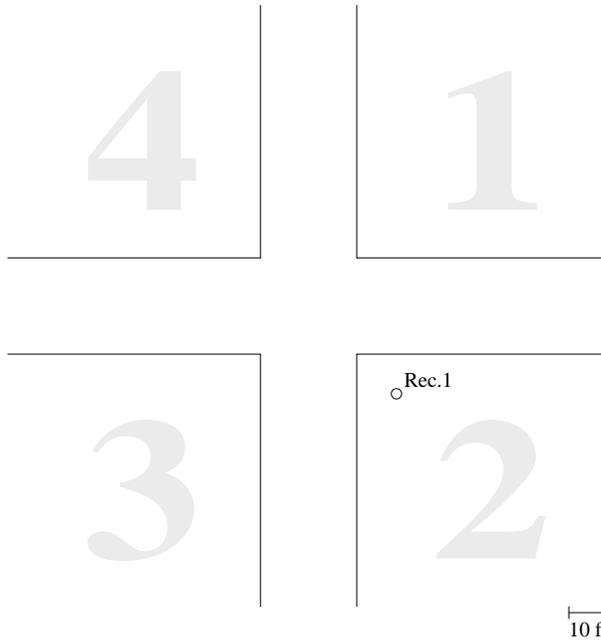
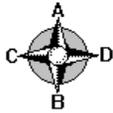
07-26-11

11:10 AM

mercero west



Description: **mercero st and 1st ave n existing PM**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: 1st Ave N C-D: Mercero St**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>2</u>	<u>10</u>	<u>10</u>	<u>4.8</u>	<u>4.3</u>	<u>Pass</u>

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

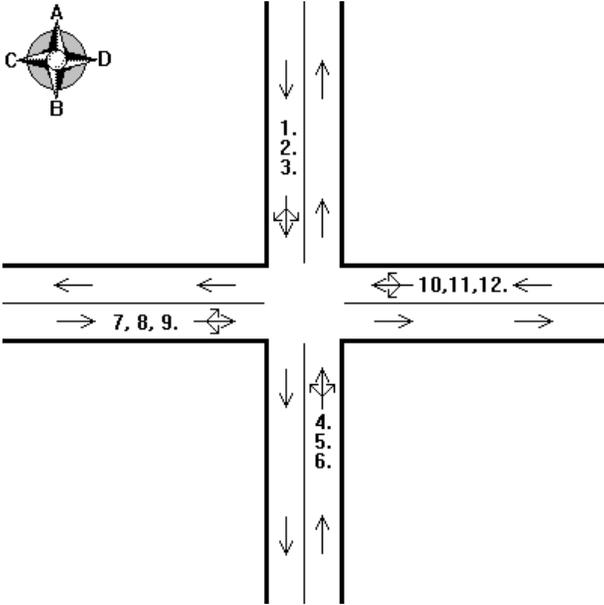
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	3
2	A-D Left Turn	3
3	A-C Right Turn	3
4	B-A Thru	142
5	B-C Left Turn	56
6	B-D Right Turn	113
7	C-D Thru	983
8	C-A Left Turn	26
9	C-B Right Turn	3
10	D-C Thru	3
11	D-B Left Turn	3
12	D-A Right Turn	3



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2011**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **102.70**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	11.88
Leg B	15	11.88
Leg C	15	11.88
Leg D	15	11.88

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

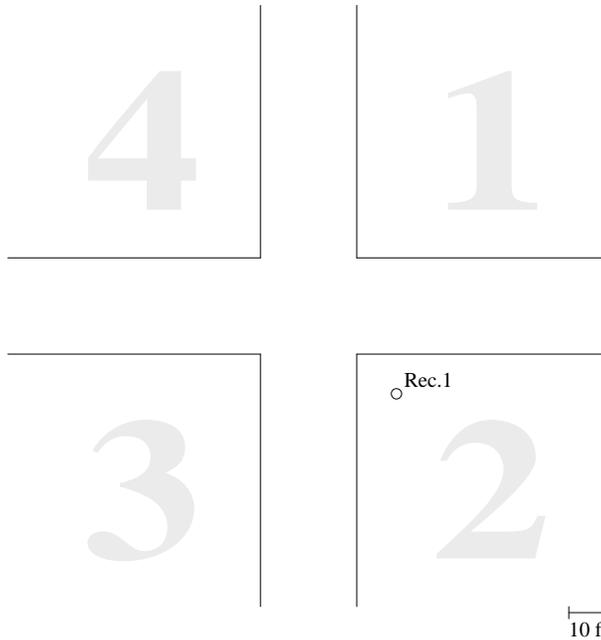
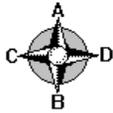
07-26-11

01:02 PM

mercero west



Description: **mercero st and 1st ave n 2015 no build PM**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: 1st Ave N C-D: Mercero St**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>2</u>	<u>10</u>	<u>10</u>	<u>4.9</u>	<u>4.3</u>	<u>Pass</u>

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

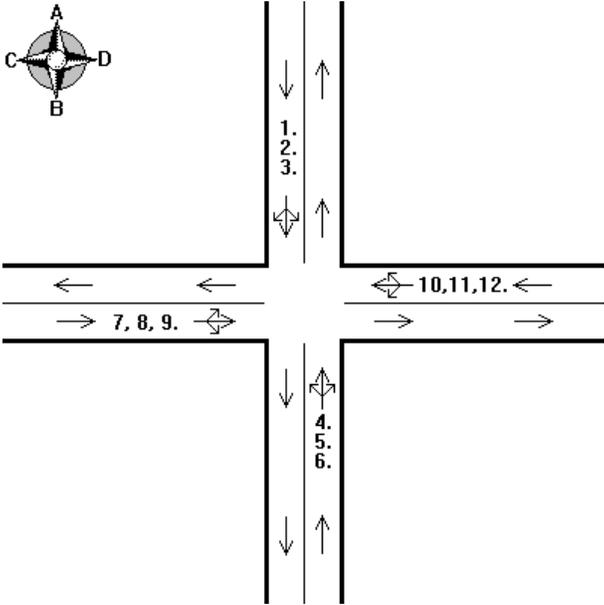
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	3
2	A-D Left Turn	3
3	A-C Right Turn	3
4	B-A Thru	300
5	B-C Left Turn	300
6	B-D Right Turn	335
7	C-D Thru	1050
8	C-A Left Turn	45
9	C-B Right Turn	3
10	D-C Thru	3
11	D-B Left Turn	3
12	D-A Right Turn	3



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2015**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **84.02**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	9.86
Leg B	15	9.86
Leg C	15	9.86
Leg D	15	9.86

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

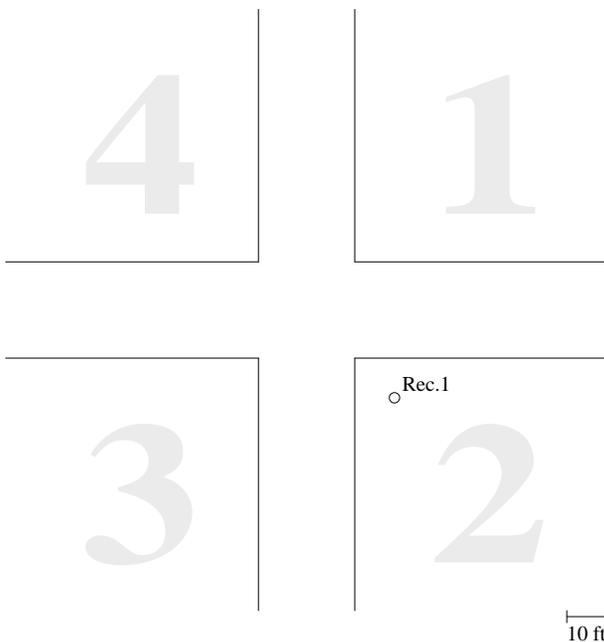
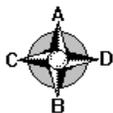
07-26-11

01:02 PM

mercero west



Description: **mercero st and 1st ave n 2015 build PM**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: 1st Ave N C-D: Mercero St**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>2</u>	<u>10</u>	<u>10</u>	<u>5.1</u>	<u>4.5</u>	<u>Pass</u>

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

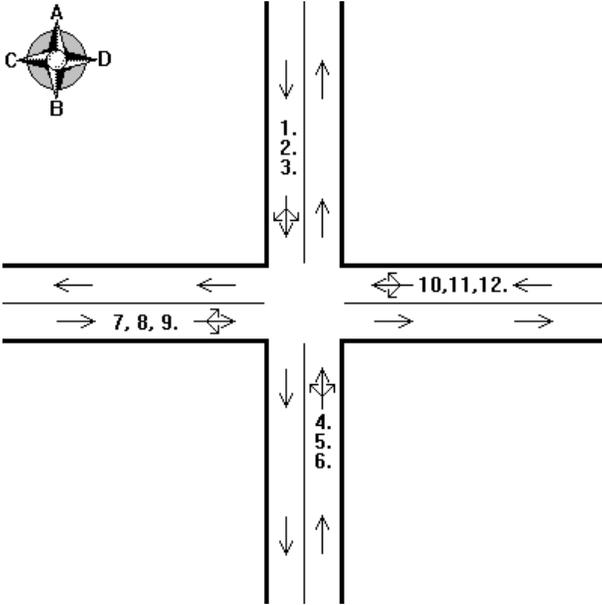
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	3
2	A-D Left Turn	10
3	A-C Right Turn	5
4	B-A Thru	340
5	B-C Left Turn	300
6	B-D Right Turn	330
7	C-D Thru	960
8	C-A Left Turn	15
9	C-B Right Turn	3
10	D-C Thru	785
11	D-B Left Turn	3
12	D-A Right Turn	230



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2015**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **84.02**

Approach	Speed (mph)	EF (g/mile)
<b>Leg A</b>	<b>15</b>	<b>9.86</b>
<b>Leg B</b>	<b>15</b>	<b>9.86</b>
<b>Leg C</b>	<b>15</b>	<b>9.86</b>
<b>Leg D</b>	<b>15</b>	<b>9.86</b>

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
<b>Leg A Thru &amp; Rt</b>	<b>42</b>
<b>Leg A Left Turn</b>	<b>---</b>
<b>Leg B Thru &amp; Rt</b>	<b>42</b>
<b>Leg B Left Turn</b>	<b>---</b>
<b>Leg C Thru &amp; Rt</b>	<b>42</b>
<b>Leg C Left Turn</b>	<b>---</b>
<b>Leg D Thru &amp; Rt</b>	<b>42</b>
<b>Leg D Left Turn</b>	<b>---</b>

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

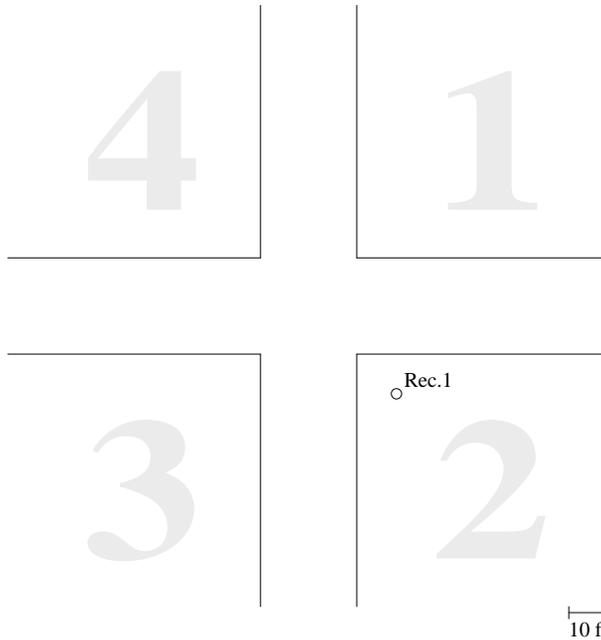
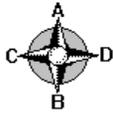
07-26-11

01:03 PM

mercero west



Description: **mercero st and 1st ave n 2030 no build PM**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: 1st Ave N C-D: Mercero St**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>2</u>	<u>10</u>	<u>10</u>	<u>4.7</u>	<u>4.2</u>	<u>Pass</u>

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

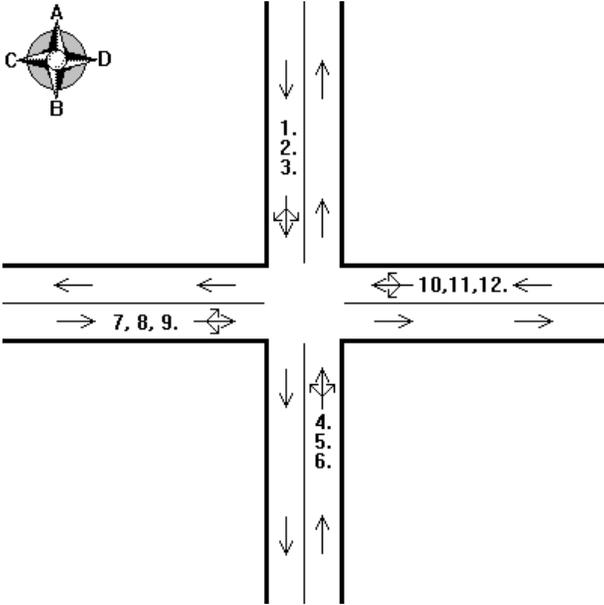
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	3
2	A-D Left Turn	3
3	A-C Right Turn	3
4	B-A Thru	350
5	B-C Left Turn	350
6	B-D Right Turn	350
7	C-D Thru	1050
8	C-A Left Turn	40
9	C-B Right Turn	3
10	D-C Thru	3
11	D-B Left Turn	3
12	D-A Right Turn	3



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2030**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **66.06**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.76
Leg B	15	7.76
Leg C	15	7.76
Leg D	15	7.76

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

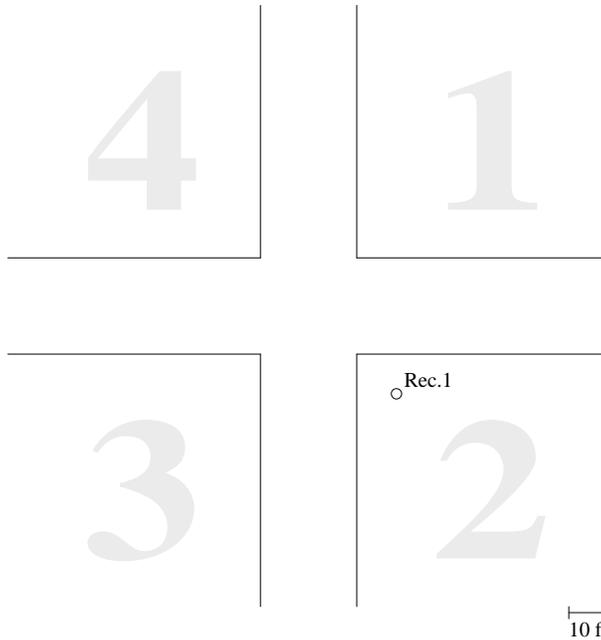
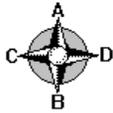
07-26-11

01:03 PM

mercero west



Description: **mercero st and 1st ave n 2030 build PM**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: 1st Ave N C-D: Mercero St**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>2</u>	<u>10</u>	<u>10</u>	<u>4.8</u>	<u>4.3</u>	<u>Pass</u>

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

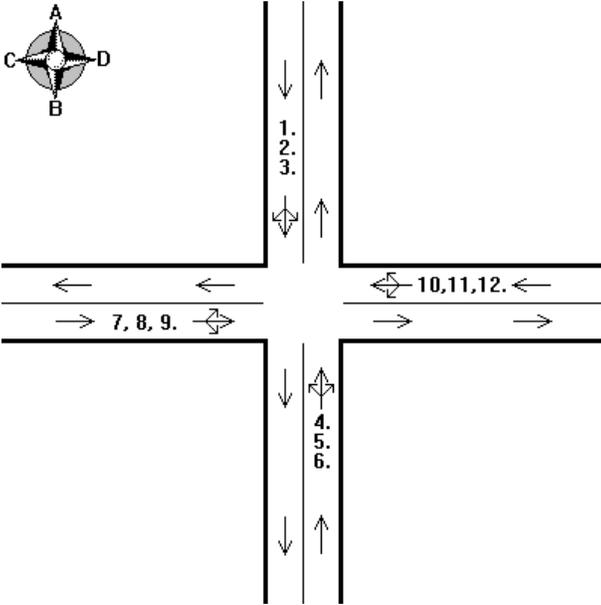
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	3
2	A-D Left Turn	10
3	A-C Right Turn	10
4	B-A Thru	360
5	B-C Left Turn	360
6	B-D Right Turn	315
7	C-D Thru	1025
8	C-A Left Turn	5
9	C-B Right Turn	3
10	D-C Thru	785
11	D-B Left Turn	3
12	D-A Right Turn	305



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2030**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **66.06**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.76
Leg B	15	7.76
Leg C	15	7.76
Leg D	15	7.76

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

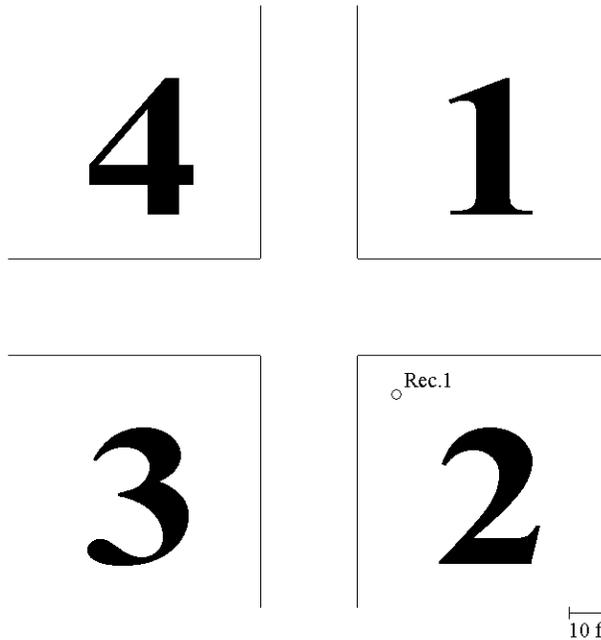
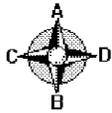
**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

11-07-11  
09:51 AM  
mercero west



Description: mercer st and 1st ave n 2040 no build PM  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: Four-Way Intersection, 2 x 2  
 Street Names: A-B: 1st Ave N C-D: Mercer St



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>2</u>	<u>10</u>	<u>10</u>	<u>4.7</u>	<u>4.2</u>	<u>Pass</u>

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

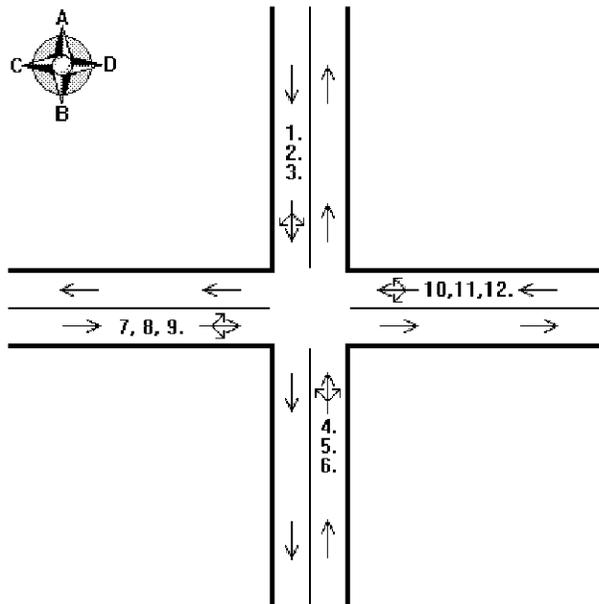
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	3
2	A-D Left Turn	3
3	A-C Right Turn	3
4	B-A Thru	361
5	B-C Left Turn	361
6	B-D Right Turn	361
7	C-D Thru	1084
8	C-A Left Turn	41
9	C-B Right Turn	3
10	D-C Thru	3
11	D-B Left Turn	3
12	D-A Right Turn	3



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: No  
Model Year: 2040  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 65.73

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.72
Leg B	15	7.72
Leg C	15	7.72
Leg D	15	7.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

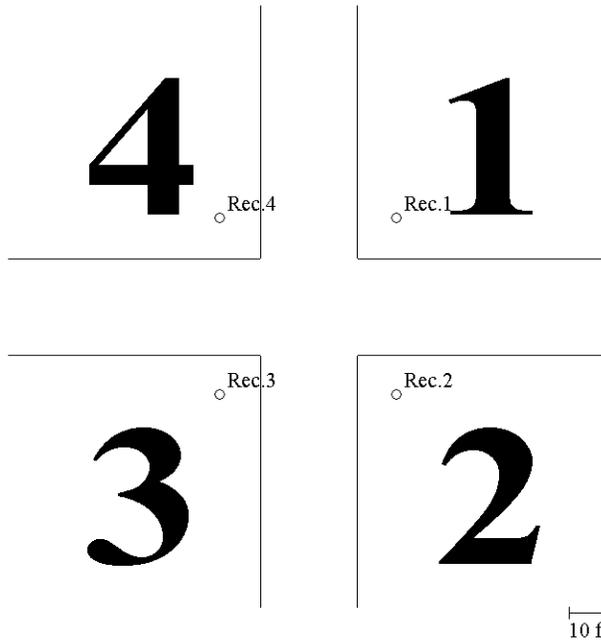
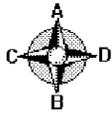
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

11-07-11  
09:54 AM  
mercero west



Description: **mercero st and 5th ave n 2040 build PM**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: 5th Ave N C-D: Mercero St**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	5.3	4.6	Pass
2	2	10	10	5.3	4.6	Pass
3	3	10	10	5.4	4.7	Pass
4	4	10	10	5.4	4.7	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 3**.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

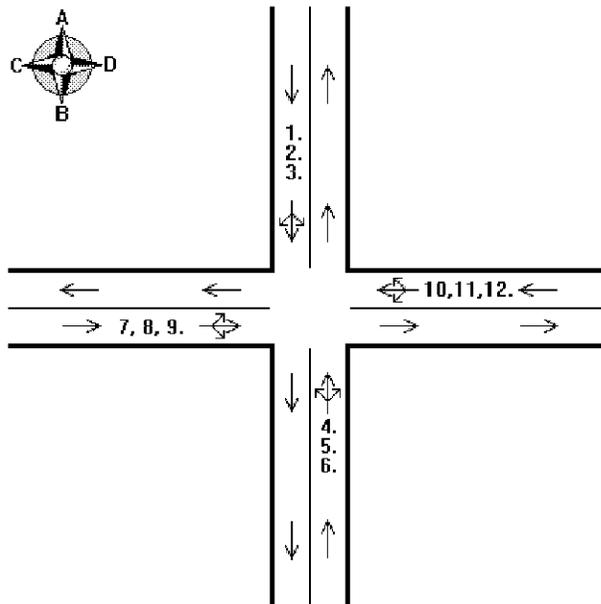
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	330
2	A-D Left Turn	284
3	A-C Right Turn	57
4	B-A Thru	206
5	B-C Left Turn	253
6	B-D Right Turn	552
7	C-D Thru	1176
8	C-A Left Turn	150
9	C-B Right Turn	294
10	D-C Thru	877
11	D-B Left Turn	449
12	D-A Right Turn	480



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: No  
Model Year: 2040  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 65.73

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.72
Leg B	15	7.72
Leg C	15	7.72
Leg D	15	7.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

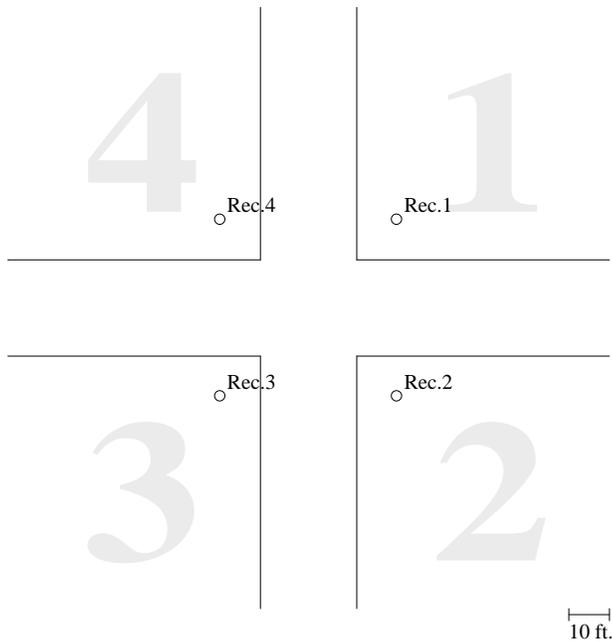
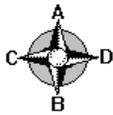
05-10-11

10:30 AM

mercer west



Description: **W Mercer St and 5th Ave Existing**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: W Mercer St C-D: 5th ave**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.2	3.8	Pass
2	2	10	10	4.6	4.1	Pass
3	3	10	10	4.2	3.8	Pass
4	4	10	10	4.1	3.8	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 2**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

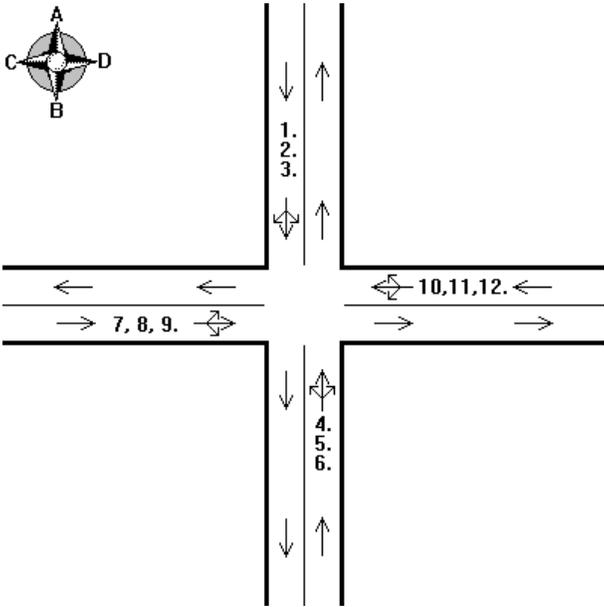
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	203
2	A-D Left Turn	122
3	A-C Right Turn	3
4	B-A Thru	491
5	B-C Left Turn	3
6	B-D Right Turn	119
7	C-D Thru	1105
8	C-A Left Turn	10
9	C-B Right Turn	3
10	D-C Thru	3
11	D-B Left Turn	3
12	D-A Right Turn	3



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **Yes**  
Model Year: **2011**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **74.97**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	8.72
Leg B	15	8.72
Leg C	15	8.72
Leg D	15	8.72

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

07-26-11

12:45 PM

mercer west



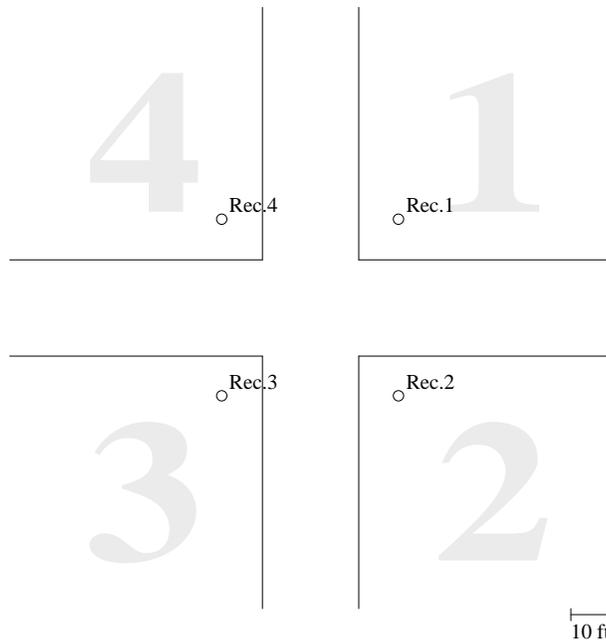
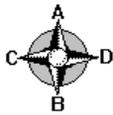
Description: **W Mercer St and 5th Ave N AM 2015 no build**

Performed by: **dsa - esa**

**User's Phone Number - User's Email Address**

Intersection Type: **Four-Way Intersection, 2 x 2**

Street Names: **A-B: 5th ave n C-D: mercer st**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.8	4.3	Pass
2	2	10	10	4.5	4.0	Pass
<u>3</u>	<u>3</u>	<u>10</u>	<u>10</u>	<u>4.9</u>	<u>4.3</u>	<u>Pass</u>
4	4	10	10	4.9	4.3	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 3**.

- All CO concentrations include a background concentration of **3.0 ppm**.

- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

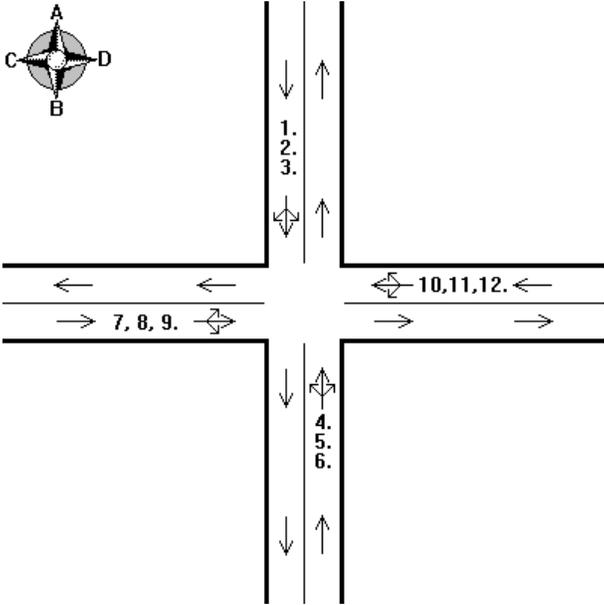
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	225
2	A-D Left Turn	120
3	A-C Right Turn	3
4	B-A Thru	220
5	B-C Left Turn	3
6	B-D Right Turn	290
7	C-D Thru	980
8	C-A Left Turn	20
9	C-B Right Turn	80
10	D-C Thru	3
11	D-B Left Turn	1130
12	D-A Right Turn	800



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **Yes**  
Model Year: **2015**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **58.91**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	6.95
Leg B	15	6.95
Leg C	15	6.95
Leg D	15	6.95

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

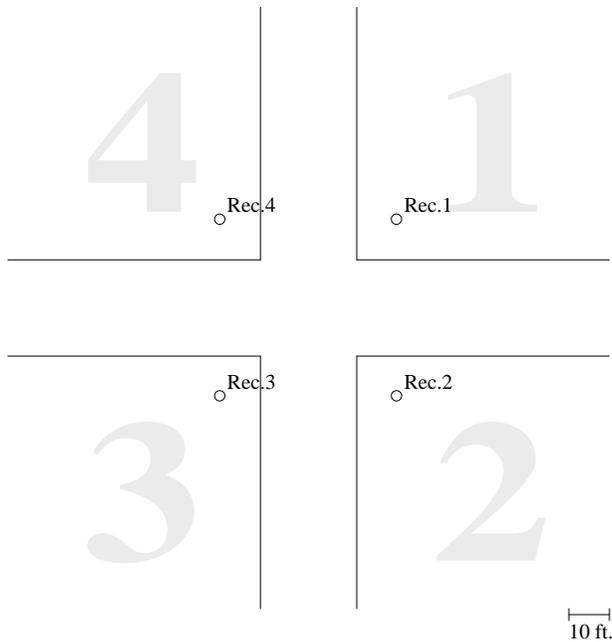
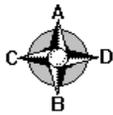
07-26-11

12:47 PM

mercer west



Description: **W Mercer St and 5th Ave N 2015 Build**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: W Mercer St C-D: 5th ave N**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.8	4.3	Pass
2	2	10	10	4.8	4.3	Pass
3	3	10	10	4.8	4.3	Pass
4	4	10	10	4.9	4.3	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 4**.

- All CO concentrations include a background concentration of **3.0 ppm**.

- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

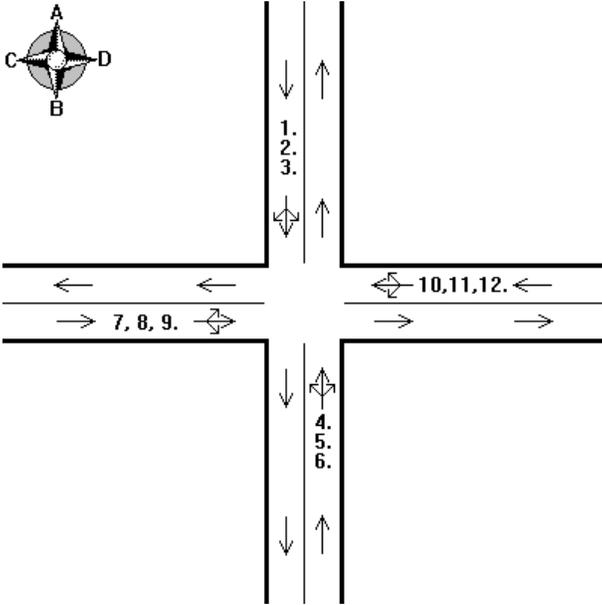
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	275
2	A-D Left Turn	190
3	A-C Right Turn	35
4	B-A Thru	225
5	B-C Left Turn	85
6	B-D Right Turn	275
7	C-D Thru	910
8	C-A Left Turn	15
9	C-B Right Turn	190
10	D-C Thru	1155
11	D-B Left Turn	570
12	D-A Right Turn	270



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **Yes**  
Model Year: **2015**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **58.91**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	6.95
Leg B	15	6.95
Leg C	15	6.95
Leg D	15	6.95

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

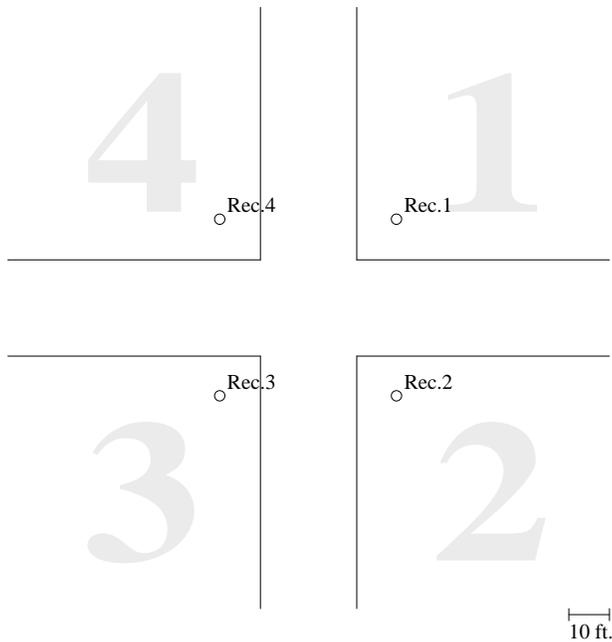
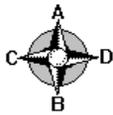
07-26-11

12:48 PM

mercer west



Description: **W Mercer St and 5th ave N 2030 No Build**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: W Mercer St C-D: 5th Ave N**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	5.0	4.4	Pass
2	2	10	10	4.9	4.3	Pass
3	3	10	10	5.0	4.4	Pass
4	4	10	10	5.3	4.6	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 4**.

- All CO concentrations include a background concentration of **3.0 ppm**.

- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

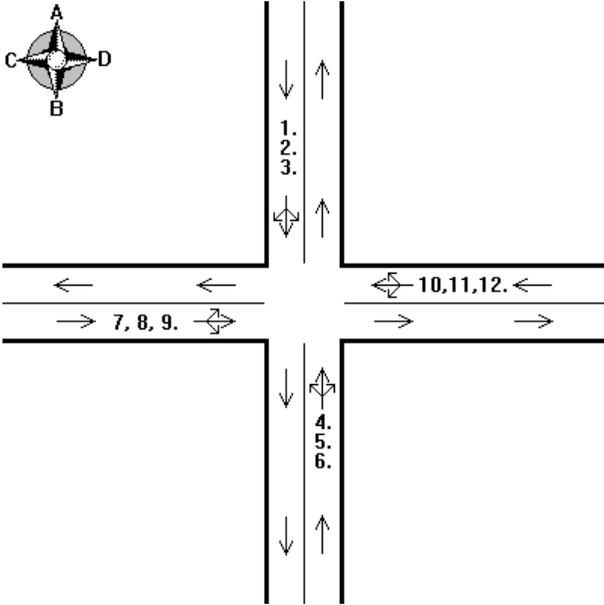
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	250
2	A-D Left Turn	195
3	A-C Right Turn	3
4	B-A Thru	240
5	B-C Left Turn	3
6	B-D Right Turn	280
7	C-D Thru	1030
8	C-A Left Turn	45
9	C-B Right Turn	90
10	D-C Thru	1275
11	D-B Left Turn	3
12	D-A Right Turn	855



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **Yes**  
Model Year: **2030**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **66.06**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.76
Leg B	15	7.76
Leg C	15	7.76
Leg D	15	7.76

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

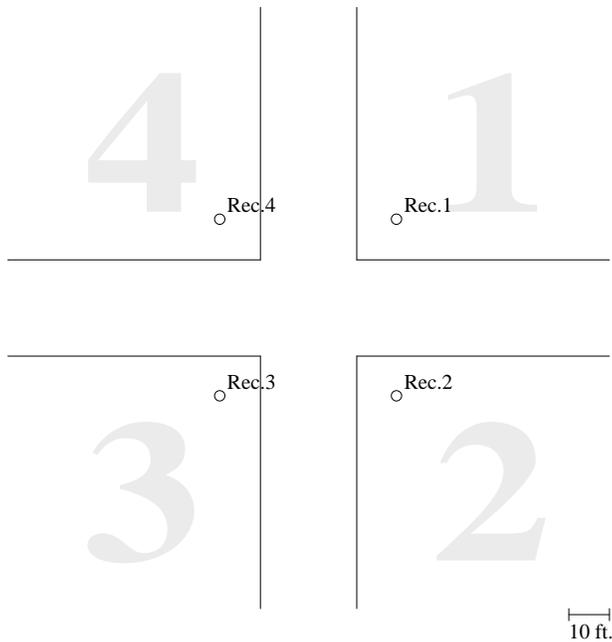
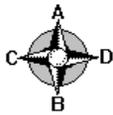
07-26-11

12:47 PM

mercer west



Description: **W Mercer St and 5th Ave N 2030 Build**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: W Mercer St C-D: 5th ave N**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	5.1	4.5	Pass
2	2	10	10	5.0	4.4	Pass
<u>3</u>	<u>3</u>	<u>10</u>	<u>10</u>	<u>5.3</u>	<u>4.6</u>	<u>Pass</u>
4	4	10	10	5.2	4.5	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 3**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

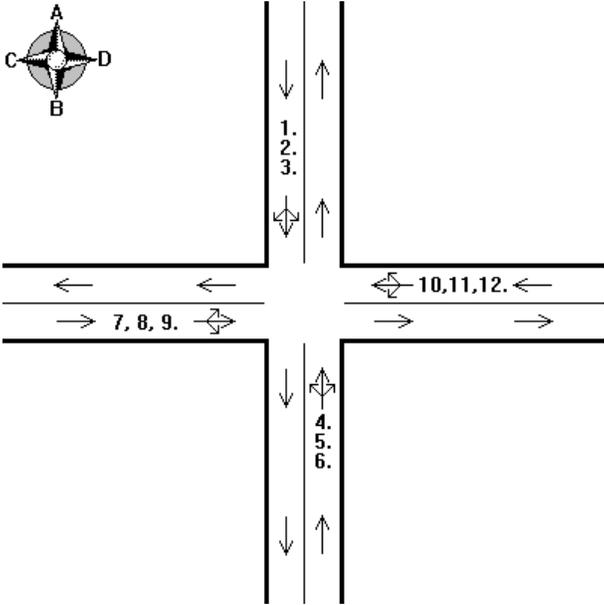
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	280
2	A-D Left Turn	220
3	A-C Right Turn	35
4	B-A Thru	240
5	B-C Left Turn	85
6	B-D Right Turn	275
7	C-D Thru	1130
8	C-A Left Turn	20
9	C-B Right Turn	75
10	D-C Thru	1190
11	D-B Left Turn	600
12	D-A Right Turn	270



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **Yes**  
Model Year: **2030**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **66.06**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.76
Leg B	15	7.76
Leg C	15	7.76
Leg D	15	7.76

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

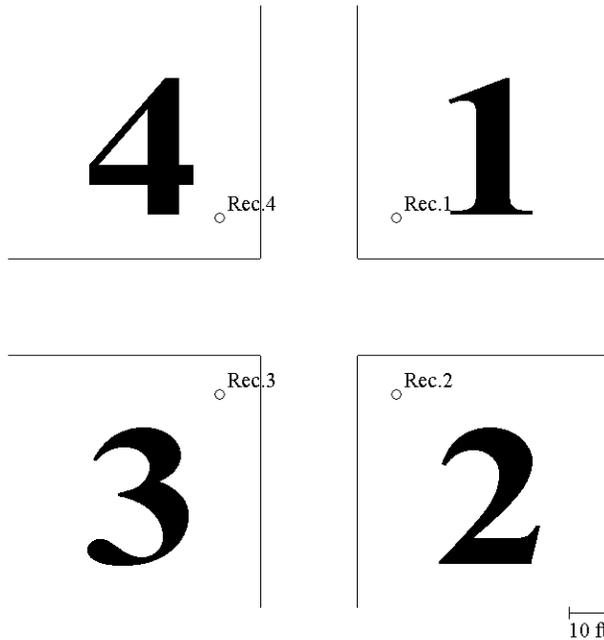
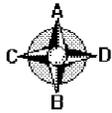
**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

11-01-11  
12:47 PM  
mercero west



Description: **W Mercer St and 5th ave N 2040 No Build**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: W Mercer St C-D: 5th Ave N**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	5.1	4.5	Pass
2	2	10	10	5.0	4.4	Pass
3	3	10	10	5.1	4.5	Pass
4	4	10	10	5.3	4.6	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 4**.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

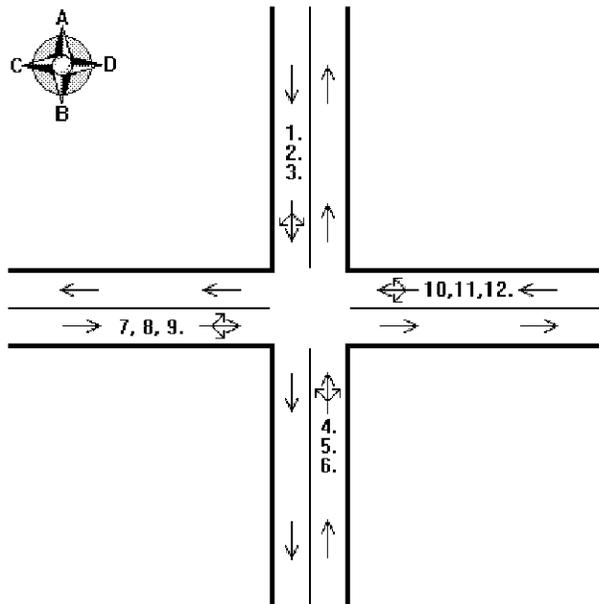
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	258
2	A-D Left Turn	201
3	A-C Right Turn	3
4	B-A Thru	248
5	B-C Left Turn	3
6	B-D Right Turn	289
7	C-D Thru	1063
8	C-A Left Turn	46
9	C-B Right Turn	93
10	D-C Thru	1316
11	D-B Left Turn	3
12	D-A Right Turn	882



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2040  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 65.73

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.72
Leg B	15	7.72
Leg C	15	7.72
Leg D	15	7.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

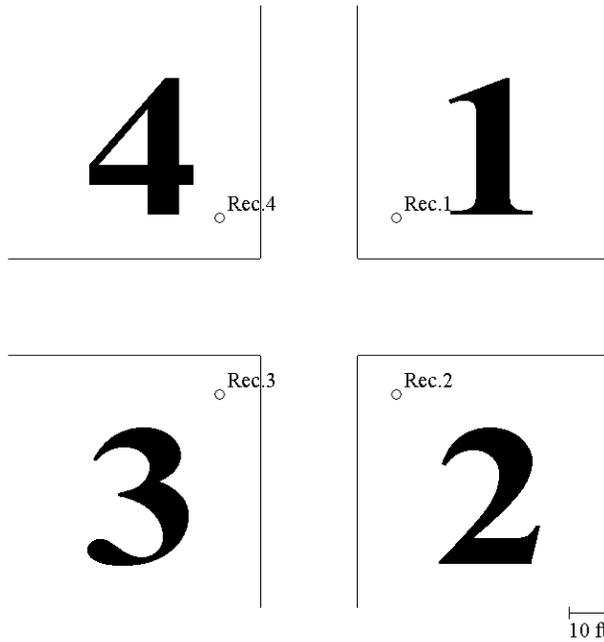
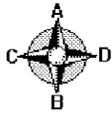
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

11-01-11  
12:45 PM  
mercero west



Description: **W Mercer St and 5th Ave N 2040 Build**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: W Mercer St C-D: 5th ave N**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	5.2	4.5	Pass
2	2	10	10	5.1	4.5	Pass
3	3	10	10	5.3	4.6	Pass
4	4	10	10	5.3	4.6	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 3**.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

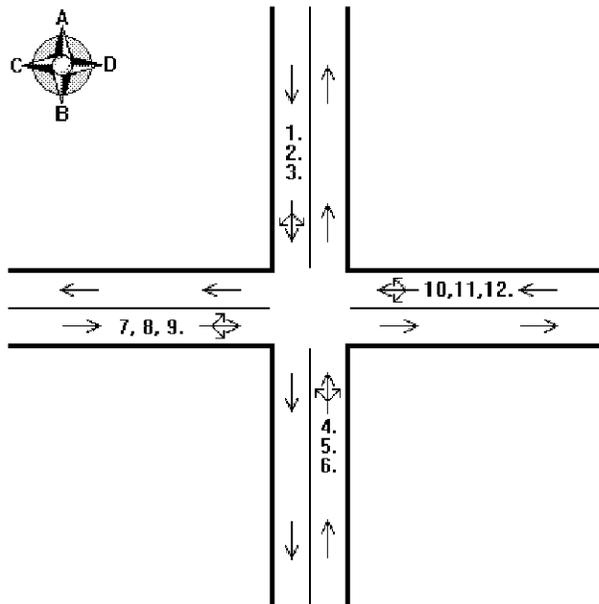
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	289
2	A-D Left Turn	227
3	A-C Right Turn	36
4	B-A Thru	248
5	B-C Left Turn	88
6	B-D Right Turn	284
7	C-D Thru	1166
8	C-A Left Turn	21
9	C-B Right Turn	77
10	D-C Thru	1228
11	D-B Left Turn	619
12	D-A Right Turn	279



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2040  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 65.73

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.72
Leg B	15	7.72
Leg C	15	7.72
Leg D	15	7.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

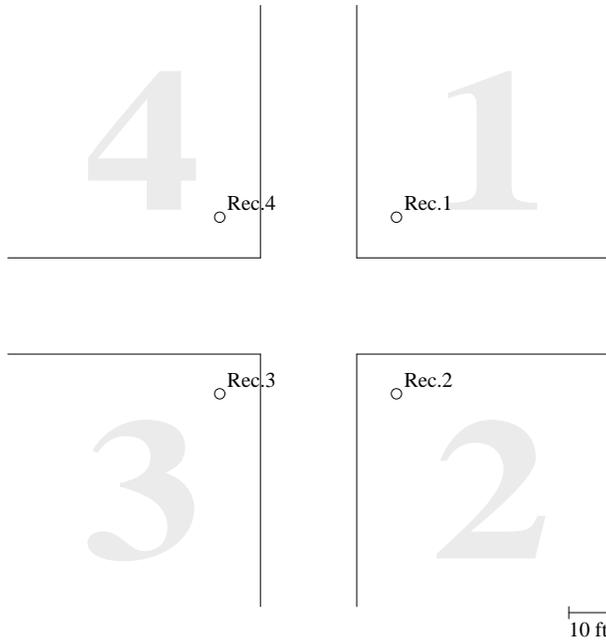
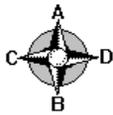
07-26-11

11:34 AM

mercero west



Description: **mercero st and 5th ave n existing PM**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: 5th Ave N C-D: Mercero St**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	5.1	4.5	Pass
2	2	10	10	5.4	4.7	Pass
3	3	10	10	4.6	4.1	Pass
4	4	10	10	4.8	4.3	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 2**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

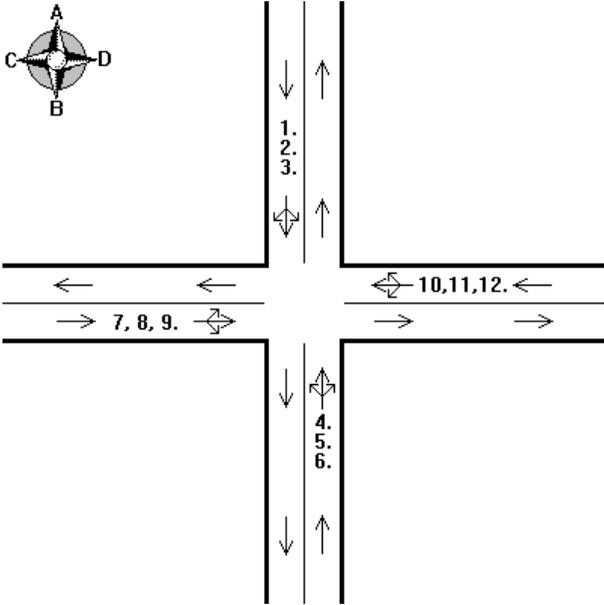
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	148
2	A-D Left Turn	63
3	A-C Right Turn	3
4	B-A Thru	811
5	B-C Left Turn	3
6	B-D Right Turn	248
7	C-D Thru	856
8	C-A Left Turn	87
9	C-B Right Turn	195
10	D-C Thru	3
11	D-B Left Turn	3
12	D-A Right Turn	3



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2011**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **102.70**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	11.88
Leg B	15	11.88
Leg C	15	11.88
Leg D	15	11.88

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

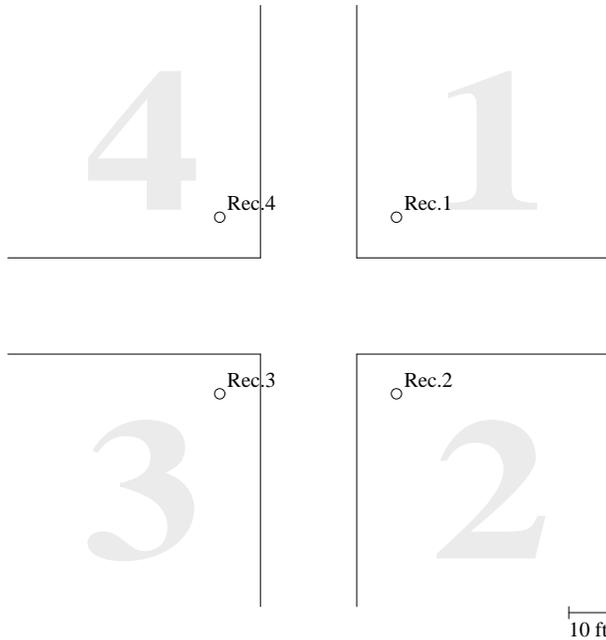
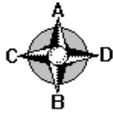
07-26-11

01:04 PM

mercero west



Description: **mercero st and 5th ave n 2015 no build PM**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: 5th Ave N C-D: Mercero St**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	5.8	5.0	Pass
2	2	10	10	5.4	4.7	Pass
3	3	10	10	6.0	5.1	Pass
4	4	10	10	5.7	4.9	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 3**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

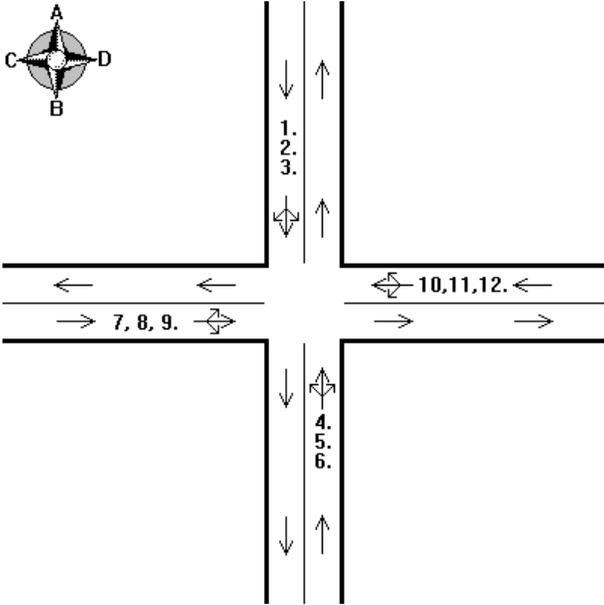
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	150
2	A-D Left Turn	125
3	A-C Right Turn	3
4	B-A Thru	110
5	B-C Left Turn	3
6	B-D Right Turn	495
7	C-D Thru	1300
8	C-A Left Turn	75
9	C-B Right Turn	200
10	D-C Thru	3
11	D-B Left Turn	690
12	D-A Right Turn	990



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2015**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **84.02**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	9.86
Leg B	15	9.86
Leg C	15	9.86
Leg D	15	9.86

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

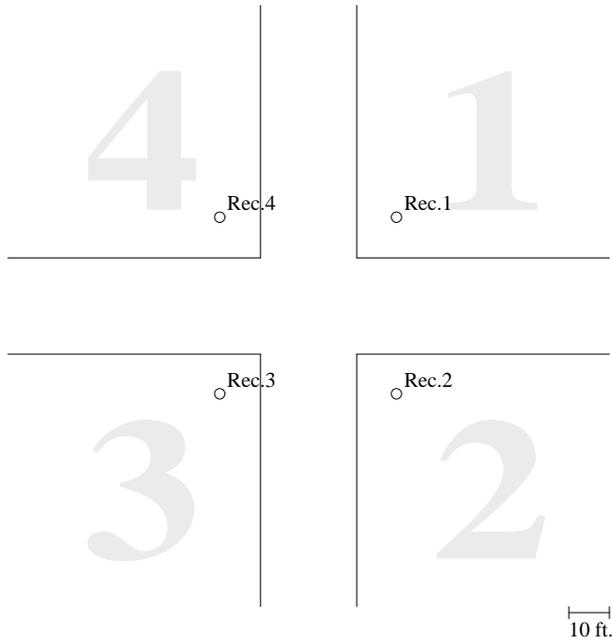
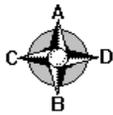
07-26-11

01:04 PM

mercero west



Description: **mercero st and 5th ave n 2015 build PM**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: 5th Ave N C-D: Mercero St**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	5.7	4.9	Pass
2	2	10	10	5.7	4.9	Pass
3	3	10	10	5.9	5.0	Pass
4	4	10	10	5.8	5.0	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 3**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

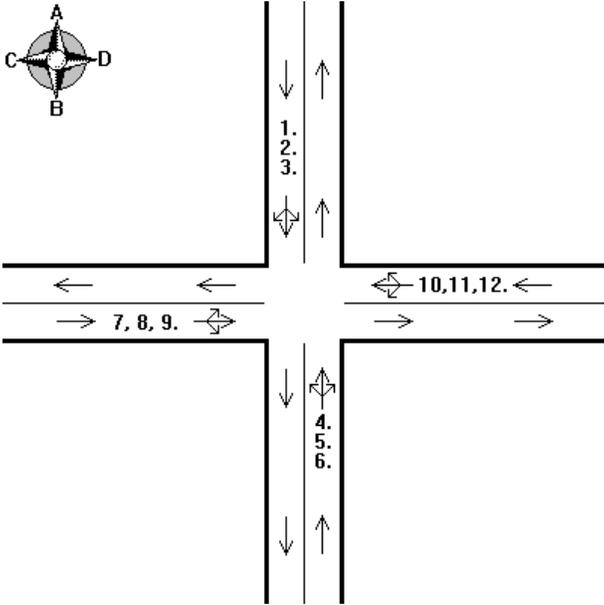
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	195
2	A-D Left Turn	150
3	A-C Right Turn	100
4	B-A Thru	130
5	B-C Left Turn	135
6	B-D Right Turn	510
7	C-D Thru	1140
8	C-A Left Turn	145
9	C-B Right Turn	255
10	D-C Thru	850
11	D-B Left Turn	410
12	D-A Right Turn	440



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2015**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **84.02**

Approach	Speed (mph)	EF (g/mile)
<b>Leg A</b>	<b>15</b>	<b>9.86</b>
<b>Leg B</b>	<b>15</b>	<b>9.86</b>
<b>Leg C</b>	<b>15</b>	<b>9.86</b>
<b>Leg D</b>	<b>15</b>	<b>9.86</b>

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
<b>Leg A Thru &amp; Rt</b>	<b>42</b>
<b>Leg A Left Turn</b>	<b>---</b>
<b>Leg B Thru &amp; Rt</b>	<b>42</b>
<b>Leg B Left Turn</b>	<b>---</b>
<b>Leg C Thru &amp; Rt</b>	<b>42</b>
<b>Leg C Left Turn</b>	<b>---</b>
<b>Leg D Thru &amp; Rt</b>	<b>42</b>
<b>Leg D Left Turn</b>	<b>---</b>

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

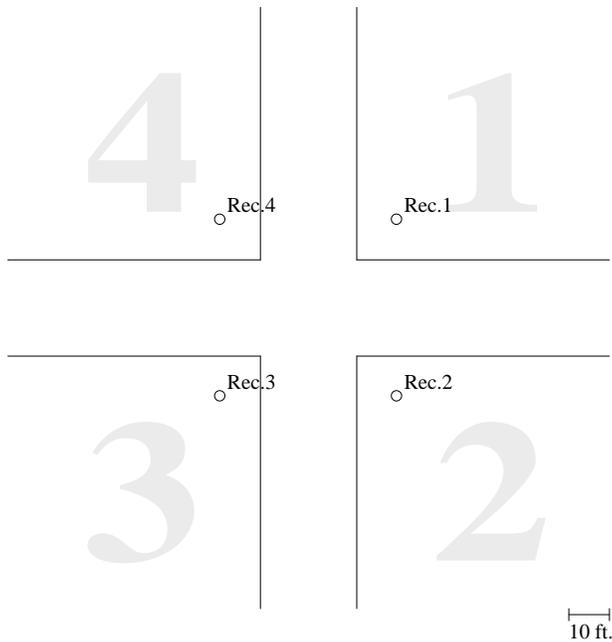
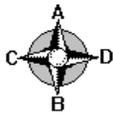
07-26-11

01:05 PM

mercero west



Description: **mercero st and 5th ave n 2030 no build PM**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: 5th Ave N C-D: Mercero St**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	5.2	4.5	Pass
2	2	10	10	4.9	4.3	Pass
3	3	10	10	5.4	4.7	Pass
4	4	10	10	5.1	4.5	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 3**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

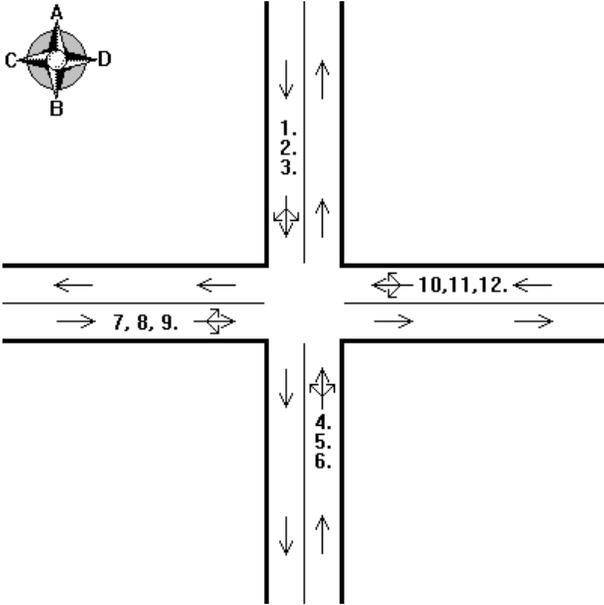
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	150
2	A-D Left Turn	155
3	A-C Right Turn	3
4	B-A Thru	220
5	B-C Left Turn	3
6	B-D Right Turn	525
7	C-D Thru	1310
8	C-A Left Turn	50
9	C-B Right Turn	210
10	D-C Thru	3
11	D-B Left Turn	715
12	D-A Right Turn	890



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2030**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **66.06**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.76
Leg B	15	7.76
Leg C	15	7.76
Leg D	15	7.76

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

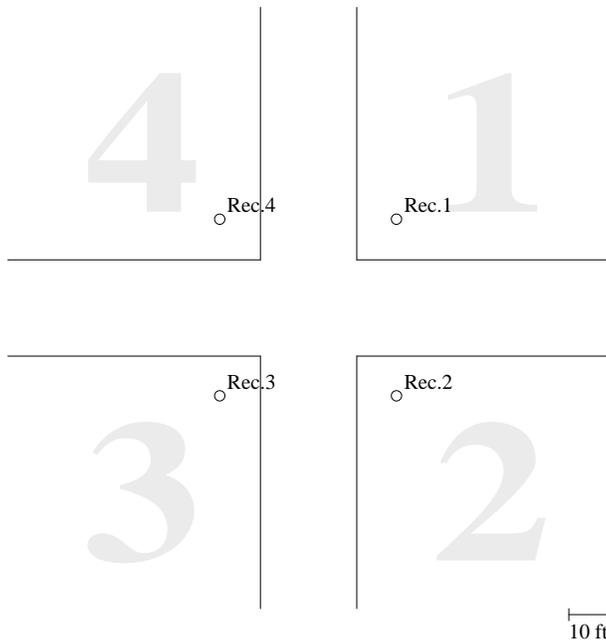
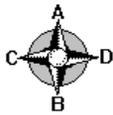
07-26-11

01:05 PM

mercero west



Description: **mercero st and 5th ave n 2030 build PM**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: 5th Ave N C-D: Mercero St**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	5.3	4.6	Pass
2	2	10	10	5.3	4.6	Pass
3	3	10	10	5.4	4.7	Pass
4	4	10	10	5.4	4.7	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 3**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

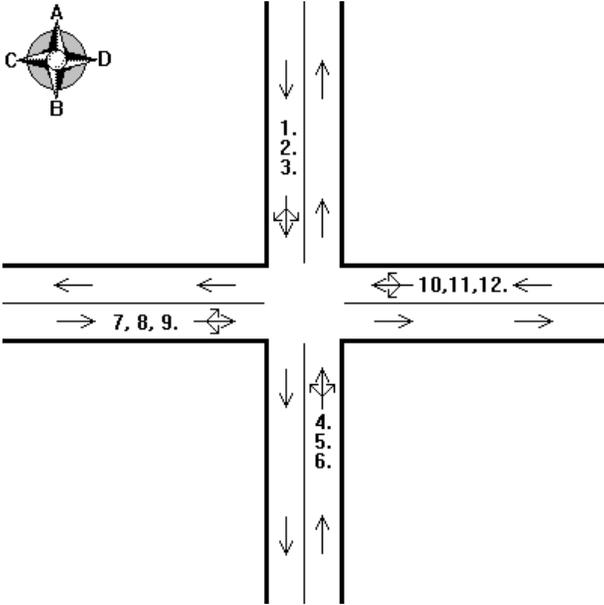
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	320
2	A-D Left Turn	275
3	A-C Right Turn	55
4	B-A Thru	200
5	B-C Left Turn	245
6	B-D Right Turn	535
7	C-D Thru	1140
8	C-A Left Turn	145
9	C-B Right Turn	285
10	D-C Thru	850
11	D-B Left Turn	435
12	D-A Right Turn	465



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2030**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **66.06**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.76
Leg B	15	7.76
Leg C	15	7.76
Leg D	15	7.76

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

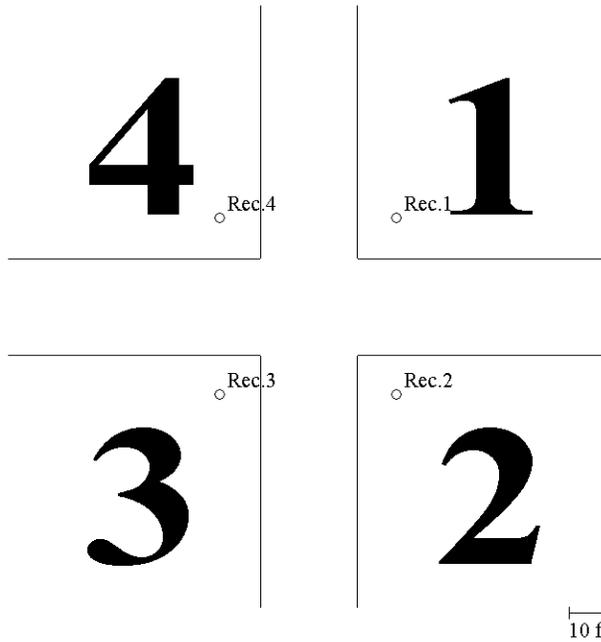
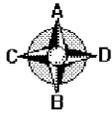
**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

11-07-11  
09:56 AM  
mercero west



Description: **mercero st and 5th ave n 2040 no build PM**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: 5th Ave N C-D: Mercero St**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	5.3	4.6	Pass
2	2	10	10	4.9	4.3	Pass
3	3	10	10	5.4	4.7	Pass
4	4	10	10	5.1	4.5	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 3**.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

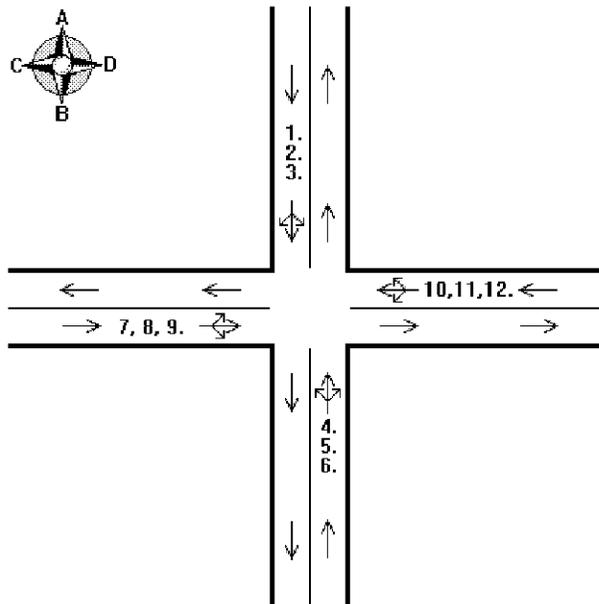
mercier west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	155
2	A-D Left Turn	160
3	A-C Right Turn	3
4	B-A Thru	227
5	B-C Left Turn	3
6	B-D Right Turn	542
7	C-D Thru	1352
8	C-A Left Turn	52
9	C-B Right Turn	217
10	D-C Thru	3
11	D-B Left Turn	738
12	D-A Right Turn	918



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: No  
Model Year: 2040  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 65.73

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.72
Leg B	15	7.72
Leg C	15	7.72
Leg D	15	7.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

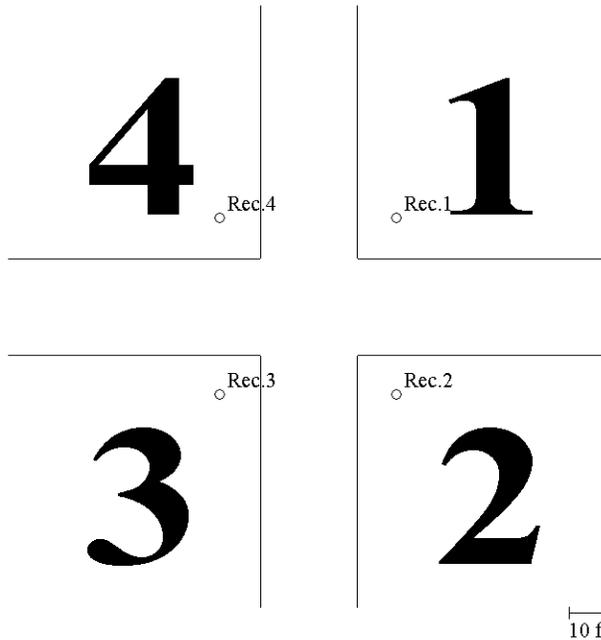
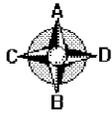
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

11-07-11  
09:54 AM  
mercero west



Description: mercer st and 5th ave n 2040 build PM  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: Four-Way Intersection, 2 x 2  
 Street Names: A-B: 5th Ave N C-D: Mercer St



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	5.3	4.6	Pass
2	2	10	10	5.3	4.6	Pass
3	3	10	10	5.4	4.7	Pass
4	4	10	10	5.4	4.7	Pass

\*Project PASSES 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at receptor 3.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

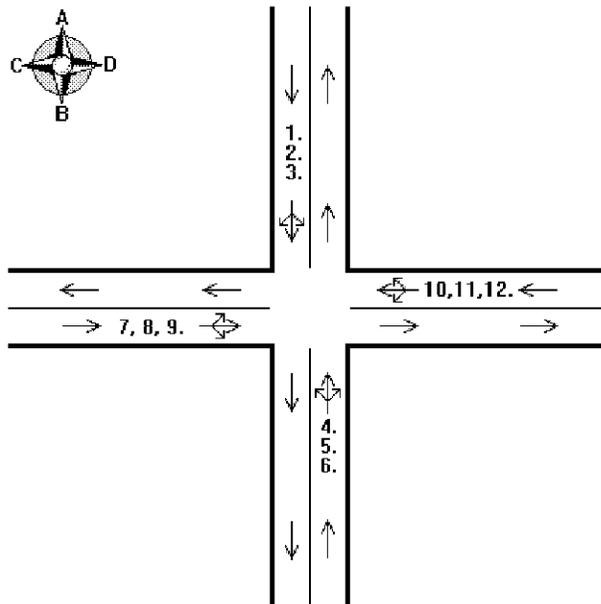
mercier west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	330
2	A-D Left Turn	284
3	A-C Right Turn	57
4	B-A Thru	206
5	B-C Left Turn	253
6	B-D Right Turn	552
7	C-D Thru	1176
8	C-A Left Turn	150
9	C-B Right Turn	294
10	D-C Thru	877
11	D-B Left Turn	449
12	D-A Right Turn	480



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: No  
Model Year: 2040  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 65.73

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.72
Leg B	15	7.72
Leg C	15	7.72
Leg D	15	7.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

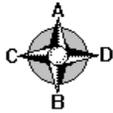
08-03-11

12:34 PM

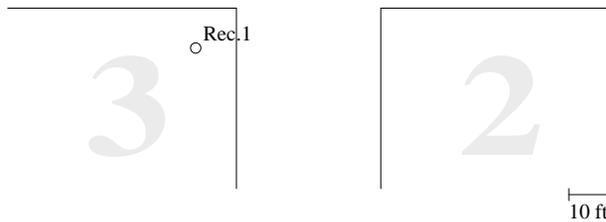
mercer west



Description: **roy st and queen anne ave existing am**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **T-type Intersection, 3 x 4**  
 Street Names: **A-B: roy st C-D: queen anne ave**



4 1



## RESULTS:

Receptor#	Quadrant	Distance from A-B boundary (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>3</u>	<u>10</u>	<u>10</u>	<u>4.5</u>	<u>4.0</u>	<u>Pass</u>

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

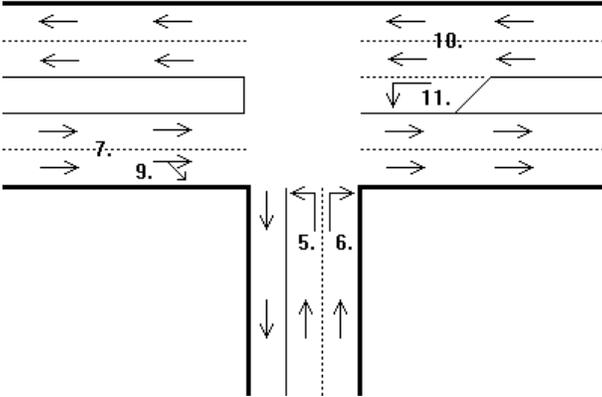
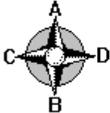
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	----
2	A-D Left Turn	----
3	A-C Right Turn	----
4	B-A Thru	----
5	B-C Left Turn	300
6	B-D Right Turn	322
7	C-D Thru	3
8	C-A Left Turn	----
9	C-B Right Turn	3
10	D-C Thru	826
11	D-B Left Turn	3
12	D-A Right Turn	----



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2011**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **102.70**

Approach	Speed (mph)	EF (g/mile)
Leg A	---	-----
Leg B	15	11.88
Leg C	15	11.88
Leg D	15	11.88

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	---
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	42
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	42

# Washington State Intersection Screening Tool 2.0

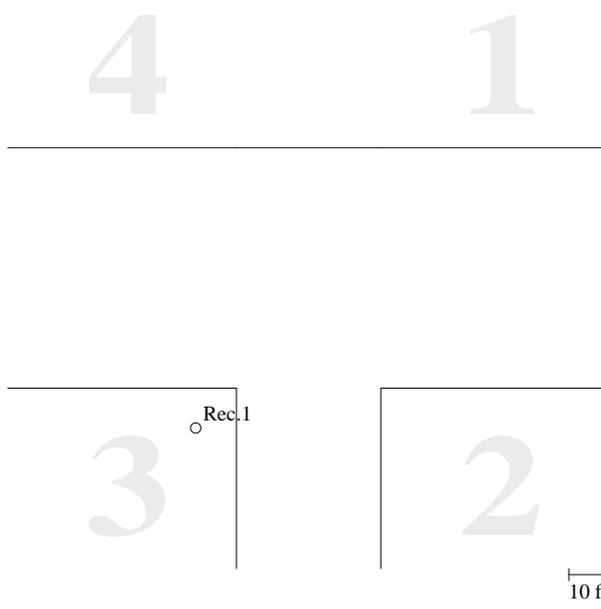
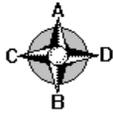
07-26-11

01:50 PM

mercer west



Description: **roy st and queen anne ave 2015 no build am**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **T-type Intersection, 3 x 4**  
 Street Names: **A-B: roy st C-D: queen anne ave**



## RESULTS:

Receptor#	Quadrant	Distance from A-B boundary (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>3</u>	<u>10</u>	<u>10</u>	<u>4.5</u>	<u>4.0</u>	<u>Pass</u>

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

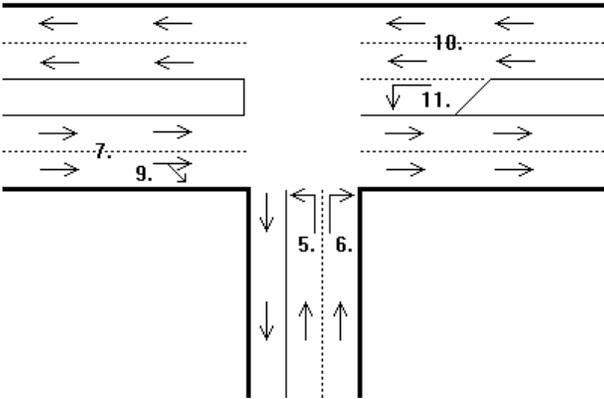
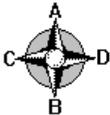
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	----
2	A-D Left Turn	----
3	A-C Right Turn	----
4	B-A Thru	----
5	B-C Left Turn	625
6	B-D Right Turn	225
7	C-D Thru	3
8	C-A Left Turn	----
9	C-B Right Turn	3
10	D-C Thru	1020
11	D-B Left Turn	3
12	D-A Right Turn	----



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2015**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **84.02**

Approach	Speed (mph)	EF (g/mile)
<b>Leg A</b>	<b>---</b>	<b>----</b>
<b>Leg B</b>	<b>15</b>	<b>9.86</b>
<b>Leg C</b>	<b>15</b>	<b>9.86</b>
<b>Leg D</b>	<b>15</b>	<b>9.86</b>

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
<b>Leg A Thru &amp; Rt</b>	<b>---</b>
<b>Leg A Left Turn</b>	<b>---</b>
<b>Leg B Thru &amp; Rt</b>	<b>42</b>
<b>Leg B Left Turn</b>	<b>42</b>
<b>Leg C Thru &amp; Rt</b>	<b>42</b>
<b>Leg C Left Turn</b>	<b>---</b>
<b>Leg D Thru &amp; Rt</b>	<b>42</b>
<b>Leg D Left Turn</b>	<b>42</b>

# Washington State Intersection Screening Tool 2.0

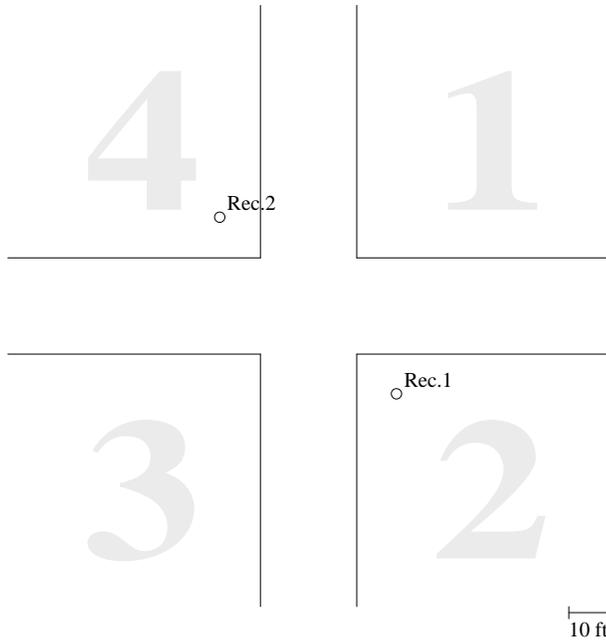
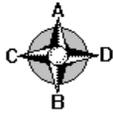
07-26-11

01:55 PM

mercer west



Description: **roy st and queen anne ave 2015 build am**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: queen anne ave C-D: roy st**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>2</u>	<u>10</u>	<u>10</u>	<u>4.6</u>	<u>4.1</u>	<u>Pass</u>
2	4	10	10	4.6	4.1	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

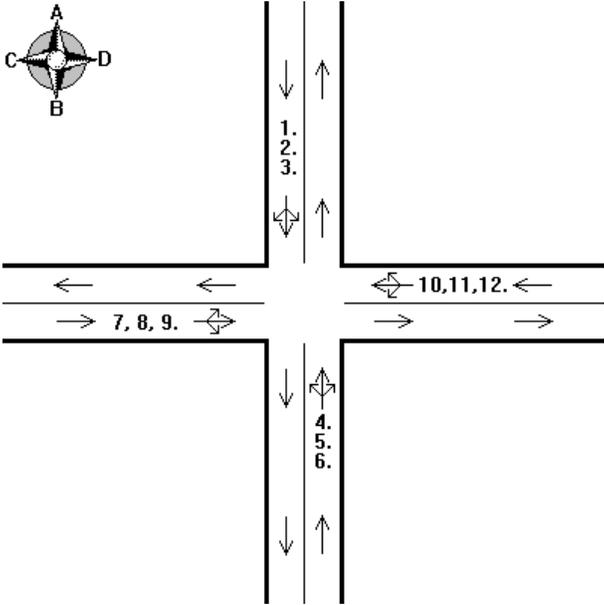
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	835
2	A-D Left Turn	270
3	A-C Right Turn	50
4	B-A Thru	135
5	B-C Left Turn	20
6	B-D Right Turn	135
7	C-D Thru	60
8	C-A Left Turn	50
9	C-B Right Turn	220
10	D-C Thru	85
11	D-B Left Turn	165
12	D-A Right Turn	150



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2015**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **84.02**

Approach	Speed (mph)	EF (g/mile)
<b>Leg A</b>	<b>15</b>	<b>9.86</b>
<b>Leg B</b>	<b>15</b>	<b>9.86</b>
<b>Leg C</b>	<b>15</b>	<b>9.86</b>
<b>Leg D</b>	<b>15</b>	<b>9.86</b>

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
<b>Leg A Thru &amp; Rt</b>	<b>42</b>
<b>Leg A Left Turn</b>	<b>---</b>
<b>Leg B Thru &amp; Rt</b>	<b>42</b>
<b>Leg B Left Turn</b>	<b>---</b>
<b>Leg C Thru &amp; Rt</b>	<b>42</b>
<b>Leg C Left Turn</b>	<b>---</b>
<b>Leg D Thru &amp; Rt</b>	<b>42</b>
<b>Leg D Left Turn</b>	<b>---</b>

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

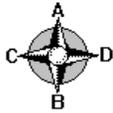
07-26-11

02:00 PM

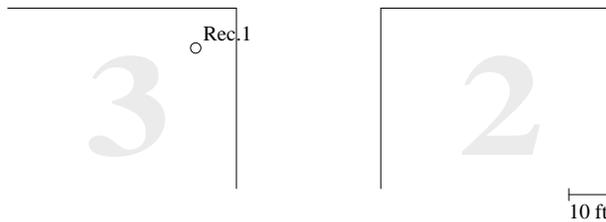
mercer west



Description: **roy st and queen anne ave 2030 no build am**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **T-type Intersection, 3 x 4**  
 Street Names: **A-B: roy st C-D: queen anne ave**



4 1



## RESULTS:

Receptor#	Quadrant	Distance from A-B boundary (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>3</u>	<u>10</u>	<u>10</u>	<u>4.1</u>	<u>3.8</u>	<u>Pass</u>

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

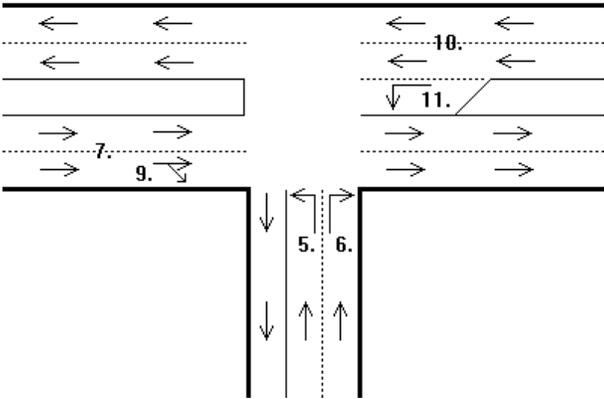
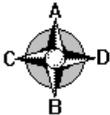
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	----
2	A-D Left Turn	----
3	A-C Right Turn	----
4	B-A Thru	----
5	B-C Left Turn	670
6	B-D Right Turn	285
7	C-D Thru	3
8	C-A Left Turn	----
9	C-B Right Turn	3
10	D-C Thru	1020
11	D-B Left Turn	3
12	D-A Right Turn	----



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2030**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **66.06**

Approach	Speed (mph)	EF (g/mile)
Leg A	---	-----
Leg B	15	7.76
Leg C	15	7.76
Leg D	15	7.76

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

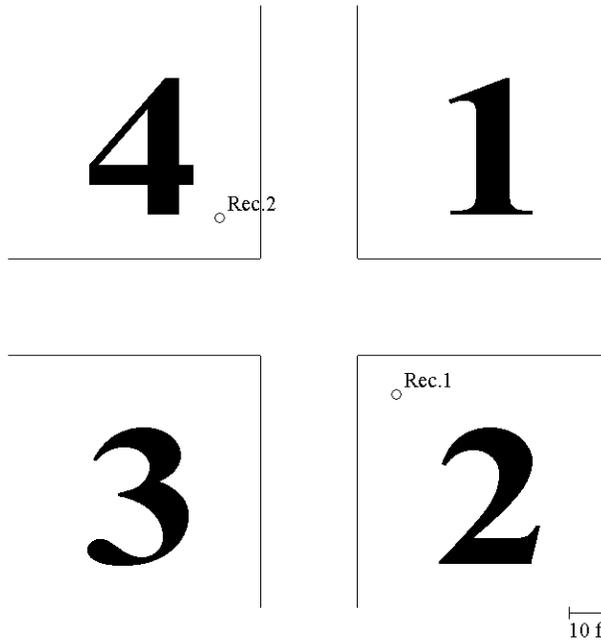
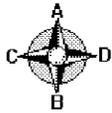
Type of Movement	Red Times (sec)
Leg A Thru & Rt	---
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	42
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	42

# Washington State Intersection Screening Tool 2.0

11-09-11  
09:01 AM  
mercero west



Description: roy st and queen anne ave 2030 build am  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: Four-Way Intersection, 2 x 2  
 Street Names: A-B: queen anne ave C-D: roy st



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>2</u>	<u>10</u>	<u>10</u>	<u>4.1</u>	<u>3.8</u>	<u>Pass</u>
<u>2</u>	<u>4</u>	<u>10</u>	<u>10</u>	<u>4.2</u>	<u>3.8</u>	<u>Pass</u>

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 2**.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

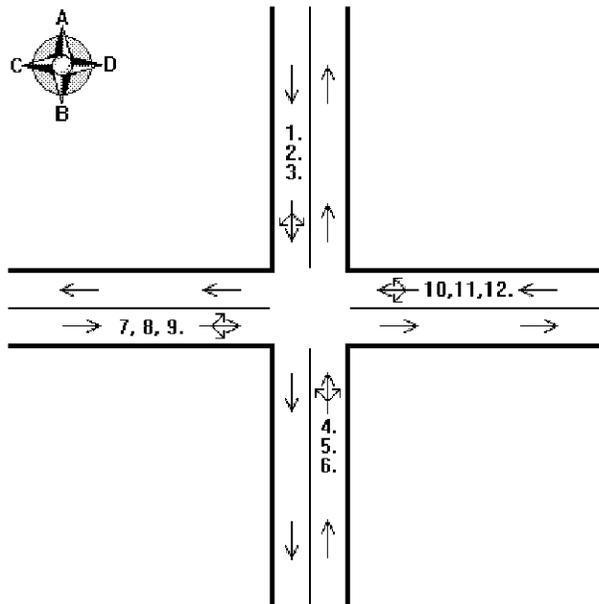
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	835
2	A-D Left Turn	270
3	A-C Right Turn	50
4	B-A Thru	135
5	B-C Left Turn	20
6	B-D Right Turn	135
7	C-D Thru	60
8	C-A Left Turn	50
9	C-B Right Turn	220
10	D-C Thru	85
11	D-B Left Turn	165
12	D-A Right Turn	150



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: No  
Model Year: 2030  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 66.06

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.76
Leg B	15	7.76
Leg C	15	7.76
Leg D	15	7.76

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

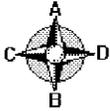
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

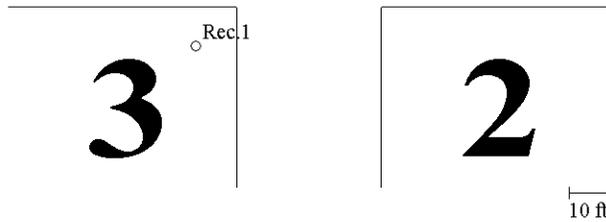
11-07-11  
10:22 AM  
mercero west



Description: roy st and queen anne ave 2040 no build am  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: T-type Intersection, 3 x 4  
 Street Names: A-B: roy st C-D: queen anne ave



**4** **1**



## RESULTS:

Receptor#	Quadrant	Distance from A-B boundary (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>3</u>	<u>10</u>	<u>10</u>	<u>4.1</u>	<u>3.8</u>	<u>Pass</u>

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

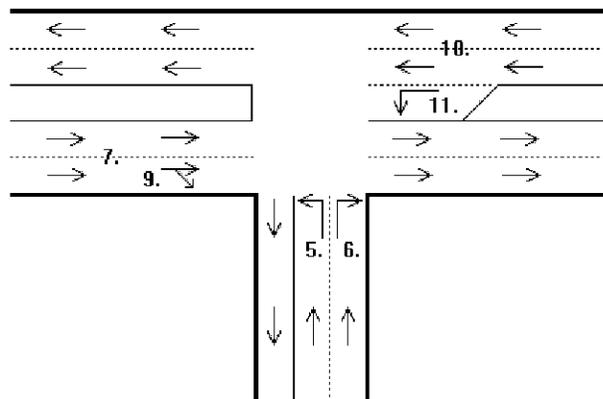
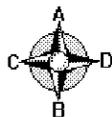
mercier west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	----
2	A-D Left Turn	----
3	A-C Right Turn	----
4	B-A Thru	----
5	B-C Left Turn	691
6	B-D Right Turn	291
7	C-D Thru	3
8	C-A Left Turn	----
9	C-B Right Turn	3
10	D-C Thru	1040
11	D-B Left Turn	3
12	D-A Right Turn	----



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: No  
Model Year: 2040  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 65.73

Approach	Speed (mph)	EF (g/mile)
Leg A	---	-----
Leg B	15	7.72
Leg C	15	7.72
Leg D	15	7.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

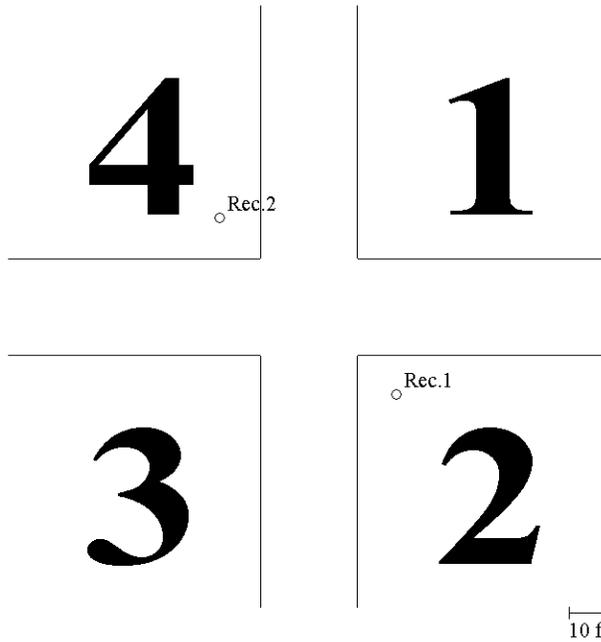
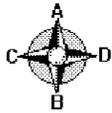
Type of Movement	Red Times (sec)
Leg A Thru & Rt	---
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	42
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	42

# Washington State Intersection Screening Tool 2.0

11-09-11  
08:55 AM  
mercero west



Description: roy st and queen anne ave 2040 build am  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: Four-Way Intersection, 2 x 2  
 Street Names: A-B: queen anne ave C-D: roy st



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>2</u>	<u>10</u>	<u>10</u>	<u>4.1</u>	<u>3.8</u>	<u>Pass</u>
<u>2</u>	<u>4</u>	<u>10</u>	<u>10</u>	<u>4.2</u>	<u>3.8</u>	<u>Pass</u>

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 2**.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

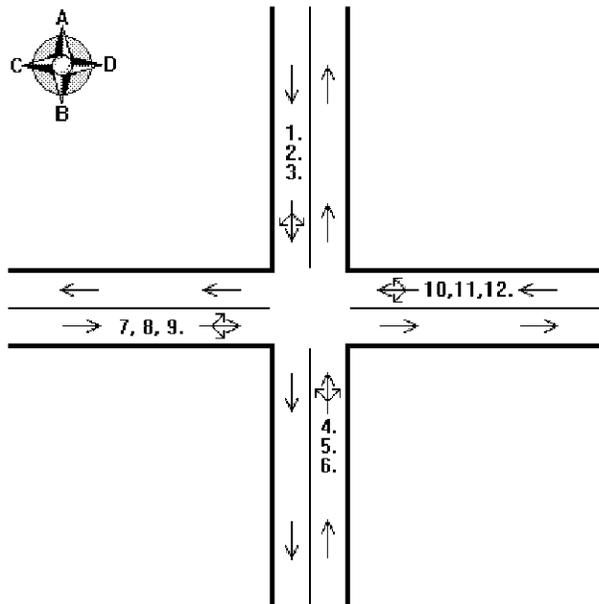
mercier west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	852
2	A-D Left Turn	275
3	A-C Right Turn	51
4	B-A Thru	138
5	B-C Left Turn	20
6	B-D Right Turn	138
7	C-D Thru	61
8	C-A Left Turn	51
9	C-B Right Turn	224
10	D-C Thru	87
11	D-B Left Turn	168
12	D-A Right Turn	153



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: No  
Model Year: 2040  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 65.73

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.72
Leg B	15	7.72
Leg C	15	7.72
Leg D	15	7.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

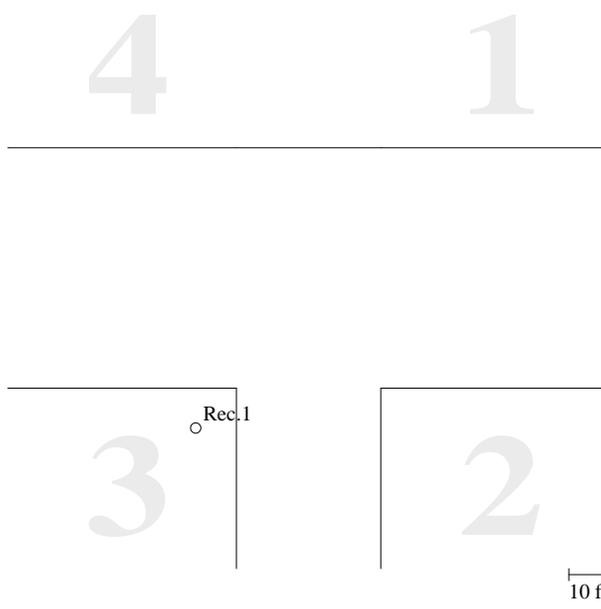
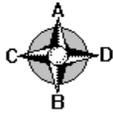
07-26-11

02:03 PM

mercer west



Description: **roy st and queen anne ave existing pm**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **T-type Intersection, 3 x 4**  
 Street Names: **A-B: roy st C-D: queen anne ave**



## RESULTS:

Receptor#	Quadrant	Distance from A-B boundary (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>3</u>	<u>10</u>	<u>10</u>	<u>4.4</u>	<u>4.0</u>	<u>Pass</u>

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

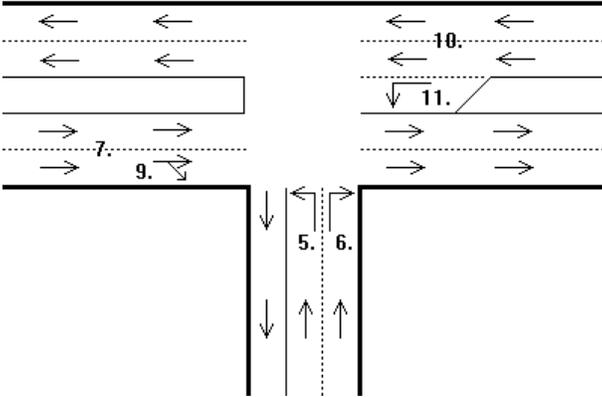
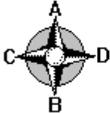
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	----
2	A-D Left Turn	----
3	A-C Right Turn	----
4	B-A Thru	----
5	B-C Left Turn	382
6	B-D Right Turn	706
7	C-D Thru	3
8	C-A Left Turn	----
9	C-B Right Turn	3
10	D-C Thru	509
11	D-B Left Turn	3
12	D-A Right Turn	----



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2011**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **102.70**

Approach	Speed (mph)	EF (g/mile)
<b>Leg A</b>	<b>---</b>	<b>-----</b>
<b>Leg B</b>	<b>15</b>	<b>11.88</b>
<b>Leg C</b>	<b>15</b>	<b>11.88</b>
<b>Leg D</b>	<b>15</b>	<b>11.88</b>

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

## Red Times:

Type of Movement	Red Times (sec)
<b>Leg A Thru &amp; Rt</b>	<b>---</b>
<b>Leg A Left Turn</b>	<b>---</b>
<b>Leg B Thru &amp; Rt</b>	<b>42</b>
<b>Leg B Left Turn</b>	<b>42</b>
<b>Leg C Thru &amp; Rt</b>	<b>42</b>
<b>Leg C Left Turn</b>	<b>---</b>
<b>Leg D Thru &amp; Rt</b>	<b>42</b>
<b>Leg D Left Turn</b>	<b>42</b>

# Washington State Intersection Screening Tool 2.0

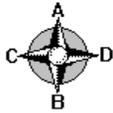
07-26-11

02:18 PM

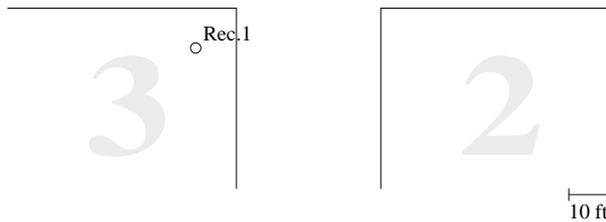
mercer west



Description: **roy st and queen anne ave 2015 no build pm**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **T-type Intersection, 3 x 4**  
 Street Names: **A-B: roy st C-D: queen anne ave**



4 1



## RESULTS:

Receptor#	Quadrant	Distance from A-B boundary (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>3</u>	<u>10</u>	<u>10</u>	<u>4.2</u>	<u>3.8</u>	<u>Pass</u>

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

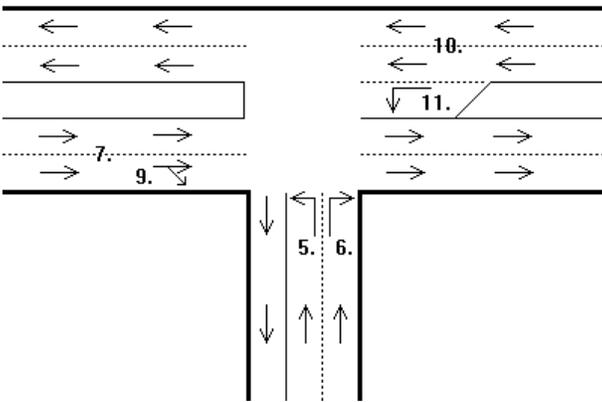
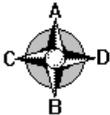
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	----
2	A-D Left Turn	----
3	A-C Right Turn	----
4	B-A Thru	----
5	B-C Left Turn	315
6	B-D Right Turn	915
7	C-D Thru	3
8	C-A Left Turn	----
9	C-B Right Turn	3
10	D-C Thru	660
11	D-B Left Turn	3
12	D-A Right Turn	----



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2015**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **84.02**

Approach	Speed (mph)	EF (g/mile)
<b>Leg A</b>	<b>---</b>	<b>----</b>
<b>Leg B</b>	<b>15</b>	<b>9.86</b>
<b>Leg C</b>	<b>15</b>	<b>9.86</b>
<b>Leg D</b>	<b>15</b>	<b>9.86</b>

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

## Red Times:

Type of Movement	Red Times (sec)
<b>Leg A Thru &amp; Rt</b>	<b>---</b>
<b>Leg A Left Turn</b>	<b>---</b>
<b>Leg B Thru &amp; Rt</b>	<b>42</b>
<b>Leg B Left Turn</b>	<b>42</b>
<b>Leg C Thru &amp; Rt</b>	<b>42</b>
<b>Leg C Left Turn</b>	<b>---</b>
<b>Leg D Thru &amp; Rt</b>	<b>42</b>
<b>Leg D Left Turn</b>	<b>42</b>

# Washington State Intersection Screening Tool 2.0

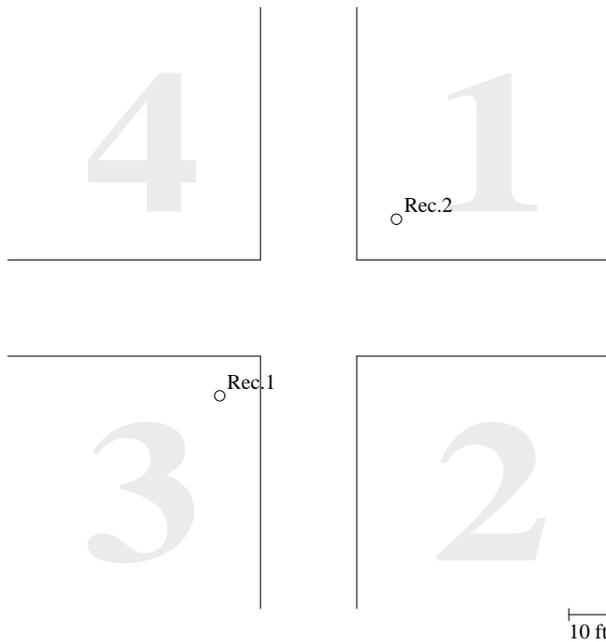
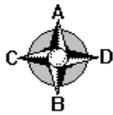
07-26-11

02:33 PM

mercer west



Description: **roy st and queen anne ave 2015 build pm**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: queen anne ave C-D: roy st**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>3</u>	<u>10</u>	<u>10</u>	<u>4.7</u>	<u>4.2</u>	<u>Pass</u>
2	1	10	10	4.3	3.9	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

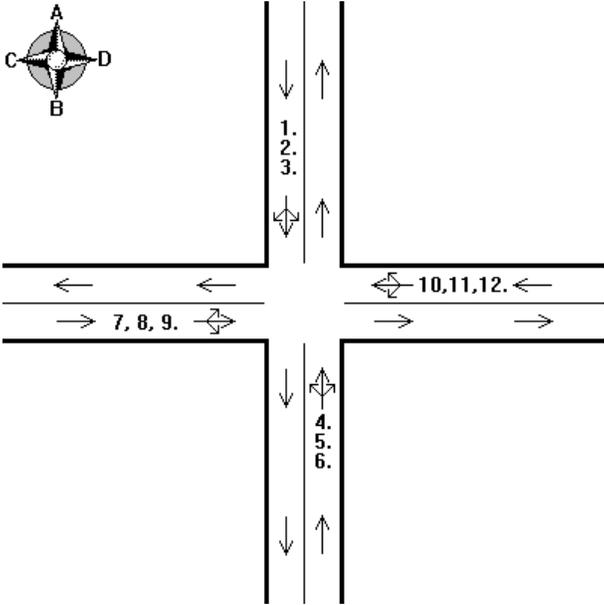
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	210
2	A-D Left Turn	190
3	A-C Right Turn	150
4	B-A Thru	120
5	B-C Left Turn	105
6	B-D Right Turn	65
7	C-D Thru	50
8	C-A Left Turn	240
9	C-B Right Turn	100
10	D-C Thru	185
11	D-B Left Turn	210
12	D-A Right Turn	450



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2015**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **84.02**

Approach	Speed (mph)	EF (g/mile)
<b>Leg A</b>	<b>15</b>	<b>9.86</b>
<b>Leg B</b>	<b>15</b>	<b>9.86</b>
<b>Leg C</b>	<b>15</b>	<b>9.86</b>
<b>Leg D</b>	<b>15</b>	<b>9.86</b>

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
<b>Leg A Thru &amp; Rt</b>	<b>42</b>
<b>Leg A Left Turn</b>	<b>---</b>
<b>Leg B Thru &amp; Rt</b>	<b>42</b>
<b>Leg B Left Turn</b>	<b>---</b>
<b>Leg C Thru &amp; Rt</b>	<b>42</b>
<b>Leg C Left Turn</b>	<b>---</b>
<b>Leg D Thru &amp; Rt</b>	<b>42</b>
<b>Leg D Left Turn</b>	<b>---</b>

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

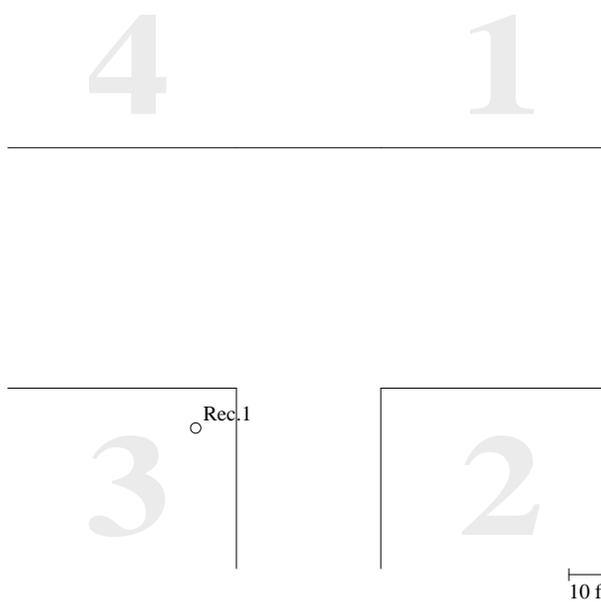
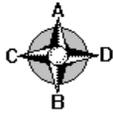
07-26-11

02:25 PM

mercer west



Description: **roy st and queen anne ave 2030no build pm**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **T-type Intersection, 3 x 4**  
 Street Names: **A-B: roy st C-D: queen anne ave**



## RESULTS:

Receptor#	Quadrant	Distance from A-B boundary (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>3</u>	<u>10</u>	<u>10</u>	<u>4.1</u>	<u>3.8</u>	<u>Pass</u>

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

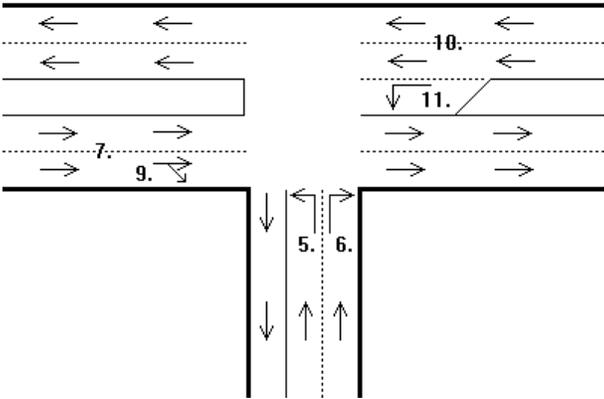
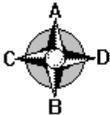
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	----
2	A-D Left Turn	----
3	A-C Right Turn	----
4	B-A Thru	----
5	B-C Left Turn	670
6	B-D Right Turn	285
7	C-D Thru	3
8	C-A Left Turn	----
9	C-B Right Turn	3
10	D-C Thru	1020
11	D-B Left Turn	3
12	D-A Right Turn	----



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2030**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **66.06**

Approach	Speed (mph)	EF (g/mile)
Leg A	---	-----
Leg B	15	7.76
Leg C	15	7.76
Leg D	15	7.76

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

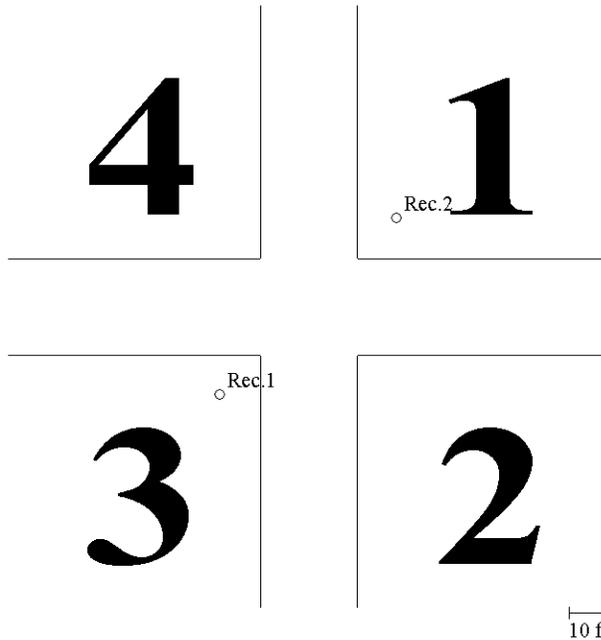
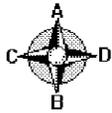
Type of Movement	Red Times (sec)
Leg A Thru & Rt	---
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	42
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	42

# Washington State Intersection Screening Tool 2.0

11-09-11  
09:09 AM  
mercero west



Description: roy st and queen anne ave 2030 build pm  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: Four-Way Intersection, 2 x 2  
 Street Names: A-B: queen anne ave C-D: roy st



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	3	10	10	4.4	4.0	Pass
2	1	10	10	4.1	3.8	Pass

\*Project PASSES 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at receptor 1.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

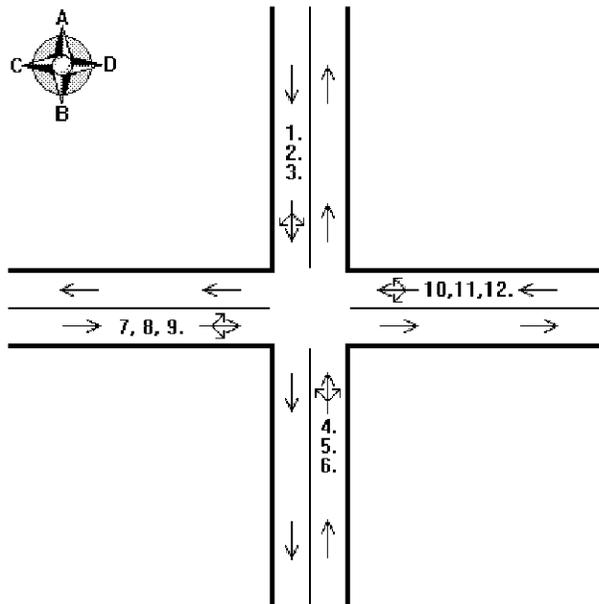
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	310
2	A-D Left Turn	190
3	A-C Right Turn	150
4	B-A Thru	125
5	B-C Left Turn	105
6	B-D Right Turn	65
7	C-D Thru	50
8	C-A Left Turn	240
9	C-B Right Turn	100
10	D-C Thru	70
11	D-B Left Turn	210
12	D-A Right Turn	565



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: No  
Model Year: 2030  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 66.06

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.76
Leg B	15	7.76
Leg C	15	7.76
Leg D	15	7.76

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

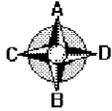
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

11-07-11  
10:23 AM  
mercero west



Description: roy st and queen anne ave 2040no build pm  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: T-type Intersection, 3 x 4  
 Street Names: A-B: roy st C-D: queen anne ave



**4** **1**

**3** **2**

Rec.1

10 ft.

## RESULTS:

Receptor#	Quadrant	Distance from A-B boundary (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>3</u>	<u>10</u>	<u>10</u>	<u>4.1</u>	<u>3.8</u>	<u>Pass</u>

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

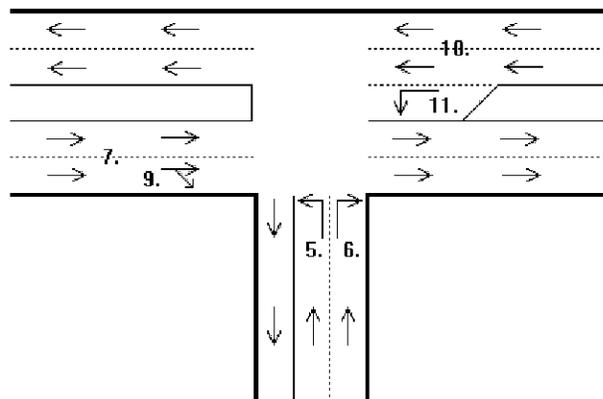
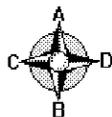
mercier west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	----
2	A-D Left Turn	----
3	A-C Right Turn	----
4	B-A Thru	----
5	B-C Left Turn	691
6	B-D Right Turn	294
7	C-D Thru	3
8	C-A Left Turn	----
9	C-B Right Turn	3
10	D-C Thru	1053
11	D-B Left Turn	3
12	D-A Right Turn	----



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
 CO Maint. Area: Puget Sound  
 I/M Program: No  
 Model Year: 2040  
 Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 65.73

Approach	Speed (mph)	EF (g/mile)
Leg A	---	-----
Leg B	15	7.72
Leg C	15	7.72
Leg D	15	7.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
 Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

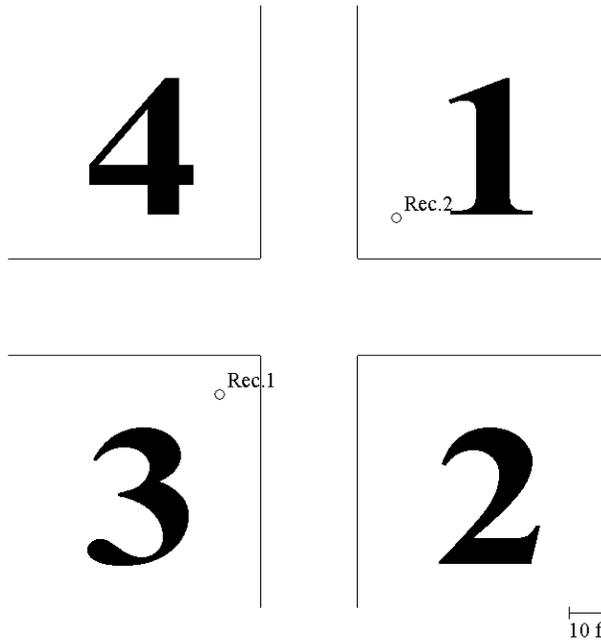
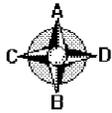
Type of Movement	Red Times (sec)
Leg A Thru & Rt	---
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	42
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	42

# Washington State Intersection Screening Tool 2.0

11-07-11  
10:19 AM  
mercero west



Description: roy st and queen anne ave 2040 build pm  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: Four-Way Intersection, 2 x 2  
 Street Names: A-B: queen anne ave C-D: roy st



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	3	10	10	4.4	4.0	Pass
2	1	10	10	4.1	3.8	Pass

\*Project PASSES 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at receptor 1.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

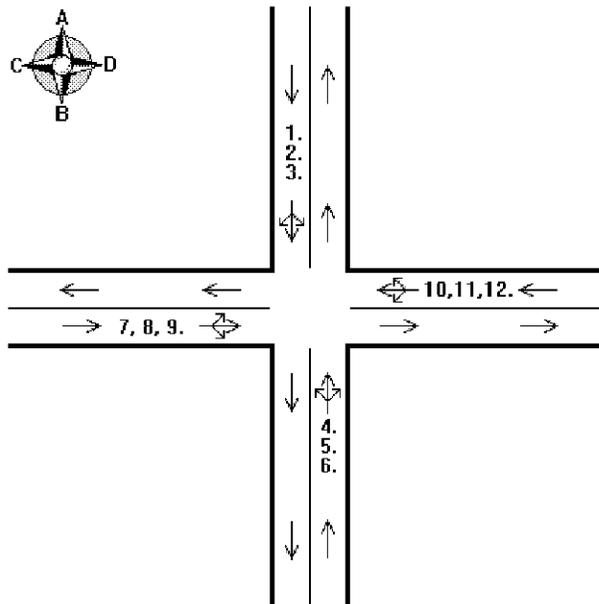
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	320
2	A-D Left Turn	196
3	A-C Right Turn	155
4	B-A Thru	129
5	B-C Left Turn	108
6	B-D Right Turn	67
7	C-D Thru	52
8	C-A Left Turn	248
9	C-B Right Turn	103
10	D-C Thru	72
11	D-B Left Turn	217
12	D-A Right Turn	583



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: No  
Model Year: 2040  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 65.73

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.72
Leg B	15	7.72
Leg C	15	7.72
Leg D	15	7.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

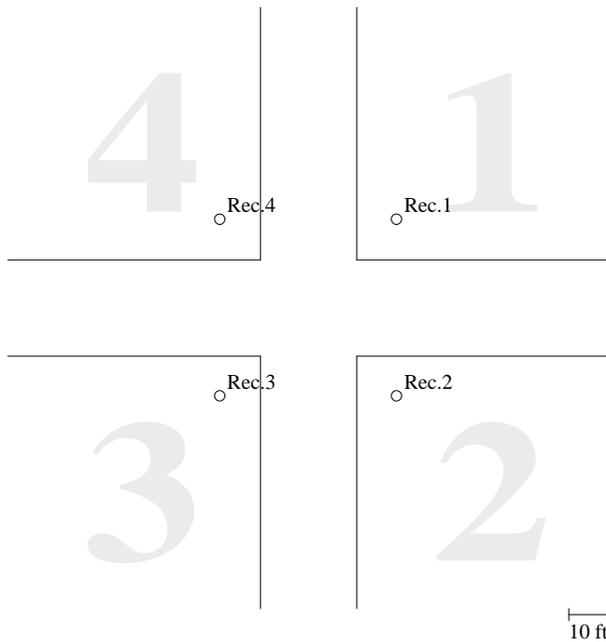
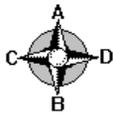
07-26-11

02:42 PM

mercer west



Description: **roy st and q1st ave existing am**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: 1st ave n C-D: roy st**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>1</u>	<u>10</u>	<u>10</u>	<u>3.9</u>	<u>3.6</u>	<u>Pass</u>
2	2	10	10	3.6	3.4	Pass
3	3	10	10	3.8	3.6	Pass
4	4	10	10	3.9	3.6	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

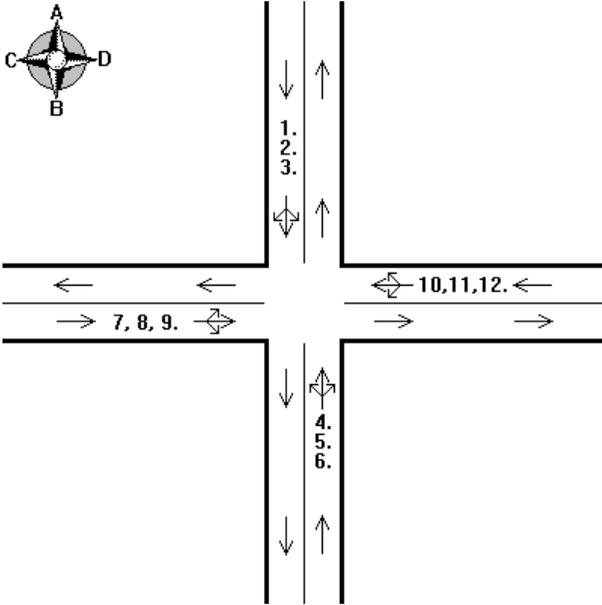
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	3
2	A-D Left Turn	3
3	A-C Right Turn	5
4	B-A Thru	11
5	B-C Left Turn	179
6	B-D Right Turn	3
7	C-D Thru	3
8	C-A Left Turn	3
9	C-B Right Turn	3
10	D-C Thru	436
11	D-B Left Turn	3
12	D-A Right Turn	16



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2015**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **84.02**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	9.86
Leg B	15	9.86
Leg C	15	9.86
Leg D	15	9.86

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

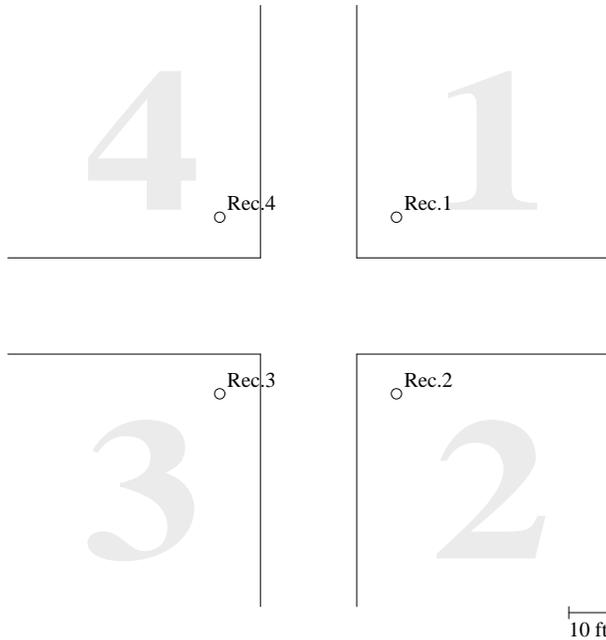
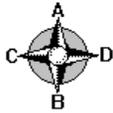
07-26-11

03:03 PM

mercer west



Description: **roy st and q1st ave 2015 no build am**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: 1st ave n C-D: roy st**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>1</u>	<u>10</u>	<u>10</u>	<u>4.2</u>	<u>3.8</u>	<u>Pass</u>
2	2	10	10	3.8	3.6	Pass
3	3	10	10	3.9	3.6	Pass
4	4	10	10	4.0	3.7	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

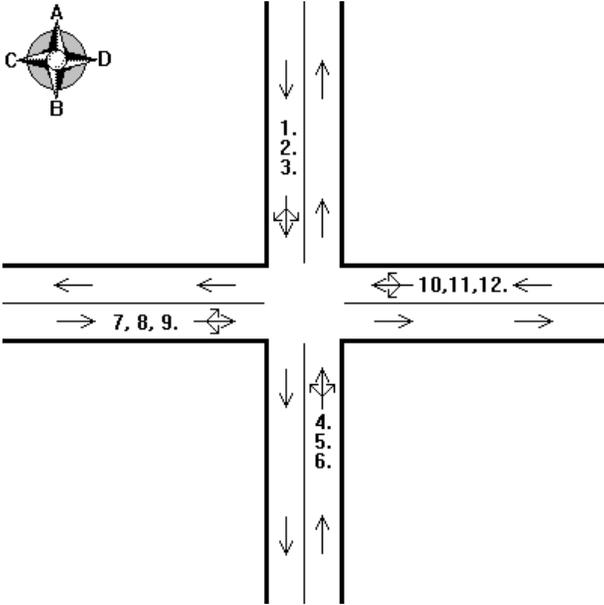
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	3
2	A-D Left Turn	3
3	A-C Right Turn	15
4	B-A Thru	10
5	B-C Left Turn	110
6	B-D Right Turn	3
7	C-D Thru	3
8	C-A Left Turn	3
9	C-B Right Turn	3
10	D-C Thru	715
11	D-B Left Turn	3
12	D-A Right Turn	15



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2015**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **84.02**

Approach	Speed (mph)	EF (g/mile)
<b>Leg A</b>	<b>15</b>	<b>9.86</b>
<b>Leg B</b>	<b>15</b>	<b>9.86</b>
<b>Leg C</b>	<b>15</b>	<b>9.86</b>
<b>Leg D</b>	<b>15</b>	<b>9.86</b>

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
<b>Leg A Thru &amp; Rt</b>	<b>42</b>
<b>Leg A Left Turn</b>	<b>---</b>
<b>Leg B Thru &amp; Rt</b>	<b>42</b>
<b>Leg B Left Turn</b>	<b>---</b>
<b>Leg C Thru &amp; Rt</b>	<b>42</b>
<b>Leg C Left Turn</b>	<b>---</b>
<b>Leg D Thru &amp; Rt</b>	<b>42</b>
<b>Leg D Left Turn</b>	<b>---</b>

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

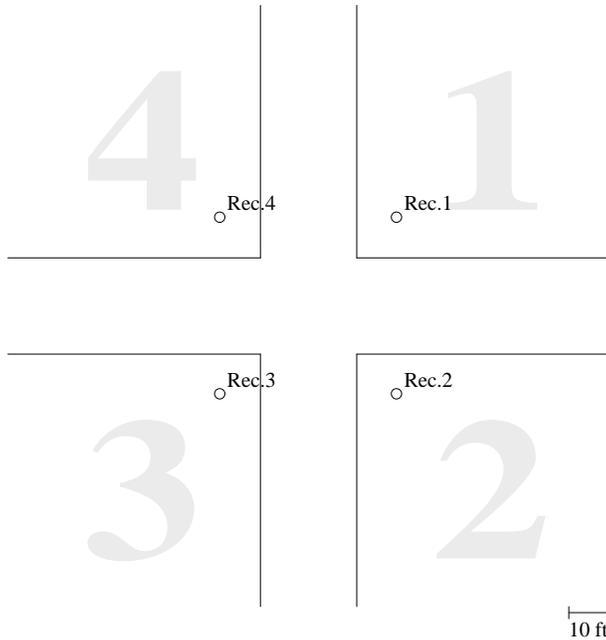
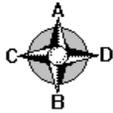
07-26-11

03:05 PM

mercer west



Description: **roy st and q1st ave 2015 build am**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: 1st ave n C-D: roy st**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	3.8	3.6	Pass
2	2	10	10	3.8	3.6	Pass
3	3	10	10	3.8	3.6	Pass
4	4	10	10	3.9	3.6	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 4**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

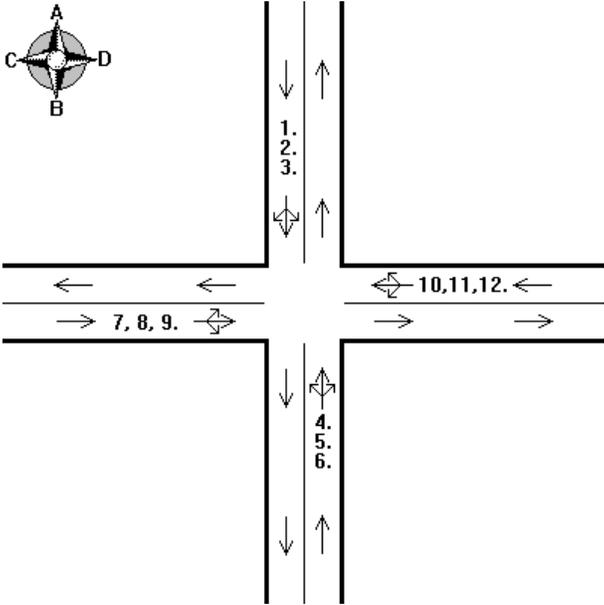
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	5
2	A-D Left Turn	10
3	A-C Right Turn	10
4	B-A Thru	25
5	B-C Left Turn	45
6	B-D Right Turn	20
7	C-D Thru	285
8	C-A Left Turn	5
9	C-B Right Turn	5
10	D-C Thru	345
11	D-B Left Turn	15
12	D-A Right Turn	20



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2015**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **84.02**

Approach	Speed (mph)	EF (g/mile)
<b>Leg A</b>	<b>15</b>	<b>9.86</b>
<b>Leg B</b>	<b>15</b>	<b>9.86</b>
<b>Leg C</b>	<b>15</b>	<b>9.86</b>
<b>Leg D</b>	<b>15</b>	<b>9.86</b>

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
<b>Leg A Thru &amp; Rt</b>	<b>42</b>
<b>Leg A Left Turn</b>	<b>---</b>
<b>Leg B Thru &amp; Rt</b>	<b>42</b>
<b>Leg B Left Turn</b>	<b>---</b>
<b>Leg C Thru &amp; Rt</b>	<b>42</b>
<b>Leg C Left Turn</b>	<b>---</b>
<b>Leg D Thru &amp; Rt</b>	<b>42</b>
<b>Leg D Left Turn</b>	<b>---</b>

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

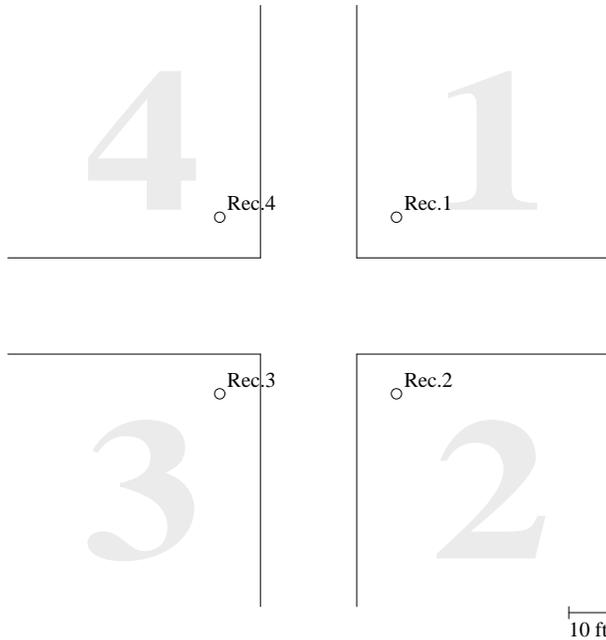
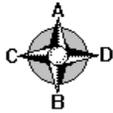
07-26-11

03:15 PM

mercer west



Description: **roy st and q1st ave 2030 no build am**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: 1st ave n C-D: roy st**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>1</u>	<u>10</u>	<u>10</u>	<u>3.9</u>	<u>3.6</u>	<u>Pass</u>
2	2	10	10	3.7	3.5	Pass
3	3	10	10	3.7	3.5	Pass
4	4	10	10	3.9	3.6	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

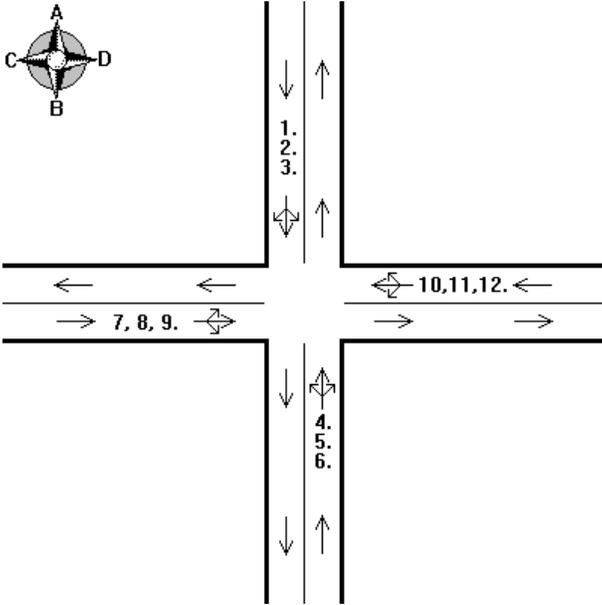
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	5
2	A-D Left Turn	3
3	A-C Right Turn	13
4	B-A Thru	10
5	B-C Left Turn	150
6	B-D Right Turn	3
7	C-D Thru	3
8	C-A Left Turn	3
9	C-B Right Turn	3
10	D-C Thru	800
11	D-B Left Turn	3
12	D-A Right Turn	15



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2030**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **66.06**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.76
Leg B	15	7.76
Leg C	15	7.76
Leg D	15	7.76

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

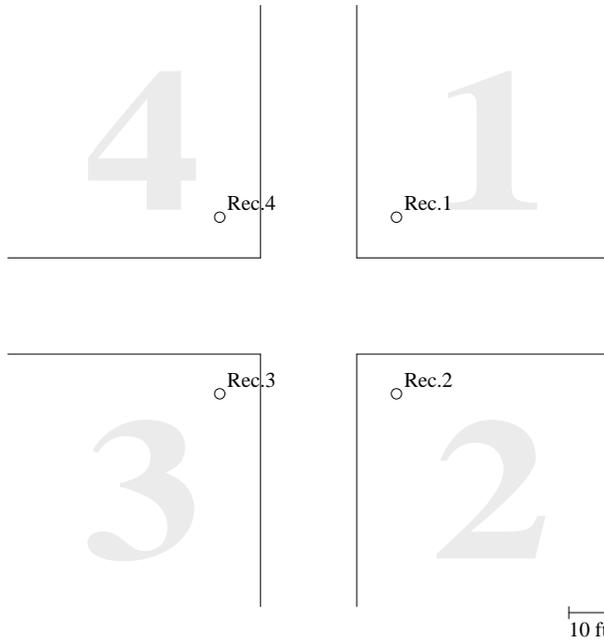
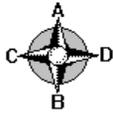
07-26-11

03:16 PM

mercer west



Description: **roy st and q1st ave 2030 build am**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: 1st ave n C-D: roy st**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>1</u>	<u>10</u>	<u>10</u>	<u>3.8</u>	<u>3.6</u>	<u>Pass</u>
2	2	10	10	3.7	3.5	Pass
3	3	10	10	3.6	3.4	Pass
4	4	10	10	3.7	3.5	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

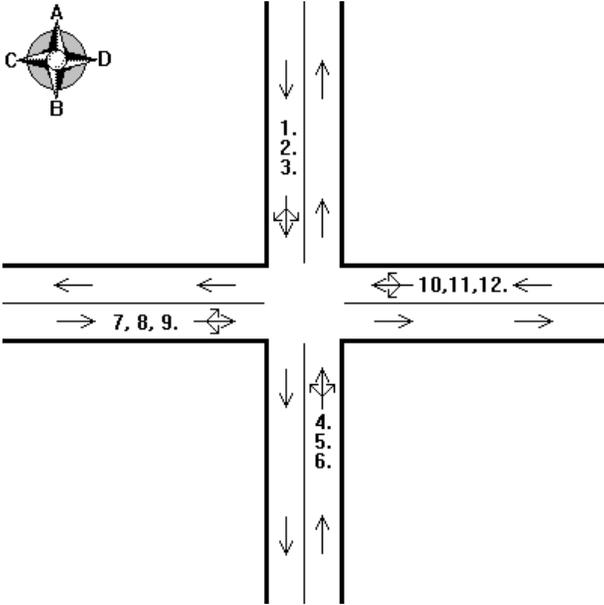
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	5
2	A-D Left Turn	5
3	A-C Right Turn	5
4	B-A Thru	25
5	B-C Left Turn	40
6	B-D Right Turn	20
7	C-D Thru	300
8	C-A Left Turn	5
9	C-B Right Turn	10
10	D-C Thru	365
11	D-B Left Turn	15
12	D-A Right Turn	15



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2030**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **66.06**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.76
Leg B	15	7.76
Leg C	15	7.76
Leg D	15	7.76

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

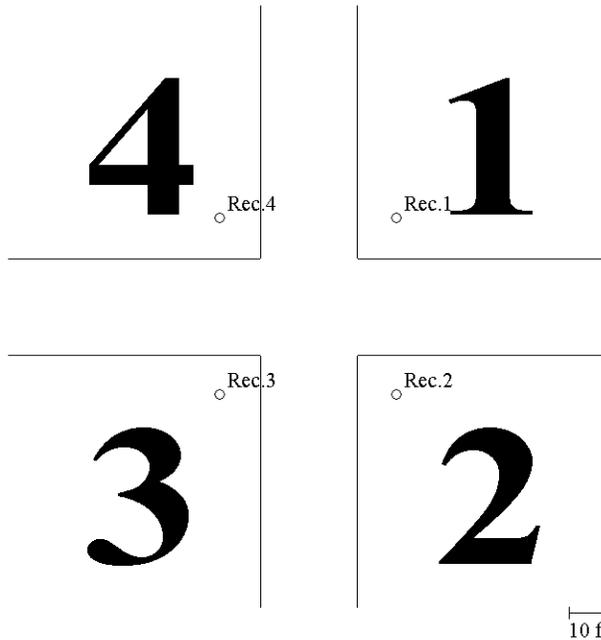
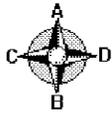
**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

11-07-11  
10:06 AM  
mercero west



Description: roy st and q1st ave 2040 no build am  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: Four-Way Intersection, 2 x 2  
 Street Names: A-B: 1st ave n C-D: roy st



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	3.9	3.6	Pass
2	2	10	10	3.7	3.5	Pass
3	3	10	10	3.7	3.5	Pass
4	4	10	10	3.9	3.6	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

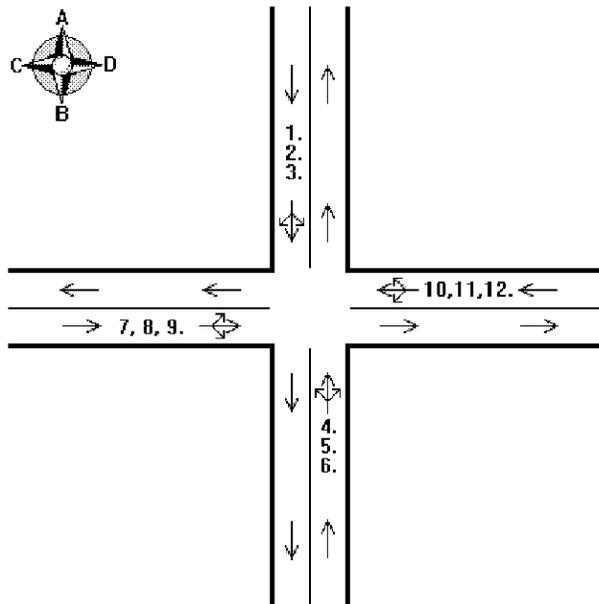
mercier west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	5
2	A-D Left Turn	3
3	A-C Right Turn	13
4	B-A Thru	10
5	B-C Left Turn	153
6	B-D Right Turn	3
7	C-D Thru	3
8	C-A Left Turn	3
9	C-B Right Turn	3
10	D-C Thru	816
11	D-B Left Turn	3
12	D-A Right Turn	15



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: No  
Model Year: 2040  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 65.73

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.72
Leg B	15	7.72
Leg C	15	7.72
Leg D	15	7.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

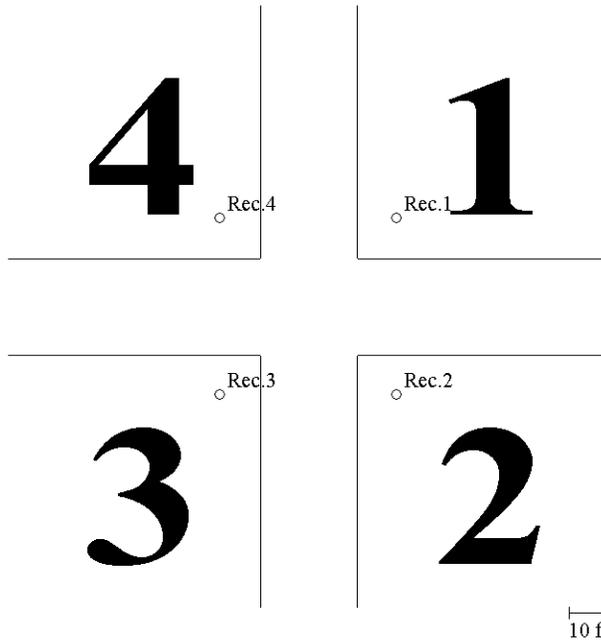
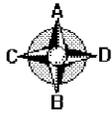
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

11-07-11  
09:57 AM  
mercero west



Description: roy st and q1st ave 2040 build am  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: Four-Way Intersection, 2 x 2  
 Street Names: A-B: 1st ave n C-D: roy st



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	3.8	3.6	Pass
2	2	10	10	3.7	3.5	Pass
3	3	10	10	3.6	3.4	Pass
4	4	10	10	3.7	3.5	Pass

\*Project PASSES 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at receptor 1.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

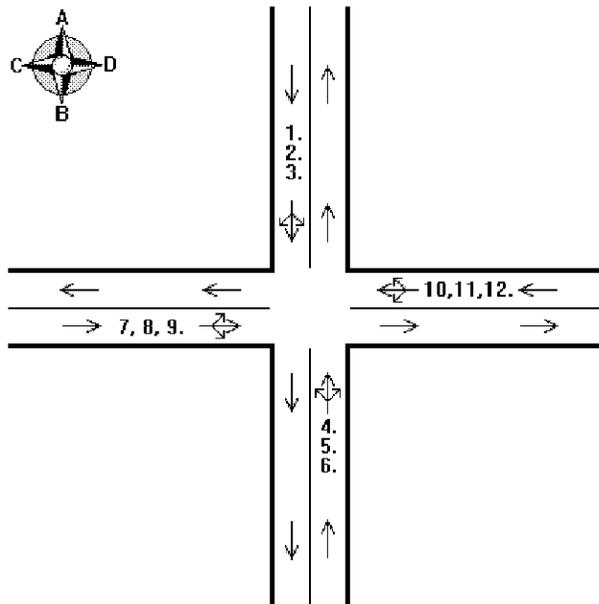
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	5
2	A-D Left Turn	5
3	A-C Right Turn	5
4	B-A Thru	26
5	B-C Left Turn	41
6	B-D Right Turn	20
7	C-D Thru	306
8	C-A Left Turn	5
9	C-B Right Turn	10
10	D-C Thru	372
11	D-B Left Turn	15
12	D-A Right Turn	15



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: No  
Model Year: 2040  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 65.73

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.72
Leg B	15	7.72
Leg C	15	7.72
Leg D	15	7.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

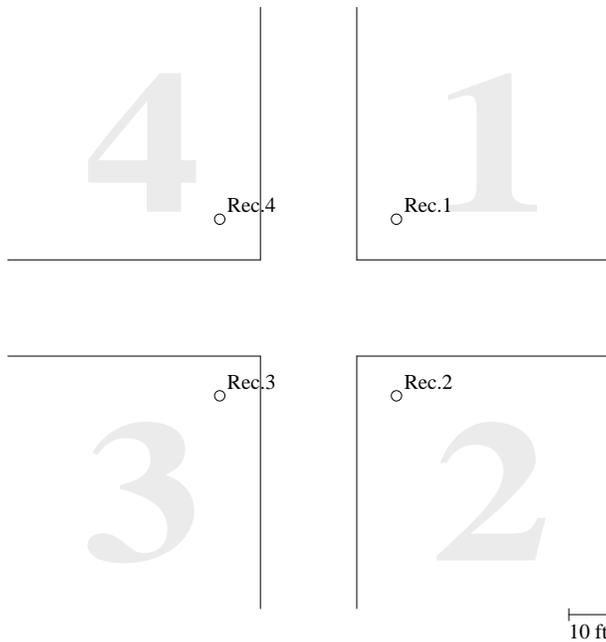
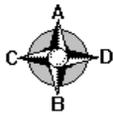
07-27-11

09:25 AM

mercer west



Description: **roy st and q1st ave existing pm**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: 1st ave n C-D: roy st**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>1</u>	<u>10</u>	<u>10</u>	<u>4.6</u>	<u>4.1</u>	<u>Pass</u>
2	2	10	10	4.2	3.8	Pass
3	3	10	10	4.2	3.8	Pass
4	4	10	10	4.2	3.8	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

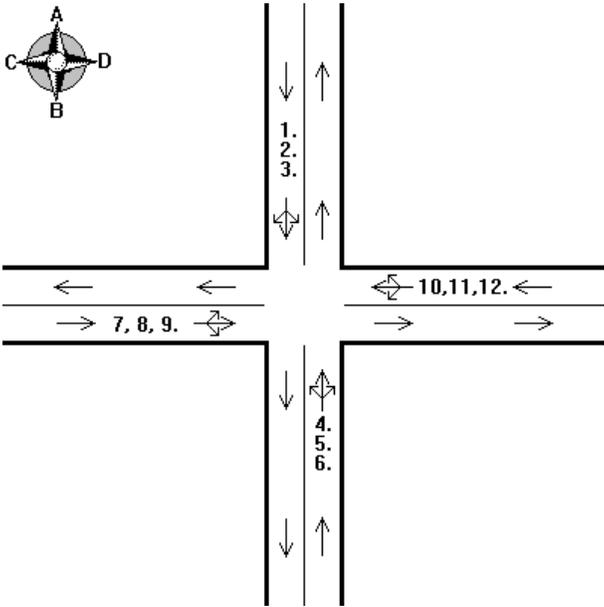
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	3
2	A-D Left Turn	3
3	A-C Right Turn	10
4	B-A Thru	40
5	B-C Left Turn	500
6	B-D Right Turn	3
7	C-D Thru	3
8	C-A Left Turn	3
9	C-B Right Turn	3
10	D-C Thru	560
11	D-B Left Turn	3
12	D-A Right Turn	30



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2011**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **102.70**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	11.88
Leg B	15	11.88
Leg C	15	11.88
Leg D	15	11.88

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

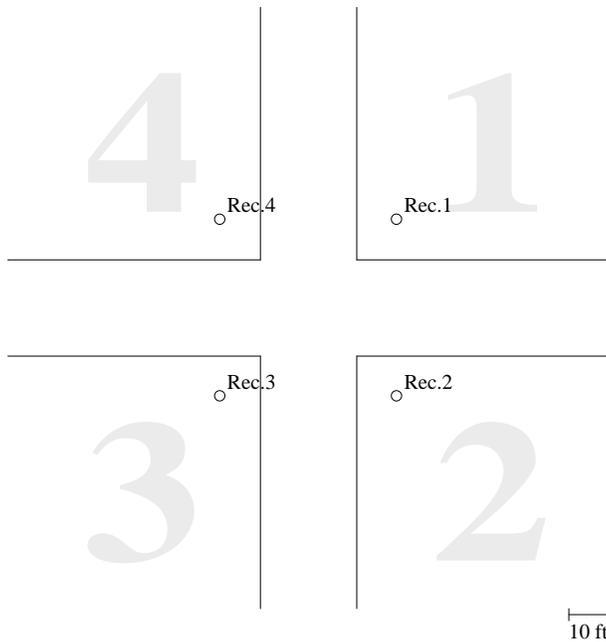
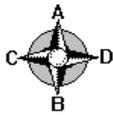
07-27-11

09:28 AM

mercer west



Description: **roy st and 1st ave 2015no build pm**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: 1st ave n C-D: roy st**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>1</u>	<u>10</u>	<u>10</u>	<u>4.3</u>	<u>3.9</u>	<u>Pass</u>
2	2	10	10	3.9	3.6	Pass
3	3	10	10	4.2	3.8	Pass
4	4	10	10	4.3	3.9	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

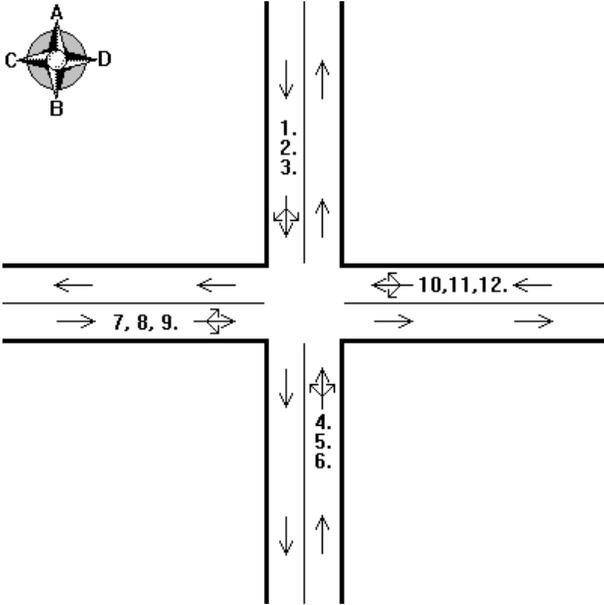
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	3
2	A-D Left Turn	3
3	A-C Right Turn	10
4	B-A Thru	100
5	B-C Left Turn	245
6	B-D Right Turn	3
7	C-D Thru	3
8	C-A Left Turn	3
9	C-B Right Turn	3
10	D-C Thru	975
11	D-B Left Turn	3
12	D-A Right Turn	30



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2015**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **84.02**

Approach	Speed (mph)	EF (g/mile)
<b>Leg A</b>	<b>15</b>	<b>9.86</b>
<b>Leg B</b>	<b>15</b>	<b>9.86</b>
<b>Leg C</b>	<b>15</b>	<b>9.86</b>
<b>Leg D</b>	<b>15</b>	<b>9.86</b>

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
<b>Leg A Thru &amp; Rt</b>	<b>42</b>
<b>Leg A Left Turn</b>	<b>---</b>
<b>Leg B Thru &amp; Rt</b>	<b>42</b>
<b>Leg B Left Turn</b>	<b>---</b>
<b>Leg C Thru &amp; Rt</b>	<b>42</b>
<b>Leg C Left Turn</b>	<b>---</b>
<b>Leg D Thru &amp; Rt</b>	<b>42</b>
<b>Leg D Left Turn</b>	<b>---</b>

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

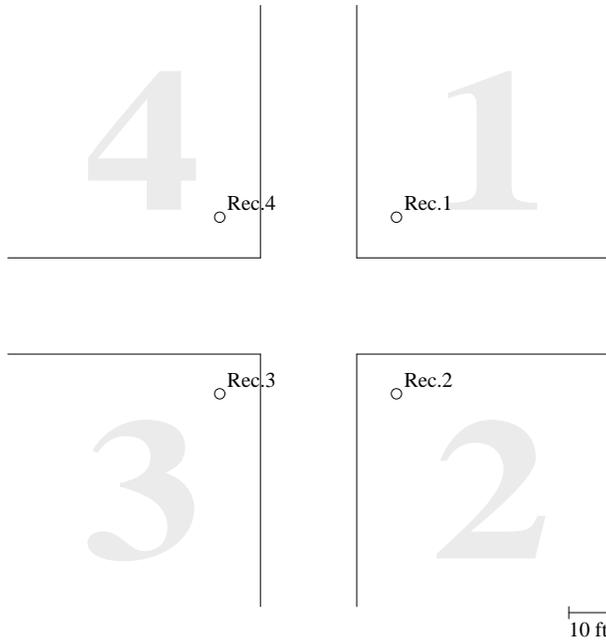
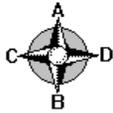
07-27-11

10:29 AM

mercer west



Description: **roy st and 1st ave 2015 build pm**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: 1st ave n C-D: roy st**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>1</u>	<u>10</u>	<u>10</u>	<u>4.3</u>	<u>3.9</u>	<u>Pass</u>
2	2	10	10	4.1	3.8	Pass
3	3	10	10	3.8	3.6	Pass
4	4	10	10	4.2	3.8	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

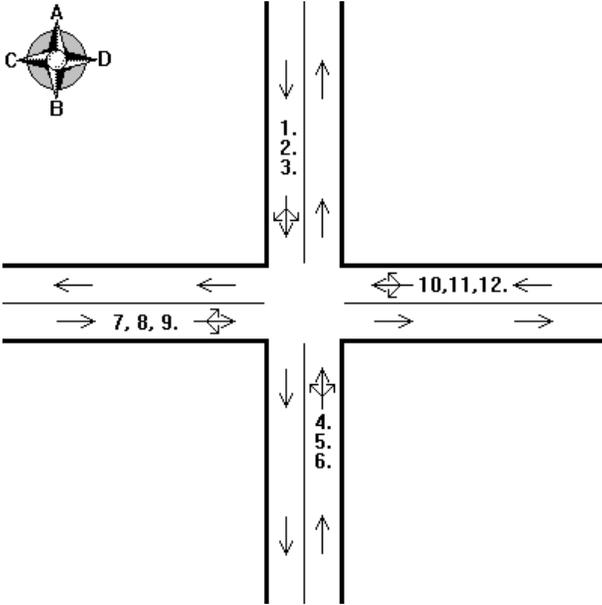
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	10
2	A-D Left Turn	5
3	A-C Right Turn	10
4	B-A Thru	90
5	B-C Left Turn	480
6	B-D Right Turn	15
7	C-D Thru	240
8	C-A Left Turn	10
9	C-B Right Turn	5
10	D-C Thru	335
11	D-B Left Turn	5
12	D-A Right Turn	30



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2015**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **84.02**

Approach	Speed (mph)	EF (g/mile)
<b>Leg A</b>	<b>15</b>	<b>9.86</b>
<b>Leg B</b>	<b>15</b>	<b>9.86</b>
<b>Leg C</b>	<b>15</b>	<b>9.86</b>
<b>Leg D</b>	<b>15</b>	<b>9.86</b>

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
<b>Leg A Thru &amp; Rt</b>	<b>42</b>
<b>Leg A Left Turn</b>	<b>---</b>
<b>Leg B Thru &amp; Rt</b>	<b>42</b>
<b>Leg B Left Turn</b>	<b>---</b>
<b>Leg C Thru &amp; Rt</b>	<b>42</b>
<b>Leg C Left Turn</b>	<b>---</b>
<b>Leg D Thru &amp; Rt</b>	<b>42</b>
<b>Leg D Left Turn</b>	<b>---</b>

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

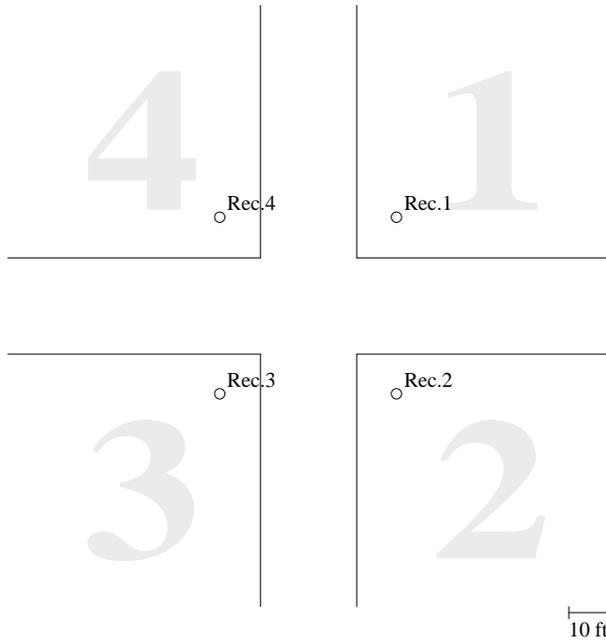
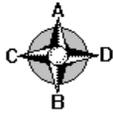
07-27-11

10:30 AM

mercer west



Description: **roy st and 1st ave 2030 no build pm**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: 1st ave n C-D: roy st**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.0	3.7	Pass
2	2	10	10	3.7	3.5	Pass
3	3	10	10	3.9	3.6	Pass
4	4	10	10	4.1	3.8	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 4**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

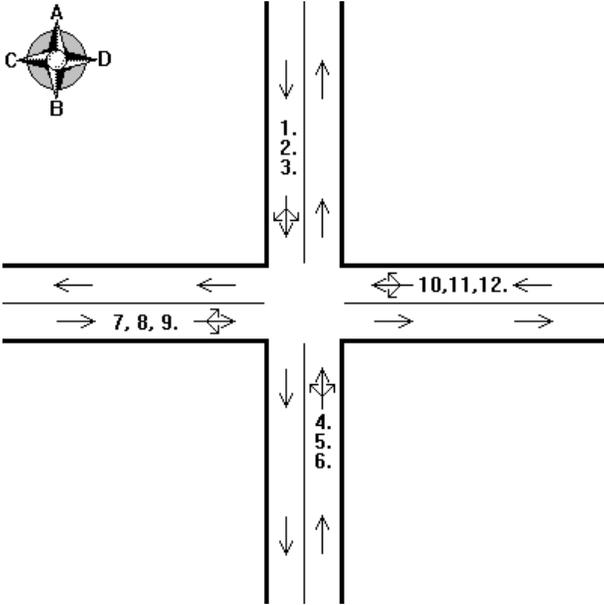
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	3
2	A-D Left Turn	3
3	A-C Right Turn	10
4	B-A Thru	100
5	B-C Left Turn	300
6	B-D Right Turn	3
7	C-D Thru	3
8	C-A Left Turn	3
9	C-B Right Turn	3
10	D-C Thru	1045
11	D-B Left Turn	3
12	D-A Right Turn	30



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2030**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **66.06**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.76
Leg B	15	7.76
Leg C	15	7.76
Leg D	15	7.76

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

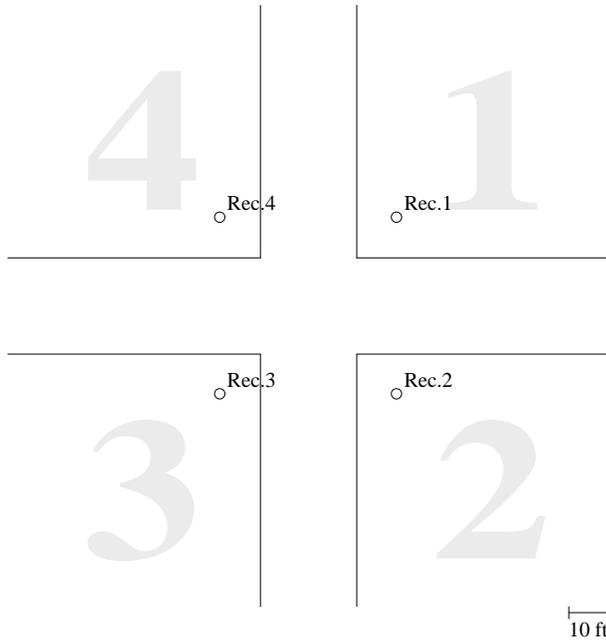
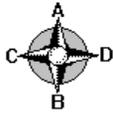
07-27-11

10:31 AM

mercer west



Description: **roy st and 1st ave 2030 build pm**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: 1st ave n C-D: roy st**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>1</u>	<u>10</u>	<u>10</u>	<u>4.1</u>	<u>3.8</u>	<u>Pass</u>
2	2	10	10	3.9	3.6	Pass
3	3	10	10	3.7	3.5	Pass
4	4	10	10	3.8	3.6	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

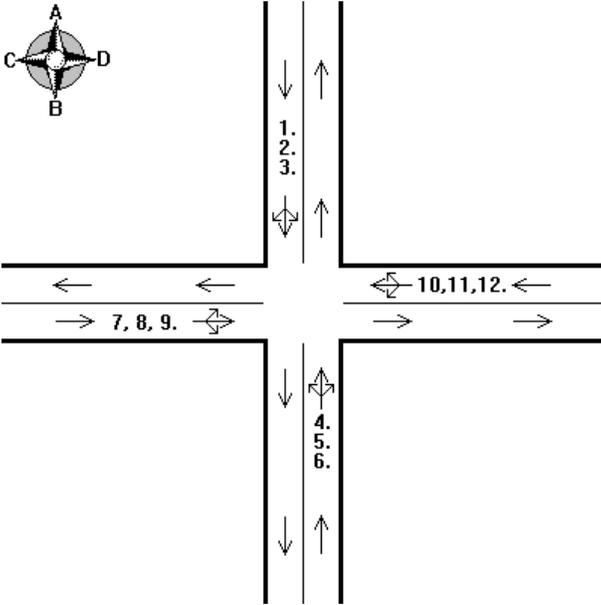
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	5
2	A-D Left Turn	10
3	A-C Right Turn	10
4	B-A Thru	100
5	B-C Left Turn	495
6	B-D Right Turn	50
7	C-D Thru	225
8	C-A Left Turn	5
9	C-B Right Turn	5
10	D-C Thru	370
11	D-B Left Turn	20
12	D-A Right Turn	20



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **No**  
Model Year: **2030**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **66.06**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.76
Leg B	15	7.76
Leg C	15	7.76
Leg D	15	7.76

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

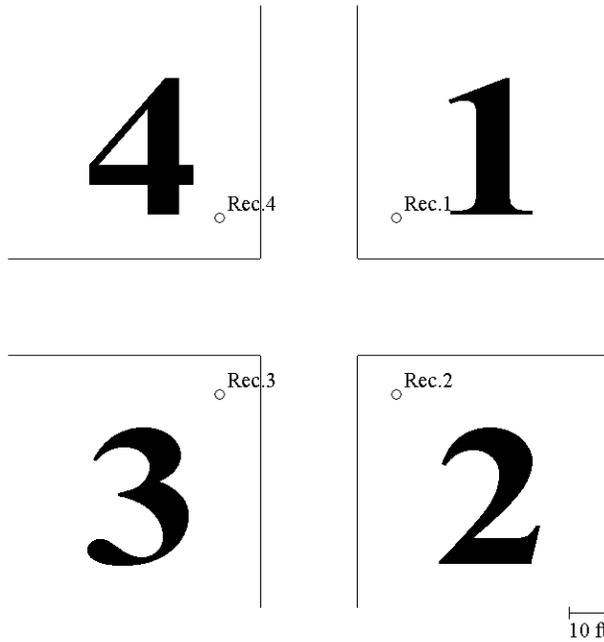
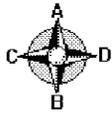
**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

11-07-11  
10:07 AM  
mercero west



Description: roy st and 1st ave 2040 no build pm  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: Four-Way Intersection, 2 x 2  
 Street Names: A-B: 1st ave n C-D: roy st



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.0	3.7	Pass
2	2	10	10	3.7	3.5	Pass
3	3	10	10	3.9	3.6	Pass
4	4	10	10	4.1	3.8	Pass

\*Project PASSES 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at receptor 4.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

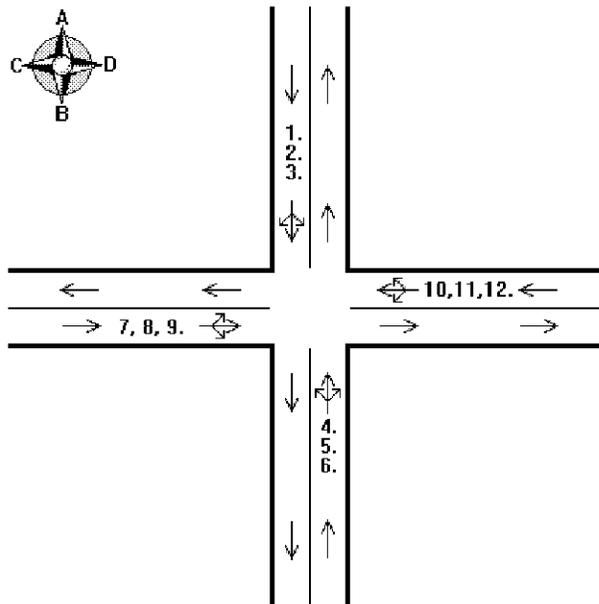
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	3
2	A-D Left Turn	3
3	A-C Right Turn	10
4	B-A Thru	103
5	B-C Left Turn	310
6	B-D Right Turn	3
7	C-D Thru	3
8	C-A Left Turn	3
9	C-B Right Turn	3
10	D-C Thru	1078
11	D-B Left Turn	3
12	D-A Right Turn	31



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: No  
Model Year: 2040  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 65.73

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.72
Leg B	15	7.72
Leg C	15	7.72
Leg D	15	7.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

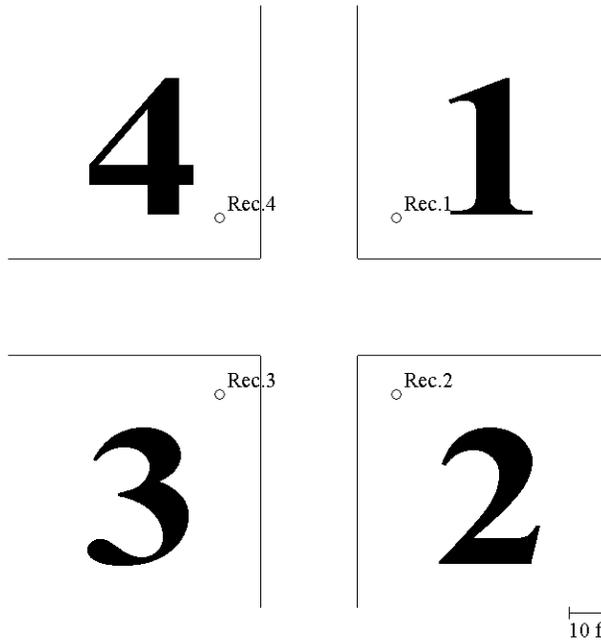
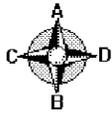
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

11-07-11  
10:00 AM  
mercero west



Description: roy st and 1st ave 2040 build pm  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: Four-Way Intersection, 2 x 2  
 Street Names: A-B: 1st ave n C-D: roy st



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.1	3.8	Pass
2	2	10	10	3.9	3.6	Pass
3	3	10	10	3.6	3.4	Pass
4	4	10	10	4.0	3.7	Pass

\*Project PASSES 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at receptor 1.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

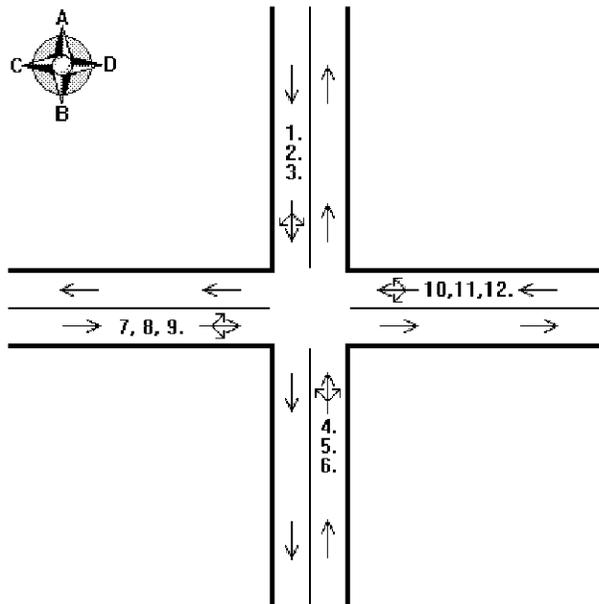
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	5
2	A-D Left Turn	10
3	A-C Right Turn	10
4	B-A Thru	103
5	B-C Left Turn	511
6	B-D Right Turn	52
7	C-D Thru	232
8	C-A Left Turn	5
9	C-B Right Turn	5
10	D-C Thru	282
11	D-B Left Turn	21
12	D-A Right Turn	21



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: No  
Model Year: 2040  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 65.73

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.72
Leg B	15	7.72
Leg C	15	7.72
Leg D	15	7.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

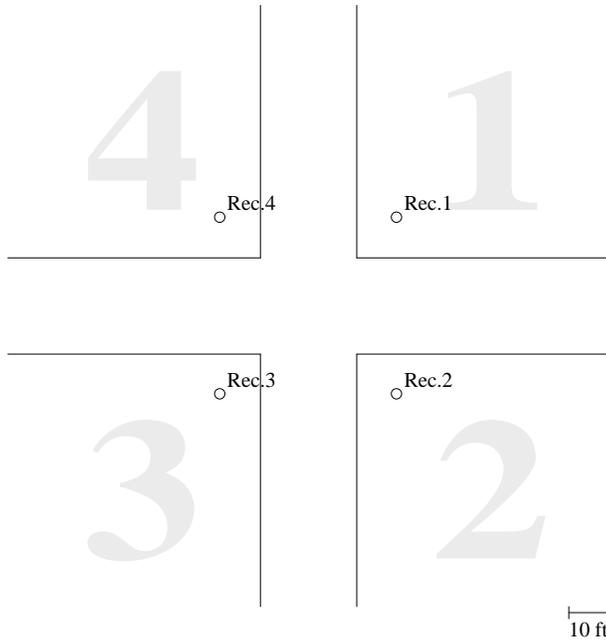
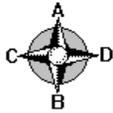
07-27-11

10:34 AM

mercer west



Description: **Roy St and 5th Ave Existing am**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: Roy St C-D: 5th ave**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>1</u>	<u>10</u>	<u>10</u>	<u>4.0</u>	<u>3.7</u>	<u>Pass</u>
2	2	10	10	4.0	3.7	Pass
3	3	10	10	3.8	3.6	Pass
4	4	10	10	3.9	3.6	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

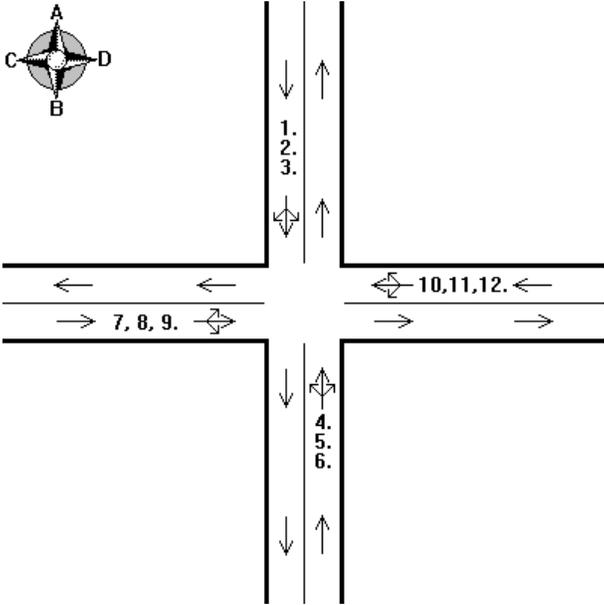
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	299
2	A-D Left Turn	4
3	A-C Right Turn	76
4	B-A Thru	138
5	B-C Left Turn	340
6	B-D Right Turn	28
7	C-D Thru	3
8	C-A Left Turn	3
9	C-B Right Turn	3
10	D-C Thru	59
11	D-B Left Turn	26
12	D-A Right Turn	3



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **Yes**  
Model Year: **2011**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **74.97**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	8.72
Leg B	15	8.72
Leg C	15	8.72
Leg D	15	8.72

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

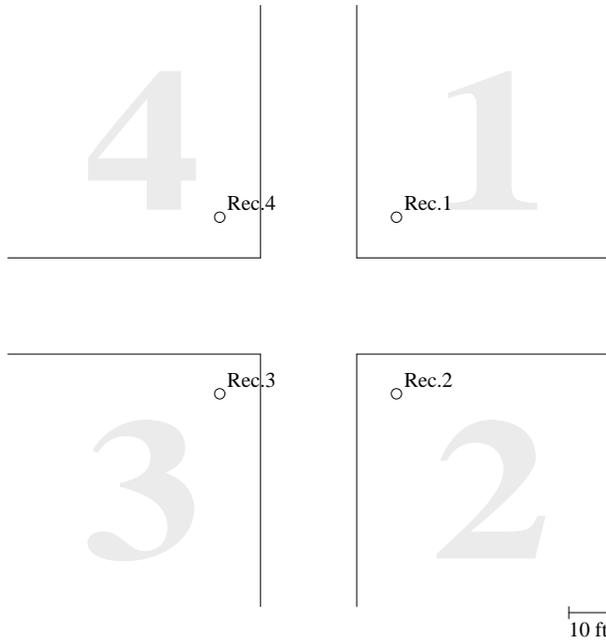
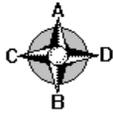
07-27-11

10:36 AM

mercer west



Description: **Roy St and 5th Ave 2015 no build am**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: Roy St C-D: 5th ave**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>1</u>	<u>10</u>	<u>10</u>	<u>4.0</u>	<u>3.7</u>	<u>Pass</u>
2	2	10	10	4.0	3.7	Pass
3	3	10	10	3.7	3.5	Pass
4	4	10	10	3.9	3.6	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

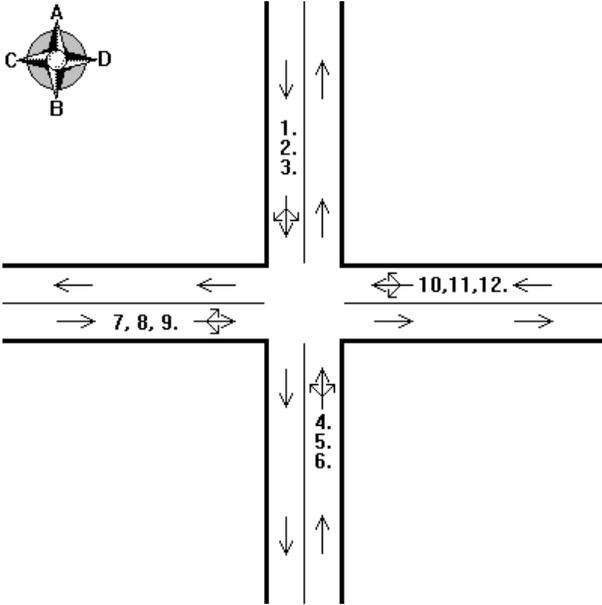
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	310
2	A-D Left Turn	5
3	A-C Right Turn	95
4	B-A Thru	275
5	B-C Left Turn	725
6	B-D Right Turn	40
7	C-D Thru	3
8	C-A Left Turn	3
9	C-B Right Turn	3
10	D-C Thru	65
11	D-B Left Turn	35
12	D-A Right Turn	5



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **Yes**  
Model Year: **2015**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **58.91**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	6.95
Leg B	15	6.95
Leg C	15	6.95
Leg D	15	6.95

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

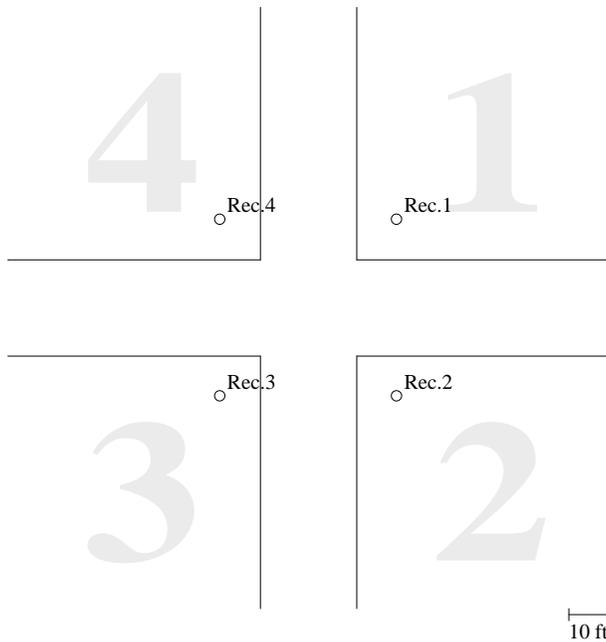
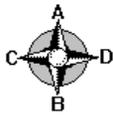
07-27-11

10:37 AM

mercer west



Description: **Roy St and 5th Ave 2015 build am**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: Roy St C-D: 5th ave**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	3.8	3.6	Pass
2	2	10	10	3.7	3.5	Pass
<u>3</u>	<u>3</u>	<u>10</u>	<u>10</u>	<u>4.0</u>	<u>3.7</u>	<u>Pass</u>
4	4	10	10	3.8	3.6	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 3**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

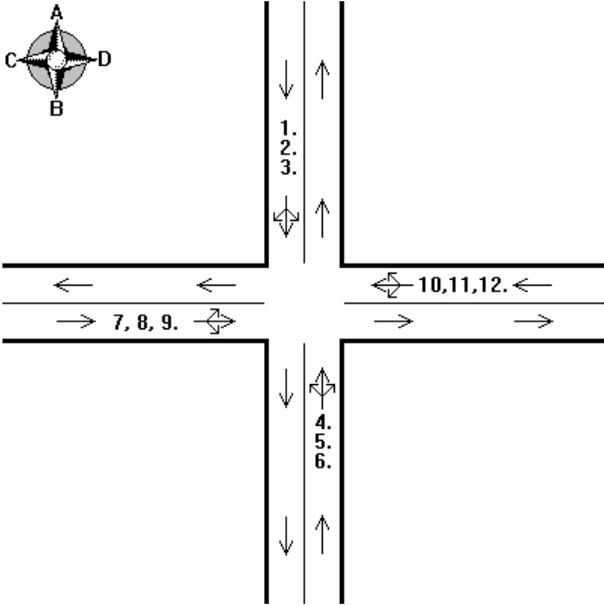
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	350
2	A-D Left Turn	5
3	A-C Right Turn	50
4	B-A Thru	315
5	B-C Left Turn	170
6	B-D Right Turn	10
7	C-D Thru	80
8	C-A Left Turn	100
9	C-B Right Turn	60
10	D-C Thru	75
11	D-B Left Turn	90
12	D-A Right Turn	5



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **Yes**  
Model Year: **2015**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **58.91**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	6.95
Leg B	15	6.95
Leg C	15	6.95
Leg D	15	6.95

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

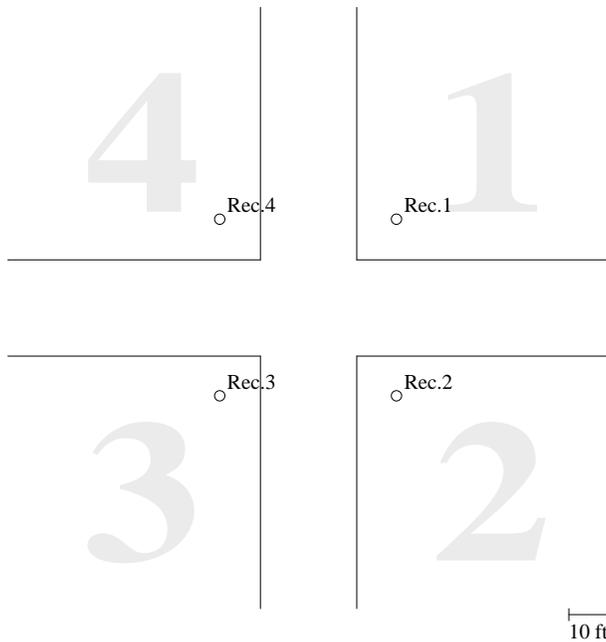
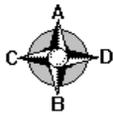
07-27-11

10:40 AM

mercer west



Description: **Roy St and 5th Ave 2030 no build am**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: Roy St C-D: 5th ave**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>1</u>	<u>10</u>	<u>10</u>	<u>4.3</u>	<u>3.9</u>	<u>Pass</u>
2	2	10	10	4.2	3.8	Pass
3	3	10	10	4.0	3.7	Pass
4	4	10	10	4.1	3.8	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

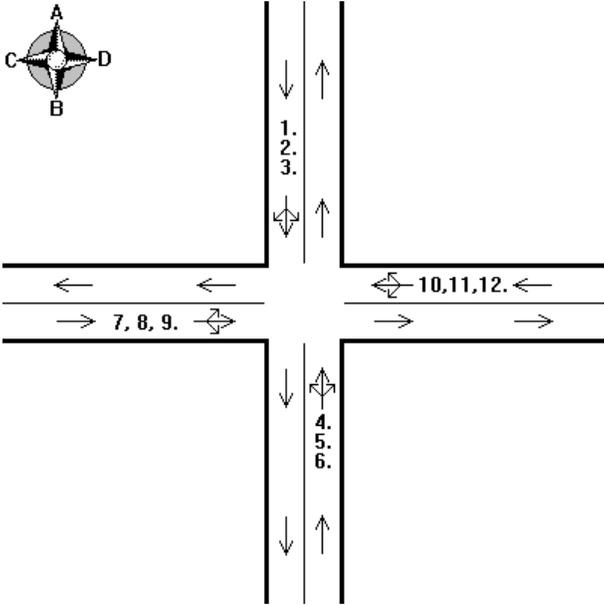
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	330
2	A-D Left Turn	5
3	A-C Right Turn	105
4	B-A Thru	315
5	B-C Left Turn	775
6	B-D Right Turn	60
7	C-D Thru	3
8	C-A Left Turn	3
9	C-B Right Turn	3
10	D-C Thru	5
11	D-B Left Turn	65
12	D-A Right Turn	110



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **Yes**  
Model Year: **2030**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **66.06**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.76
Leg B	15	7.76
Leg C	15	7.76
Leg D	15	7.76

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

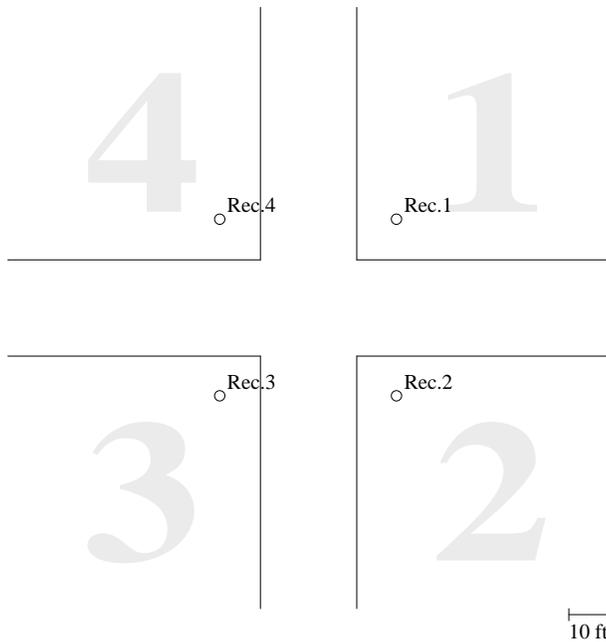
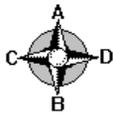
07-27-11

10:41 AM

mercer west



Description: **Roy St and 5th Ave 2030 build am**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: Roy St C-D: 5th ave**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.1	3.8	Pass
2	2	10	10	4.0	3.7	Pass
<u>3</u>	<u>3</u>	<u>10</u>	<u>10</u>	<u>4.2</u>	<u>3.8</u>	<u>Pass</u>
4	4	10	10	4.1	3.8	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 3**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

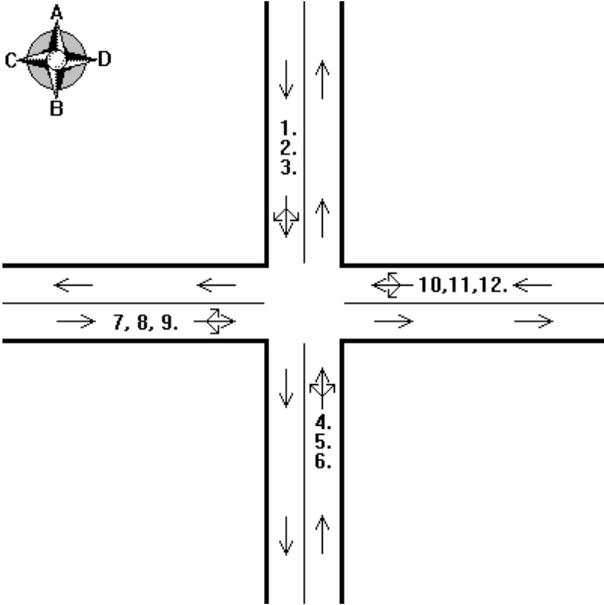
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	350
2	A-D Left Turn	10
3	A-C Right Turn	110
4	B-A Thru	320
5	B-C Left Turn	175
6	B-D Right Turn	40
7	C-D Thru	100
8	C-A Left Turn	100
9	C-B Right Turn	60
10	D-C Thru	75
11	D-B Left Turn	100
12	D-A Right Turn	5



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **Yes**  
Model Year: **2030**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **66.06**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.76
Leg B	15	7.76
Leg C	15	7.76
Leg D	15	7.76

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

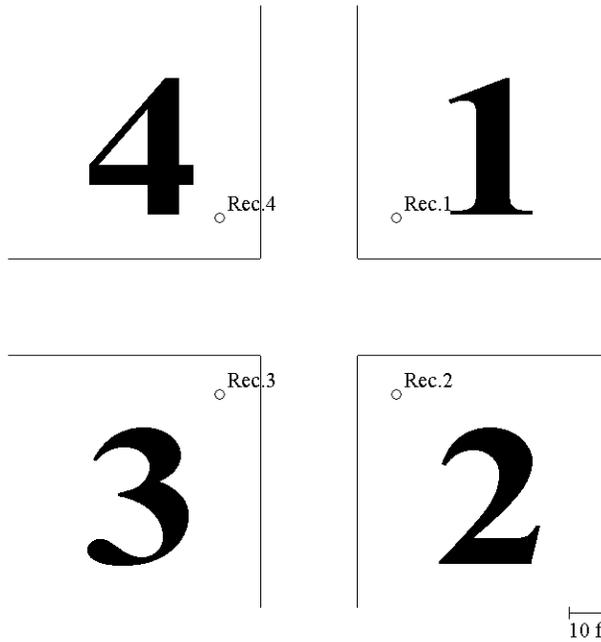
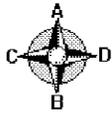
**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

11-07-11  
10:12 AM  
mercero west



Description: Roy St and 5th Ave 2040 no build am  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: Four-Way Intersection, 2 x 2  
 Street Names: A-B: Roy St C-D: 5th ave



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.3	3.9	Pass
2	2	10	10	4.2	3.8	Pass
3	3	10	10	4.0	3.7	Pass
4	4	10	10	4.1	3.8	Pass

\*Project PASSES 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at receptor 1.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

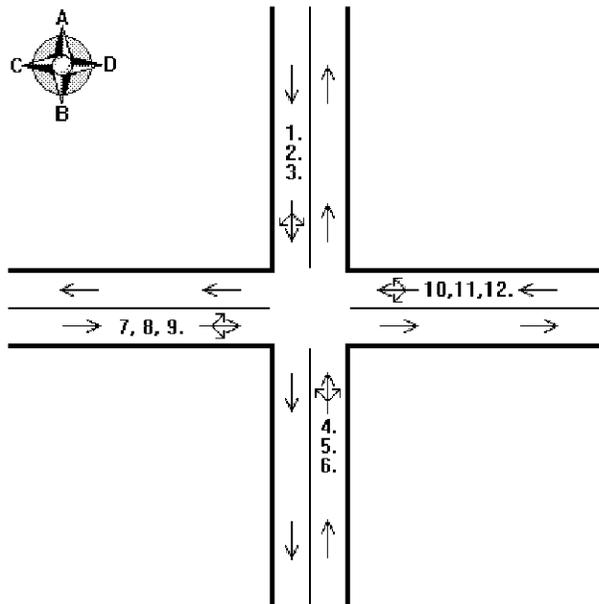
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	337
2	A-D Left Turn	5
3	A-C Right Turn	107
4	B-A Thru	321
5	B-C Left Turn	791
6	B-D Right Turn	61
7	C-D Thru	3
8	C-A Left Turn	3
9	C-B Right Turn	3
10	D-C Thru	5
11	D-B Left Turn	66
12	D-A Right Turn	112



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2040  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 65.73

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.72
Leg B	15	7.72
Leg C	15	7.72
Leg D	15	7.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

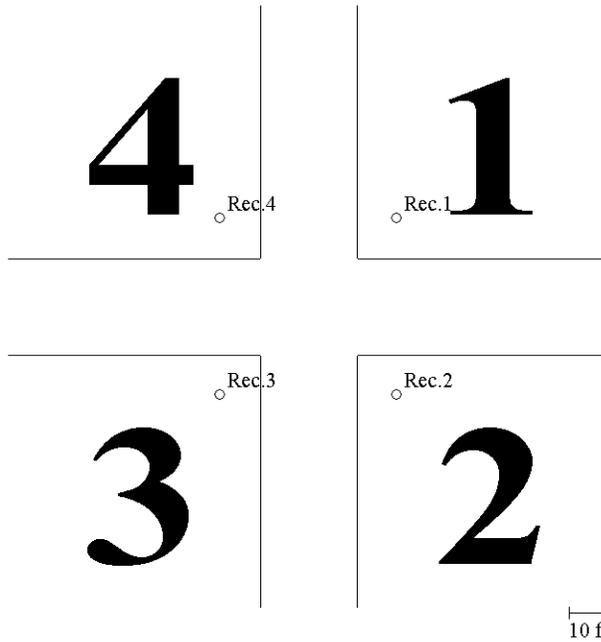
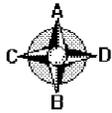
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

11-07-11  
10:10 AM  
mercero west



Description: Roy St and 5th Ave 2040 build am  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: Four-Way Intersection, 2 x 2  
 Street Names: A-B: Roy St C-D: 5th ave



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.1	3.8	Pass
2	2	10	10	4.0	3.7	Pass
3	3	10	10	4.2	3.8	Pass
4	4	10	10	4.1	3.8	Pass

\*Project PASSES 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at receptor 3.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

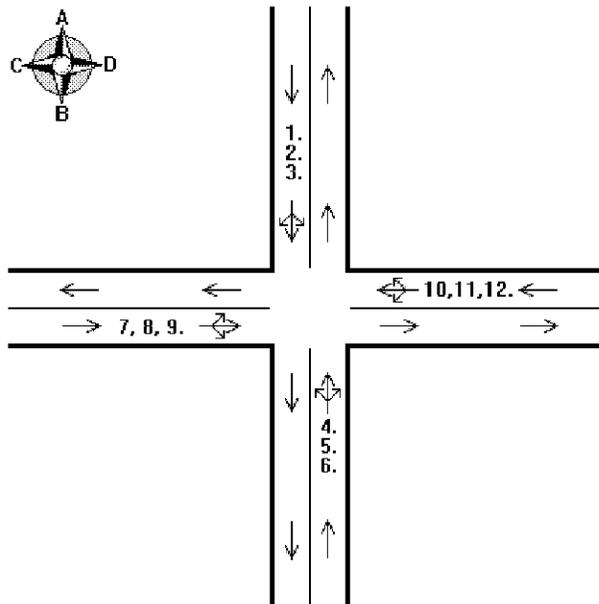
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	357
2	A-D Left Turn	10
3	A-C Right Turn	112
4	B-A Thru	326
5	B-C Left Turn	179
6	B-D Right Turn	41
7	C-D Thru	102
8	C-A Left Turn	102
9	C-B Right Turn	61
10	D-C Thru	77
11	D-B Left Turn	102
12	D-A Right Turn	5



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2040  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 65.73

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.72
Leg B	15	7.72
Leg C	15	7.72
Leg D	15	7.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

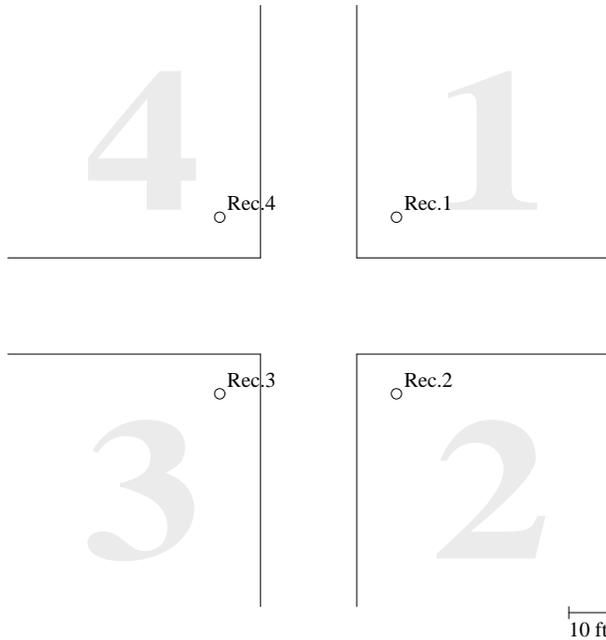
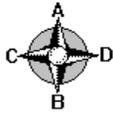
05-10-11

10:29 AM

mercer west



Description: **Roy St and 5th Ave Existing**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: Roy St C-D: 5th ave**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>1</u>	<u>10</u>	<u>10</u>	<u>4.2</u>	<u>3.8</u>	<u>Pass</u>
2	2	10	10	4.2	3.8	Pass
3	3	10	10	3.8	3.6	Pass
4	4	10	10	4.0	3.7	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

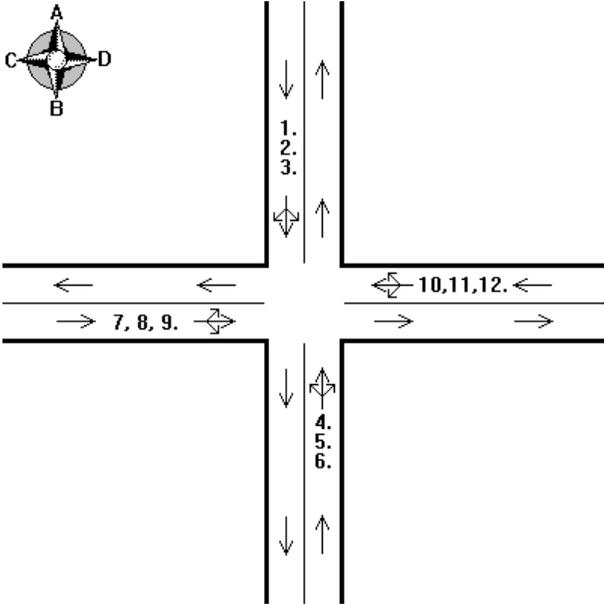
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	154
2	A-D Left Turn	6
3	A-C Right Turn	83
4	B-A Thru	314
5	B-C Left Turn	448
6	B-D Right Turn	123
7	C-D Thru	3
8	C-A Left Turn	3
9	C-B Right Turn	3
10	D-C Thru	94
11	D-B Left Turn	49
12	D-A Right Turn	9



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **Yes**  
Model Year: **2011**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **74.97**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	8.72
Leg B	15	8.72
Leg C	15	8.72
Leg D	15	8.72

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

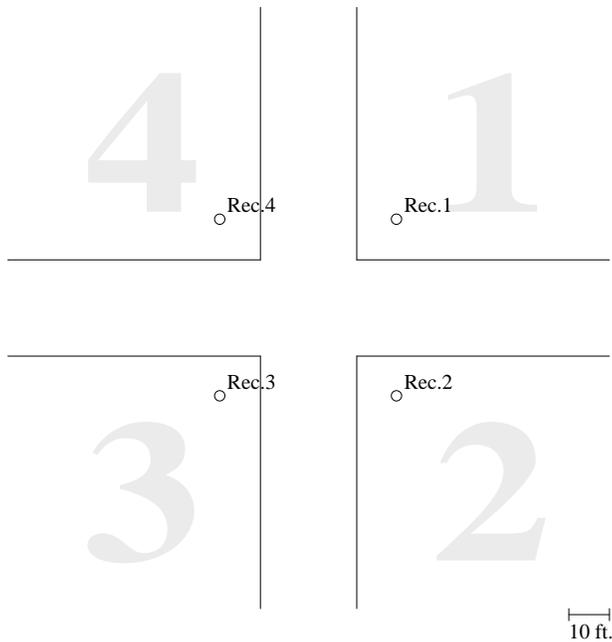
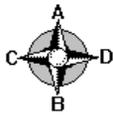
07-26-11

12:56 PM

mercer west



Description: **roy st and 5th ave n PM 2015 no build**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: 5th ave n C-D: mercer st**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>1</u>	<u>10</u>	<u>10</u>	<u>4.1</u>	<u>3.8</u>	<u>Pass</u>
2	2	10	10	4.1	3.8	Pass
3	3	10	10	3.7	3.5	Pass
4	4	10	10	3.9	3.6	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.

- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

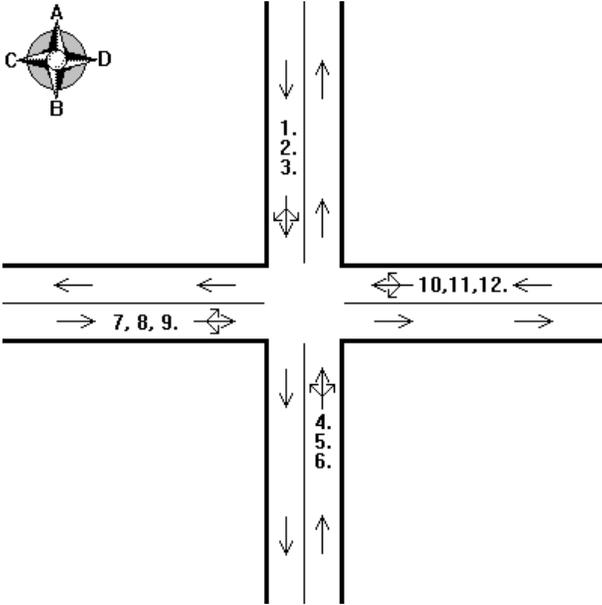
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	225
2	A-D Left Turn	5
3	A-C Right Turn	80
4	B-A Thru	285
5	B-C Left Turn	870
6	B-D Right Turn	40
7	C-D Thru	3
8	C-A Left Turn	3
9	C-B Right Turn	3
10	D-C Thru	70
11	D-B Left Turn	45
12	D-A Right Turn	5



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **Yes**  
Model Year: **2015**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **58.91**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	6.95
Leg B	15	6.95
Leg C	15	6.95
Leg D	15	6.95

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

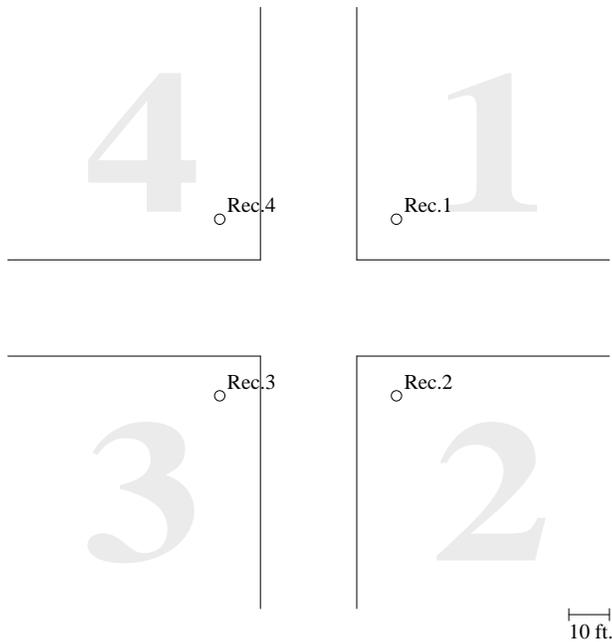
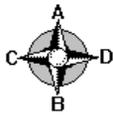
07-26-11

12:56 PM

mercer west



Description: **Roy st and 5th ave N 2015 Build PM**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: Roy St C-D: 5th ave N**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>1</u>	<u>10</u>	<u>10</u>	<u>3.9</u>	<u>3.6</u>	<u>Pass</u>
2	2	10	10	3.9	3.6	Pass
3	3	10	10	3.9	3.6	Pass
4	4	10	10	3.8	3.6	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

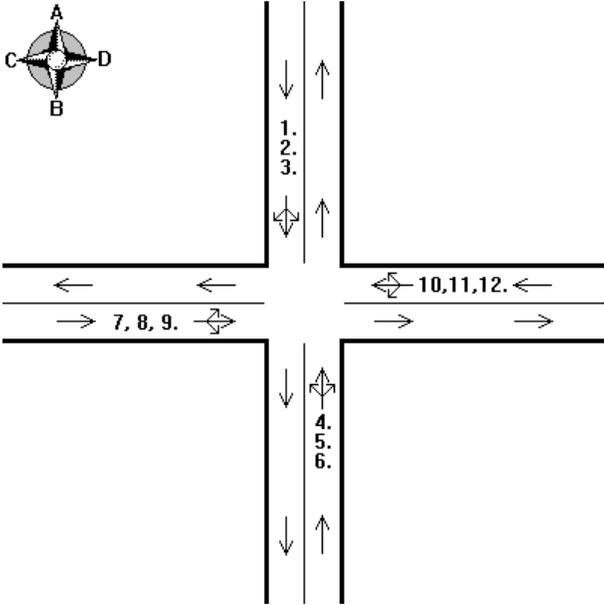
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	240
2	A-D Left Turn	5
3	A-C Right Turn	35
4	B-A Thru	275
5	B-C Left Turn	275
6	B-D Right Turn	165
7	C-D Thru	90
8	C-A Left Turn	60
9	C-B Right Turn	100
10	D-C Thru	110
11	D-B Left Turn	105
12	D-A Right Turn	5



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **Yes**  
Model Year: **2015**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **58.91**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	6.95
Leg B	15	6.95
Leg C	15	6.95
Leg D	15	6.95

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

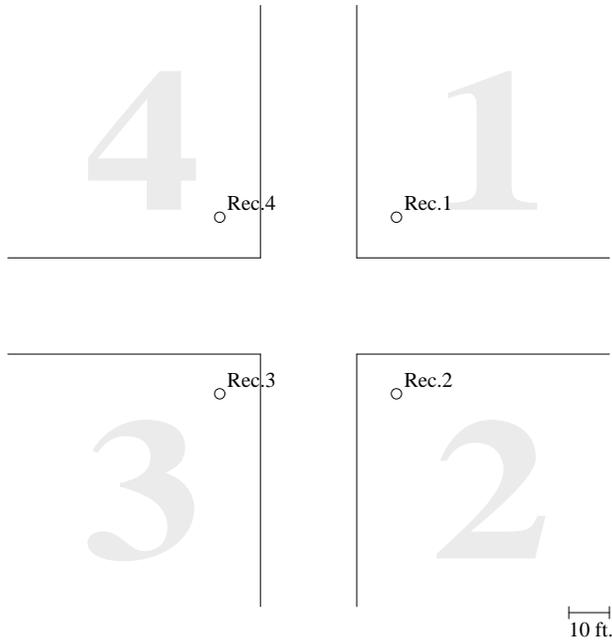
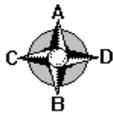
07-26-11

12:57 PM

mercer west



Description: **Roy st and 5th ave n 2030 No Build**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: Roy st C-D: 5th Ave N**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>1</u>	<u>10</u>	<u>10</u>	<u>4.3</u>	<u>3.9</u>	<u>Pass</u>
2	2	10	10	4.2	3.8	Pass
3	3	10	10	4.0	3.7	Pass
4	4	10	10	4.3	3.9	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

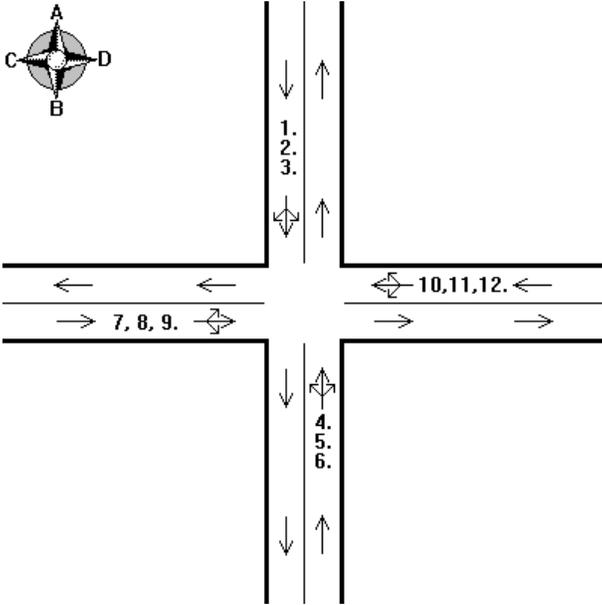
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	340
2	A-D Left Turn	15
3	A-C Right Turn	100
4	B-A Thru	290
5	B-C Left Turn	825
6	B-D Right Turn	65
7	C-D Thru	3
8	C-A Left Turn	3
9	C-B Right Turn	3
10	D-C Thru	90
11	D-B Left Turn	90
12	D-A Right Turn	10



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercero west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **Yes**  
Model Year: **2030**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **66.06**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.76
Leg B	15	7.76
Leg C	15	7.76
Leg D	15	7.76

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

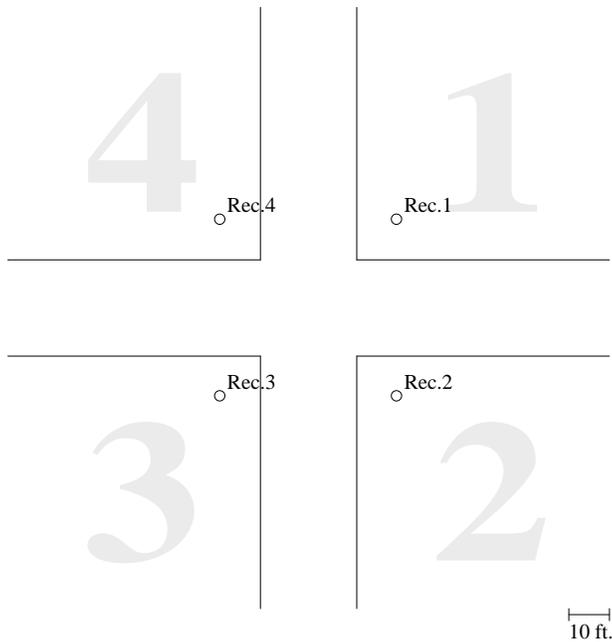
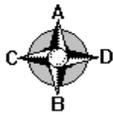
07-26-11

12:57 PM

mercer west



Description: **Roy St and 5th Ave N 2030 Build**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: Roy St C-D: 5th ave N**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
<u>1</u>	<u>1</u>	<u>10</u>	<u>10</u>	<u>4.4</u>	<u>4.0</u>	<u>Pass</u>
2	2	10	10	4.1	3.8	Pass
3	3	10	10	4.1	3.8	Pass
4	4	10	10	4.1	3.8	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of **3.0 ppm**.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

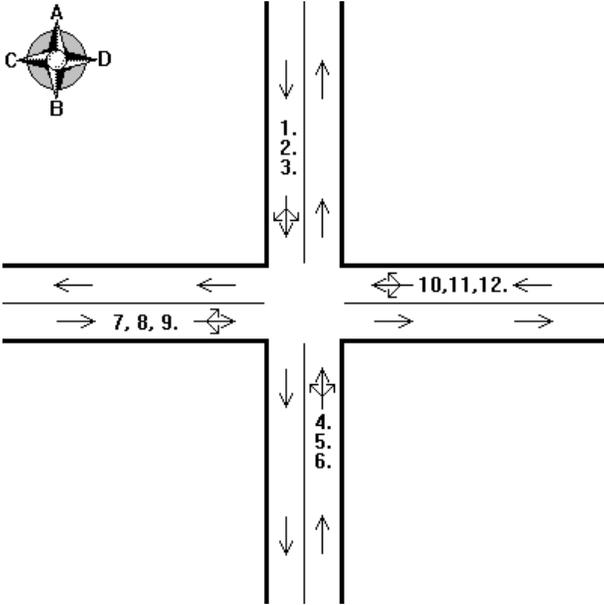
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	349
2	A-D Left Turn	5
3	A-C Right Turn	72
4	B-A Thru	335
5	B-C Left Turn	280
6	B-D Right Turn	165
7	C-D Thru	102
8	C-A Left Turn	71
9	C-B Right Turn	141
10	D-C Thru	100
11	D-B Left Turn	159
12	D-A Right Turn	5



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: **Western Washington - KING County**  
CO Maint. Area: **Puget Sound**  
I/M Program: **Yes**  
Model Year: **2030**  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): **66.06**

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.76
Leg B	15	7.76
Leg C	15	7.76
Leg D	15	7.76

**\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.**

## Traffic Signal Timing:

Total Cycle Length (sec): **60**

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

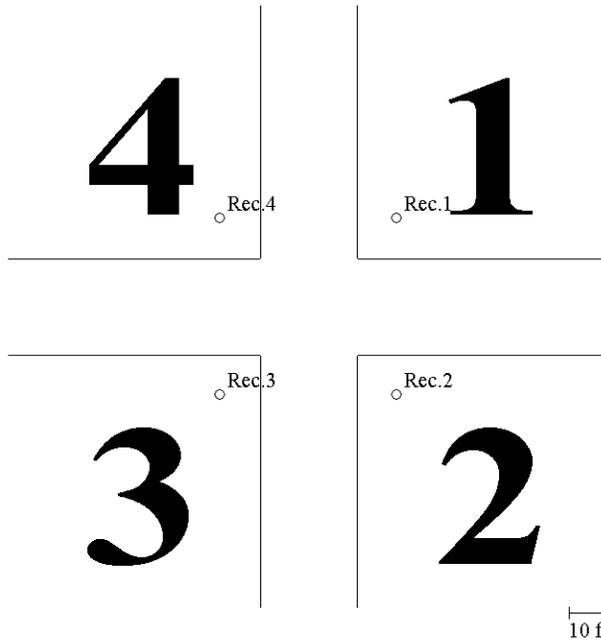
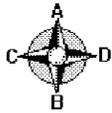
**\*Red times are equal to the "Quick and Easy" values.**

# Washington State Intersection Screening Tool 2.0

11-01-11  
01:17 PM  
mercero west



Description: Roy st and 5th ave n 2040 No Build  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: Four-Way Intersection, 2 x 2  
 Street Names: A-B: Roy st C-D: 5th Ave N



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.3	3.9	Pass
2	2	10	10	4.2	3.8	Pass
3	3	10	10	4.0	3.7	Pass
4	4	10	10	4.4	4.0	Pass

\*Project PASSES 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at receptor 4.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

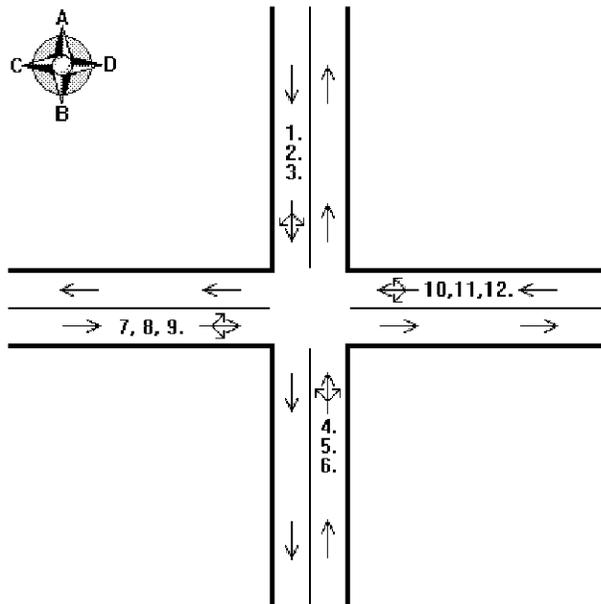
mercier west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	351
2	A-D Left Turn	15
3	A-C Right Turn	103
4	B-A Thru	299
5	B-C Left Turn	851
6	B-D Right Turn	67
7	C-D Thru	3
8	C-A Left Turn	3
9	C-B Right Turn	3
10	D-C Thru	93
11	D-B Left Turn	93
12	D-A Right Turn	10



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2040  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 65.73

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.72
Leg B	15	7.72
Leg C	15	7.72
Leg D	15	7.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

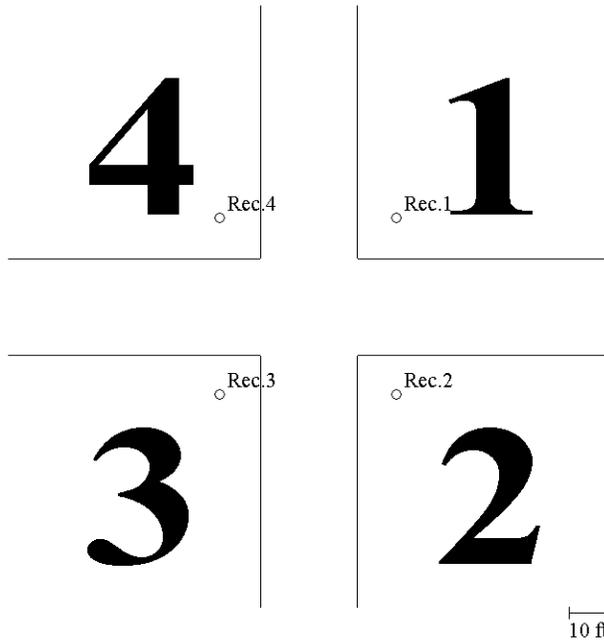
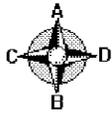
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

11-01-11  
01:16 PM  
mercero west



Description: Roy St and 5th Ave N 2040 Build  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: Four-Way Intersection, 2 x 2  
 Street Names: A-B: Roy St C-D: 5th ave N



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.4	4.0	Pass
2	2	10	10	4.1	3.8	Pass
3	3	10	10	4.1	3.8	Pass
4	4	10	10	4.1	3.8	Pass

\*Project PASSES 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at receptor 1.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

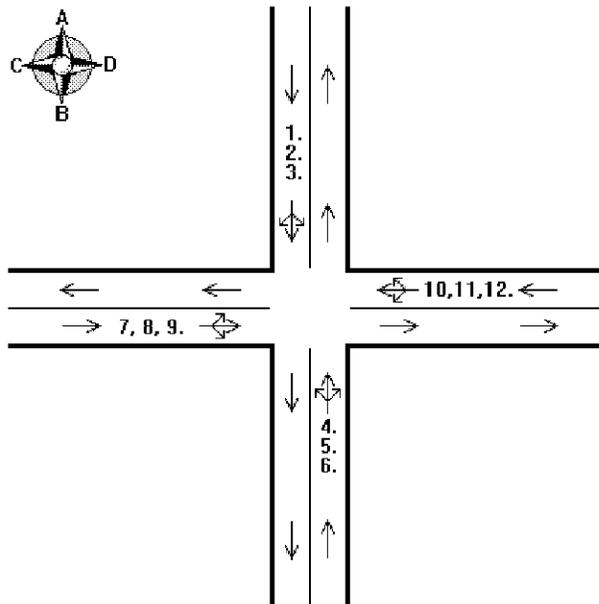
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	360
2	A-D Left Turn	5
3	A-C Right Turn	74
4	B-A Thru	346
5	B-C Left Turn	289
6	B-D Right Turn	170
7	C-D Thru	105
8	C-A Left Turn	73
9	C-B Right Turn	146
10	D-C Thru	103
11	D-B Left Turn	164
12	D-A Right Turn	5



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2040  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 65.73

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.72
Leg B	15	7.72
Leg C	15	7.72
Leg D	15	7.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

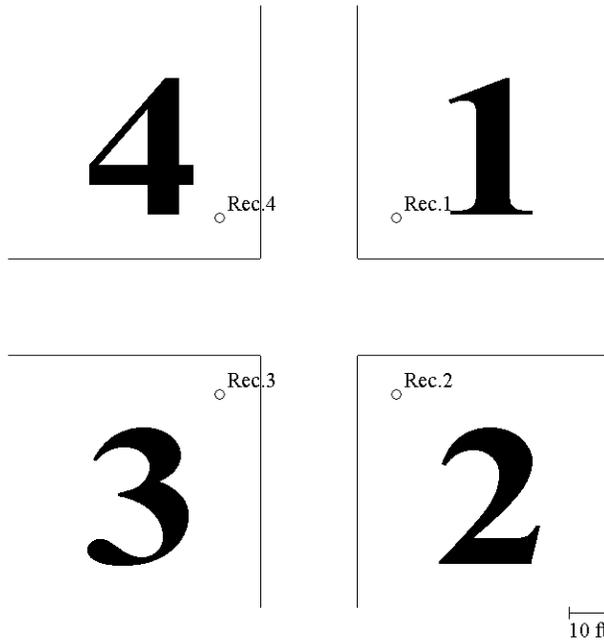
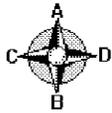
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

01-03-12  
08:55 AM  
mercero west



Description: **W Mercer St and 1st W 2015 build AM**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: W Mercer St C-D: 1st Ave West**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.0	3.7	Pass
2	2	10	10	4.0	3.7	Pass
3	3	10	10	4.0	3.7	Pass
4	4	10	10	3.9	3.6	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

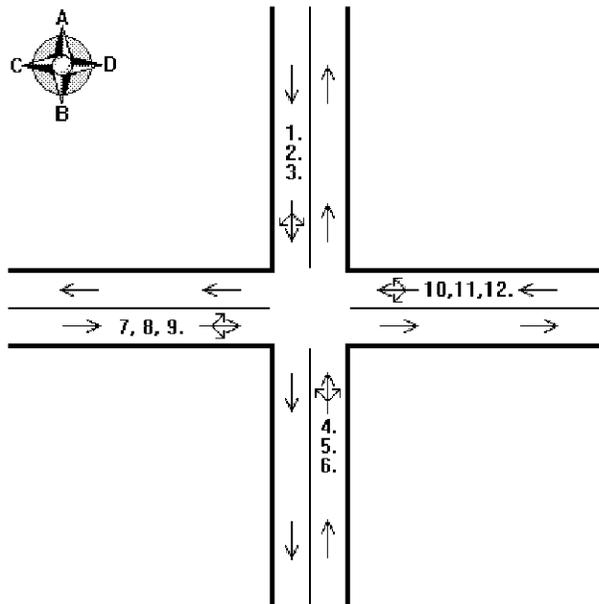
mercier west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	10
2	A-D Left Turn	15
3	A-C Right Turn	10
4	B-A Thru	55
5	B-C Left Turn	15
6	B-D Right Turn	65
7	C-D Thru	710
8	C-A Left Turn	15
9	C-B Right Turn	20
10	D-C Thru	590
11	D-B Left Turn	20
12	D-A Right Turn	15



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2015  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 58.91

Approach	Speed (mph)	EF (g/mile)
Leg A	15	6.95
Leg B	15	6.95
Leg C	15	6.95
Leg D	15	6.95

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

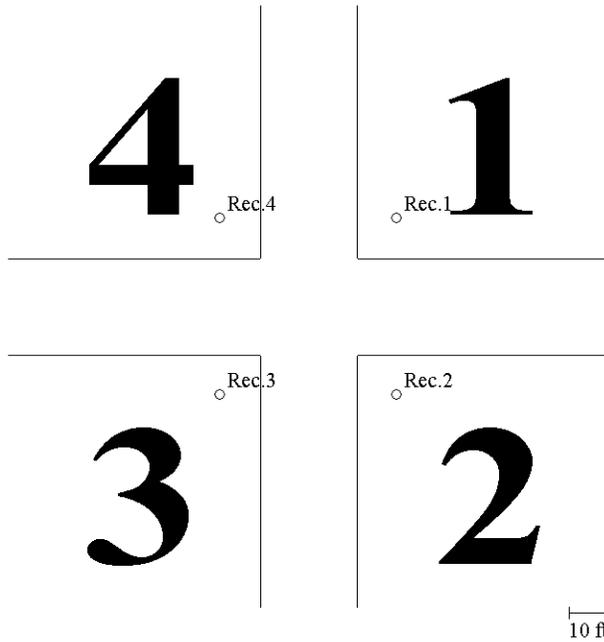
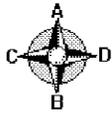
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

01-03-12  
08:58 AM  
mercero west



Description: **W Mercer St and 1st W 2015 build PM**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: W Mercer St C-D: 1st Ave West**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.1	3.8	Pass
2	2	10	10	4.3	3.9	Pass
3	3	10	10	4.1	3.8	Pass
4	4	10	10	4.2	3.8	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 2**.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

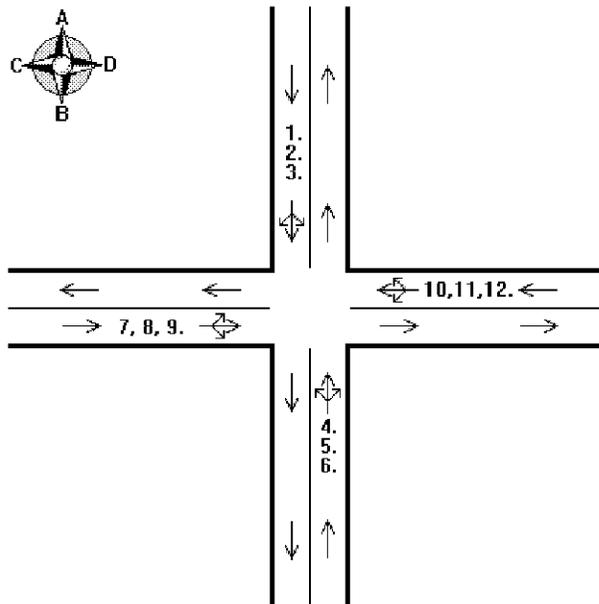
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	30
2	A-D Left Turn	40
3	A-C Right Turn	25
4	B-A Thru	200
5	B-C Left Turn	100
6	B-D Right Turn	250
7	C-D Thru	805
8	C-A Left Turn	55
9	C-B Right Turn	25
10	D-C Thru	535
11	D-B Left Turn	55
12	D-A Right Turn	95



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2015  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 58.91

Approach	Speed (mph)	EF (g/mile)
Leg A	15	6.95
Leg B	15	6.95
Leg C	15	6.95
Leg D	15	6.95

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

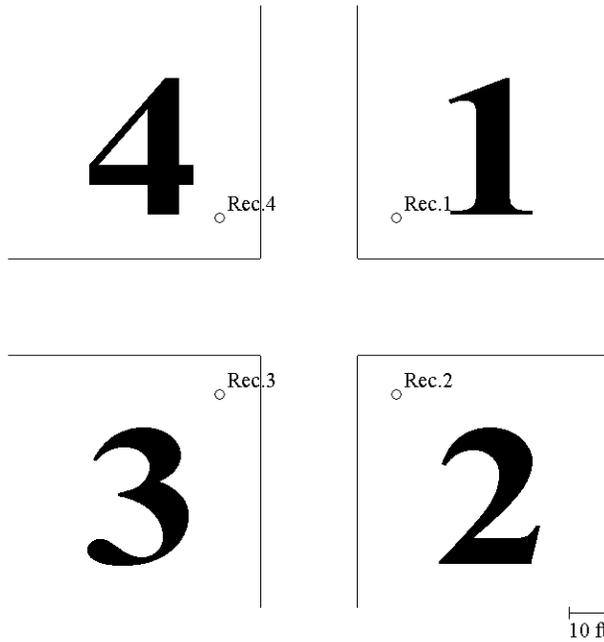
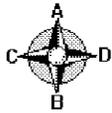
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

01-03-12  
08:48 AM  
mercero west



Description: **W Mercer St and 1st W 2015 no build AM**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: W Mercer St C-D: 1st Ave West**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	3.9	3.6	Pass
2	2	10	10	3.9	3.6	Pass
3	3	10	10	3.9	3.6	Pass
4	4	10	10	3.9	3.6	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 1**.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

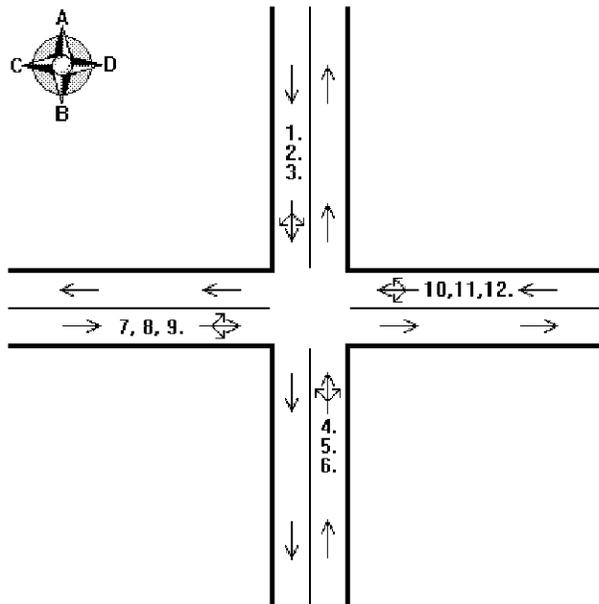
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	10
2	A-D Left Turn	15
3	A-C Right Turn	10
4	B-A Thru	55
5	B-C Left Turn	15
6	B-D Right Turn	65
7	C-D Thru	705
8	C-A Left Turn	15
9	C-B Right Turn	15
10	D-C Thru	505
11	D-B Left Turn	15
12	D-A Right Turn	5



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2015  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 58.91

Approach	Speed (mph)	EF (g/mile)
Leg A	15	6.95
Leg B	15	6.95
Leg C	15	6.95
Leg D	15	6.95

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

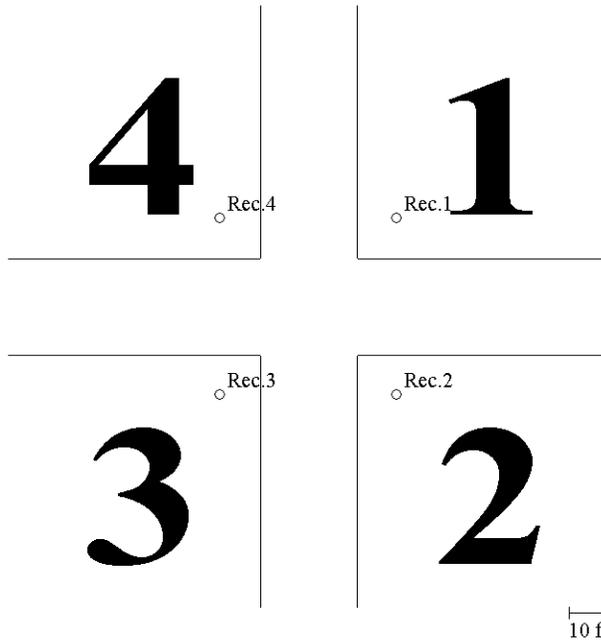
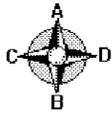
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

01-03-12  
08:51 AM  
mercero west



Description: **W Mercer St and 1st W 2015 no build PM**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: W Mercer St C-D: 1st Ave West**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.1	3.8	Pass
2	2	10	10	4.3	3.9	Pass
3	3	10	10	4.2	3.8	Pass
4	4	10	10	4.2	3.8	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 2**.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

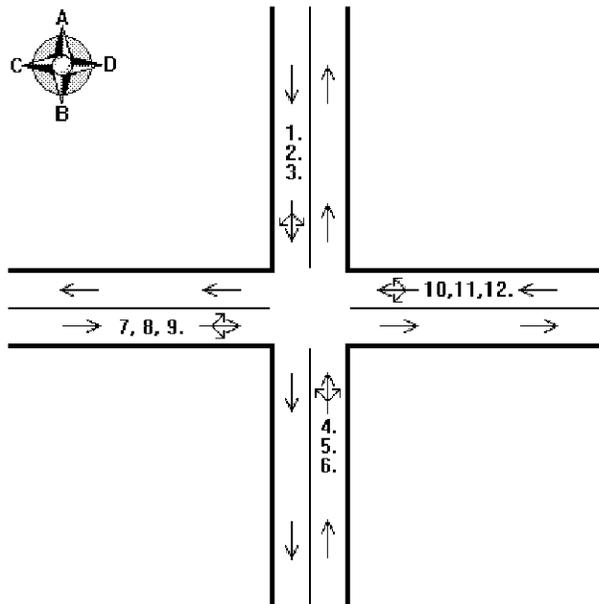
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	30
2	A-D Left Turn	40
3	A-C Right Turn	25
4	B-A Thru	200
5	B-C Left Turn	100
6	B-D Right Turn	250
7	C-D Thru	835
8	C-A Left Turn	45
9	C-B Right Turn	15
10	D-C Thru	500
11	D-B Left Turn	30
12	D-A Right Turn	75



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2015  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 58.91

Approach	Speed (mph)	EF (g/mile)
Leg A	15	6.95
Leg B	15	6.95
Leg C	15	6.95
Leg D	15	6.95

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

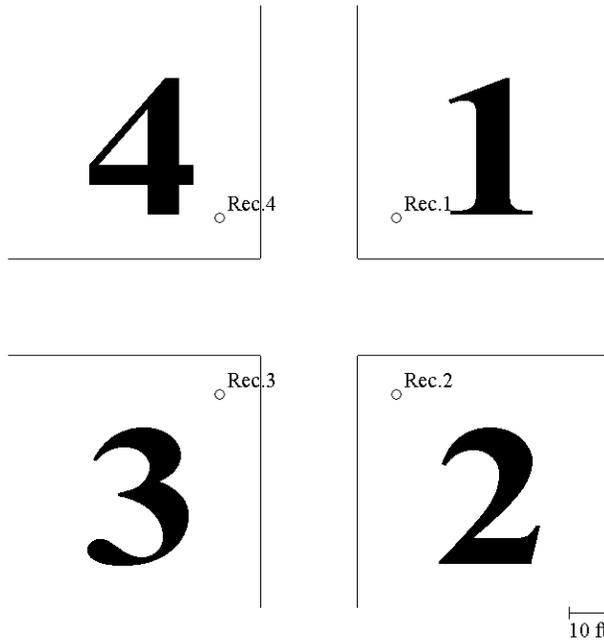
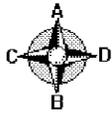
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

01-03-12  
09:05 AM  
mercero west



Description: W Mercer St and 1st W 2030 build AM  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: Four-Way Intersection, 2 x 2  
 Street Names: A-B: W Mercer St C-D: 1st Ave West



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.2	3.8	Pass
2	2	10	10	4.3	3.9	Pass
3	3	10	10	4.1	3.8	Pass
4	4	10	10	4.2	3.8	Pass

\*Project PASSES 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at receptor 2.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

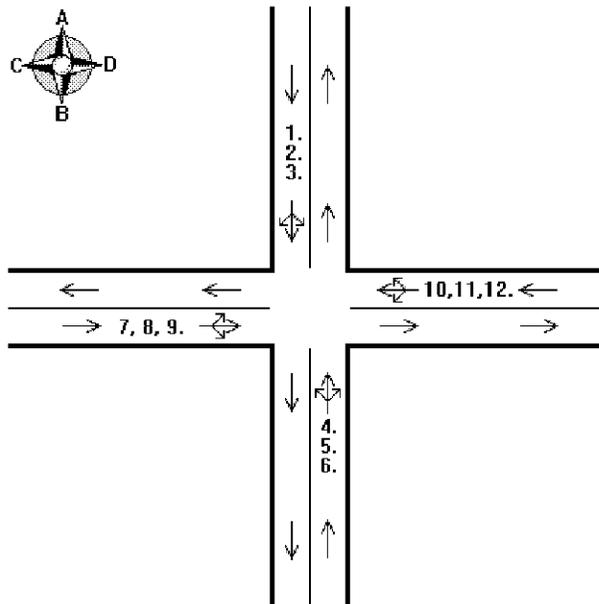
mercier west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	20
2	A-D Left Turn	15
3	A-C Right Turn	10
4	B-A Thru	55
5	B-C Left Turn	15
6	B-D Right Turn	65
7	C-D Thru	765
8	C-A Left Turn	15
9	C-B Right Turn	15
10	D-C Thru	740
11	D-B Left Turn	20
12	D-A Right Turn	5



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2030  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 66.06

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.76
Leg B	15	7.76
Leg C	15	7.76
Leg D	15	7.76

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

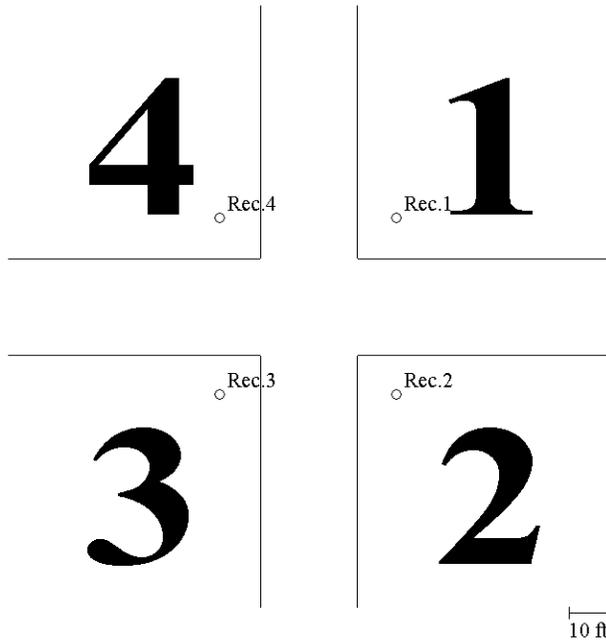
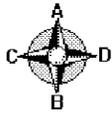
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

01-03-12  
09:06 AM  
mercero west



Description: **W Mercer St and 1st W 2030 build PM**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: W Mercer St C-D: 1st Ave West**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.4	4.0	Pass
2	2	10	10	4.5	4.0	Pass
3	3	10	10	4.3	3.9	Pass
4	4	10	10	4.4	4.0	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 2**.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

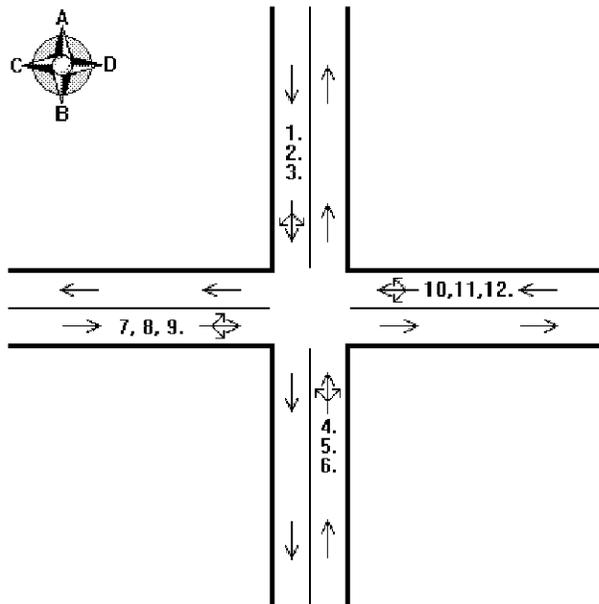
mercier west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	30
2	A-D Left Turn	40
3	A-C Right Turn	25
4	B-A Thru	200
5	B-C Left Turn	100
6	B-D Right Turn	250
7	C-D Thru	920
8	C-A Left Turn	10
9	C-B Right Turn	15
10	D-C Thru	565
11	D-B Left Turn	30
12	D-A Right Turn	75



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2030  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 66.06

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.76
Leg B	15	7.76
Leg C	15	7.76
Leg D	15	7.76

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

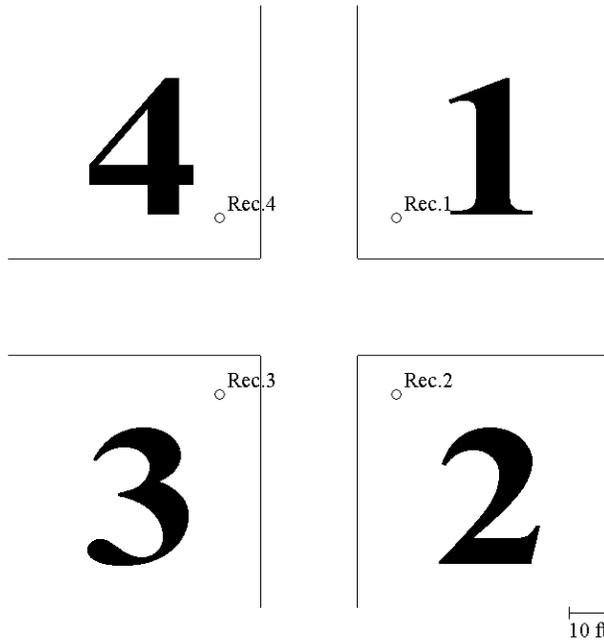
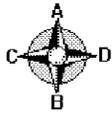
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

01-03-12  
09:01 AM  
mercero west



Description: W Mercer St and 1st W 2030 no build AM  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: Four-Way Intersection, 2 x 2  
 Street Names: A-B: W Mercer St C-D: 1st Ave West



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.0	3.7	Pass
2	2	10	10	4.2	3.8	Pass
3	3	10	10	4.1	3.8	Pass
4	4	10	10	4.1	3.8	Pass

\*Project PASSES 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at receptor 2.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

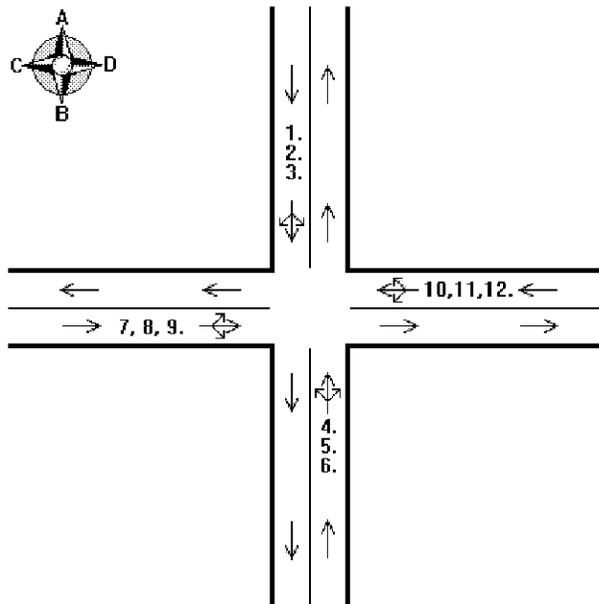
mercier west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	10
2	A-D Left Turn	15
3	A-C Right Turn	15
4	B-A Thru	55
5	B-C Left Turn	15
6	B-D Right Turn	65
7	C-D Thru	705
8	C-A Left Turn	15
9	C-B Right Turn	15
10	D-C Thru	590
11	D-B Left Turn	15
12	D-A Right Turn	5



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2030  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 66.06

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.76
Leg B	15	7.76
Leg C	15	7.76
Leg D	15	7.76

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

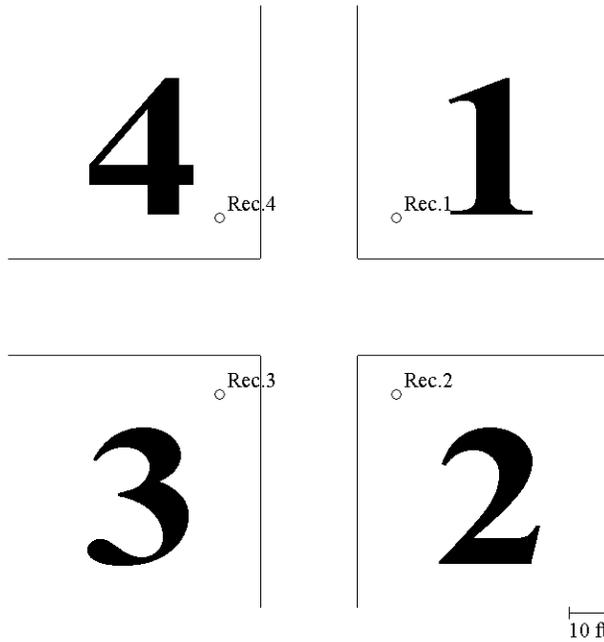
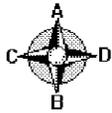
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

01-03-12  
09:02 AM  
mercero west



Description: **W Mercer St and 1st W 2030 no build PM**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: W Mercer St C-D: 1st Ave West**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.3	3.9	Pass
2	2	10	10	4.5	4.0	Pass
3	3	10	10	4.3	3.9	Pass
4	4	10	10	4.4	4.0	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 2**.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

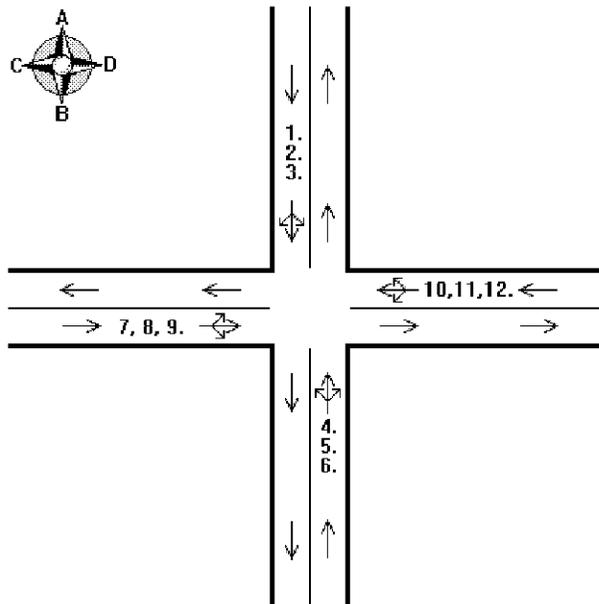
mercier west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	30
2	A-D Left Turn	40
3	A-C Right Turn	25
4	B-A Thru	200
5	B-C Left Turn	100
6	B-D Right Turn	250
7	C-D Thru	800
8	C-A Left Turn	45
9	C-B Right Turn	15
10	D-C Thru	550
11	D-B Left Turn	30
12	D-A Right Turn	75



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2030  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 66.06

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.76
Leg B	15	7.76
Leg C	15	7.76
Leg D	15	7.76

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

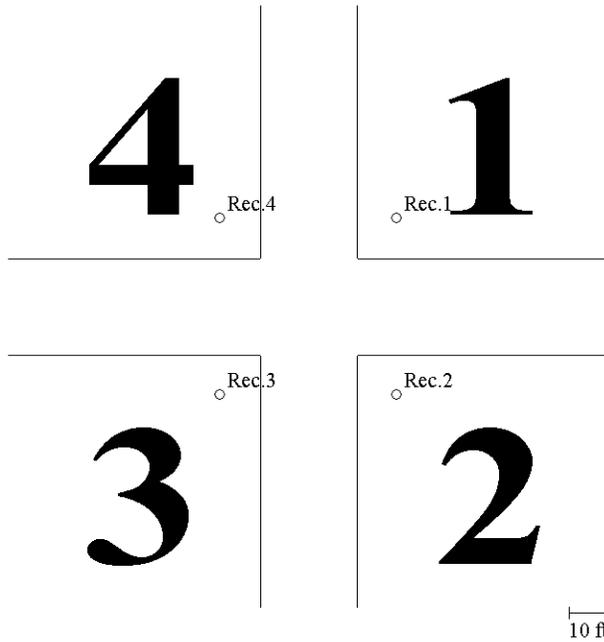
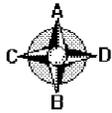
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

01-03-12  
09:25 AM  
mercero west



Description: **W Mercer St and 1st W 2040 build AM**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: W Mercer St C-D: 1st Ave West**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.2	3.8	Pass
2	2	10	10	4.3	3.9	Pass
3	3	10	10	4.1	3.8	Pass
4	4	10	10	4.3	3.9	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 2**.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

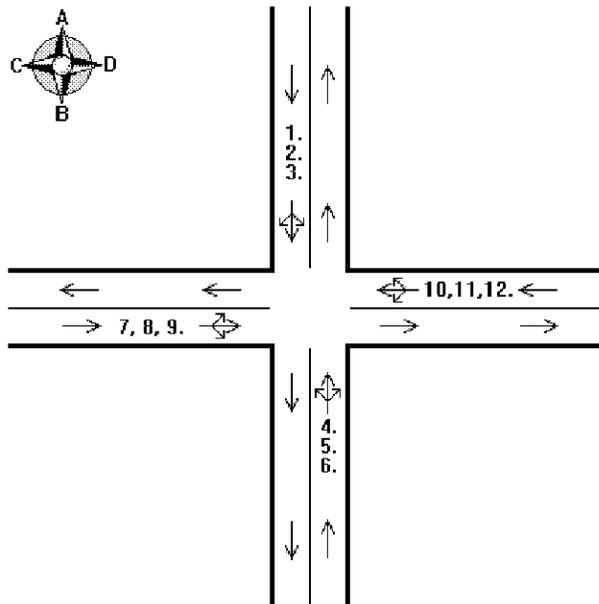
mercier west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	21
2	A-D Left Turn	15
3	A-C Right Turn	10
4	B-A Thru	57
5	B-C Left Turn	15
6	B-D Right Turn	67
7	C-D Thru	789
8	C-A Left Turn	15
9	C-B Right Turn	15
10	D-C Thru	764
11	D-B Left Turn	21
12	D-A Right Turn	5



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2040  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 65.73

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.72
Leg B	15	7.72
Leg C	15	7.72
Leg D	15	7.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

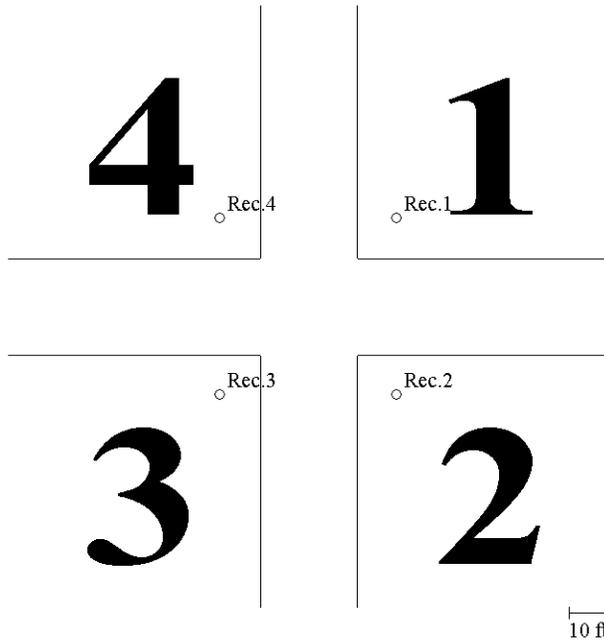
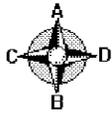
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

01-03-12  
09:27 AM  
mercero west



Description: W Mercer St and 1st W 2040 build PM  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: Four-Way Intersection, 2 x 2  
 Street Names: A-B: W Mercer St C-D: 1st Ave West



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.4	4.0	Pass
2	2	10	10	4.5	4.0	Pass
3	3	10	10	4.3	3.9	Pass
4	4	10	10	4.4	4.0	Pass

\*Project PASSES 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at receptor 2.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

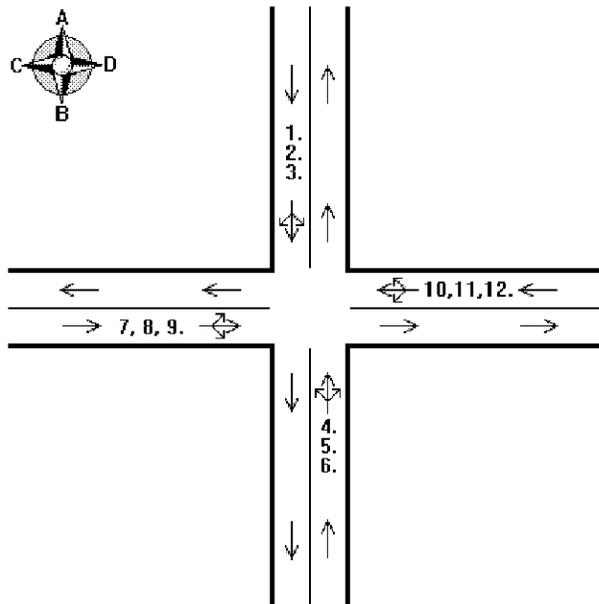
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	31
2	A-D Left Turn	41
3	A-C Right Turn	26
4	B-A Thru	206
5	B-C Left Turn	103
6	B-D Right Turn	258
7	C-D Thru	949
8	C-A Left Turn	10
9	C-B Right Turn	15
10	D-C Thru	583
11	D-B Left Turn	31
12	D-A Right Turn	77



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2040  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 65.73

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.72
Leg B	15	7.72
Leg C	15	7.72
Leg D	15	7.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

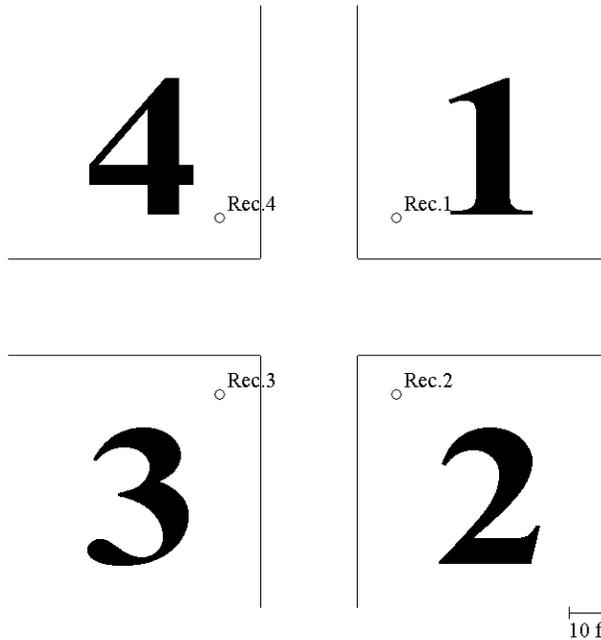
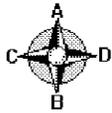
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

01-03-12  
09:18 AM  
mercero west



Description: W Mercer St and 1st W 2040 no build AM  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: Four-Way Intersection, 2 x 2  
 Street Names: A-B: W Mercer St C-D: 1st Ave West



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.0	3.7	Pass
2	2	10	10	4.2	3.8	Pass
3	3	10	10	4.1	3.8	Pass
4	4	10	10	4.1	3.8	Pass

\*Project PASSES 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at receptor 2.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

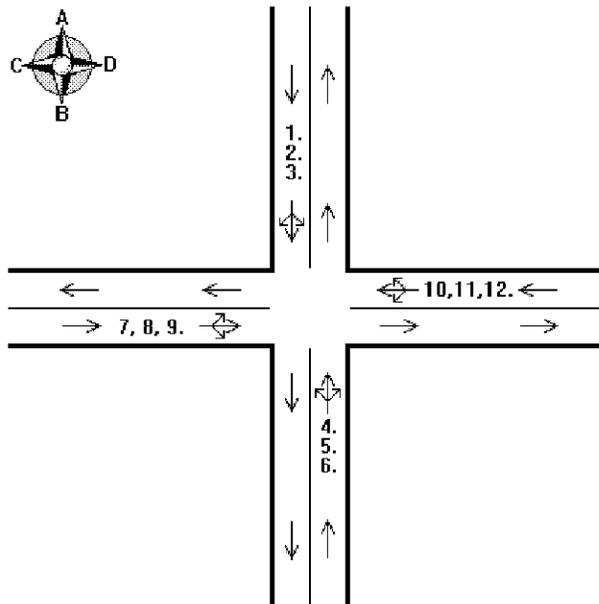
mercier west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	10
2	A-D Left Turn	15
3	A-C Right Turn	15
4	B-A Thru	57
5	B-C Left Turn	15
6	B-D Right Turn	67
7	C-D Thru	728
8	C-A Left Turn	15
9	C-B Right Turn	15
10	D-C Thru	609
11	D-B Left Turn	15
12	D-A Right Turn	5



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2040  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 65.73

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.72
Leg B	15	7.72
Leg C	15	7.72
Leg D	15	7.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

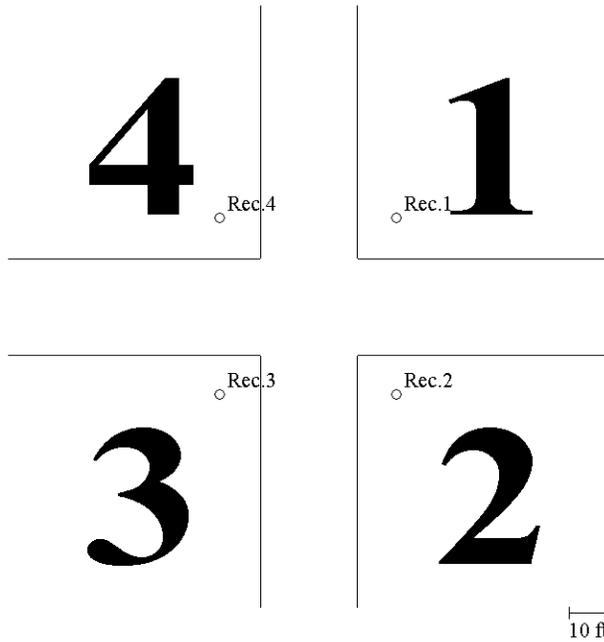
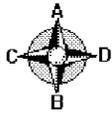
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

01-03-12  
09:24 AM  
mercero west



Description: **W Mercer St and 1st W 2040 no build PM**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: W Mercer St C-D: 1st Ave West**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.3	3.9	Pass
2	2	10	10	4.5	4.0	Pass
3	3	10	10	4.3	3.9	Pass
4	4	10	10	4.4	4.0	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 2**.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

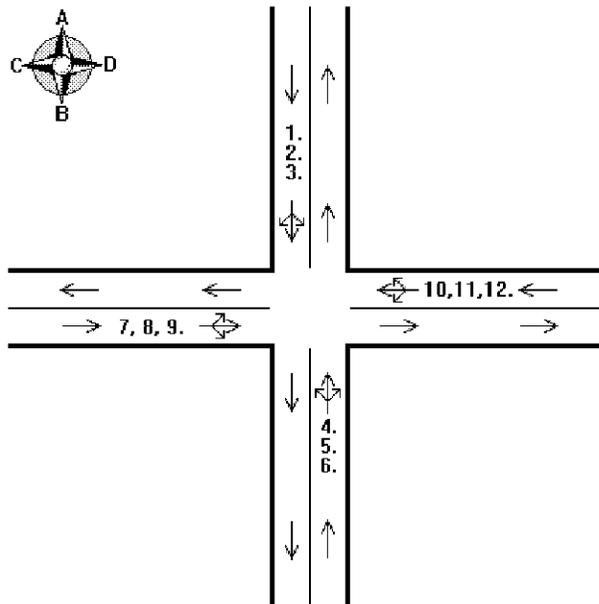
mercier west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	31
2	A-D Left Turn	41
3	A-C Right Turn	26
4	B-A Thru	206
5	B-C Left Turn	103
6	B-D Right Turn	258
7	C-D Thru	826
8	C-A Left Turn	46
9	C-B Right Turn	15
10	D-C Thru	568
11	D-B Left Turn	31
12	D-A Right Turn	77



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2040  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 65.73

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.72
Leg B	15	7.72
Leg C	15	7.72
Leg D	15	7.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

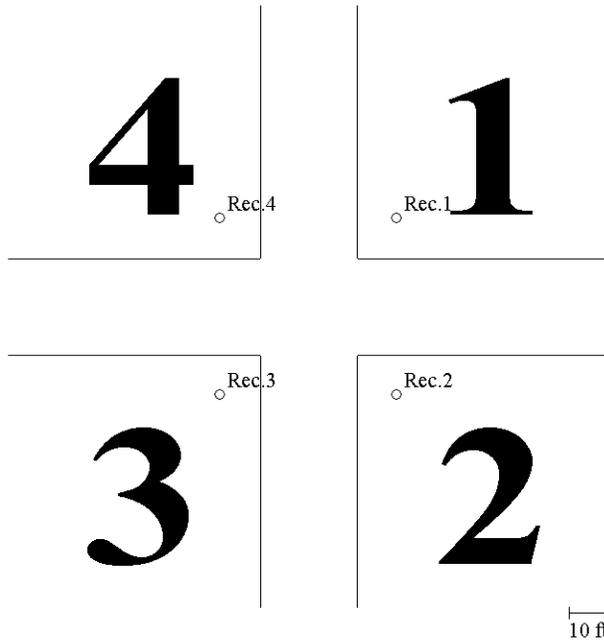
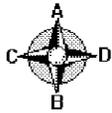
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

01-03-12  
08:43 AM  
mercero west



Description: W Mercer St and 1st W existing AM  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: Four-Way Intersection, 2 x 2  
 Street Names: A-B: W Mercer St C-D: 1st Ave West



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	3.8	3.6	Pass
2	2	10	10	4.2	3.8	Pass
3	3	10	10	4.1	3.8	Pass
4	4	10	10	3.7	3.5	Pass

\*Project PASSES 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at receptor 2.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

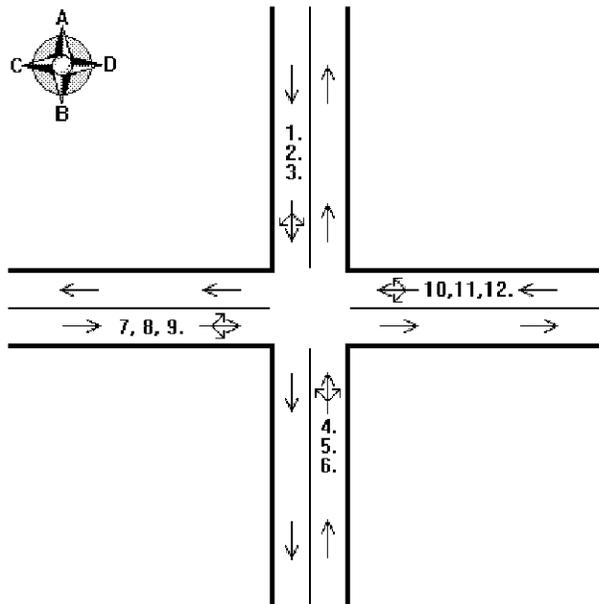
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	10
2	A-D Left Turn	15
3	A-C Right Turn	10
4	B-A Thru	55
5	B-C Left Turn	15
6	B-D Right Turn	65
7	C-D Thru	625
8	C-A Left Turn	15
9	C-B Right Turn	15
10	D-C Thru	170
11	D-B Left Turn	15
12	D-A Right Turn	5



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2011  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 74.97

Approach	Speed (mph)	EF (g/mile)
Leg A	15	8.72
Leg B	15	8.72
Leg C	15	8.72
Leg D	15	8.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

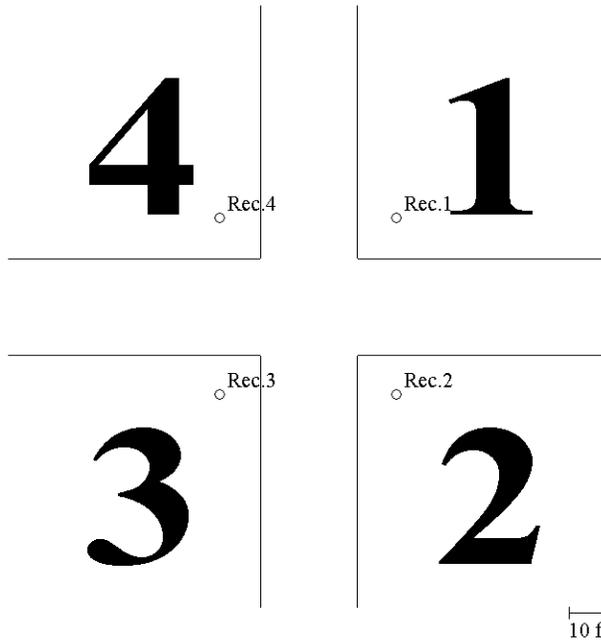
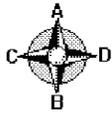
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

01-03-12  
08:45 AM  
mercero west



Description: W Mercer St and 1st W existing PM  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: Four-Way Intersection, 2 x 2  
 Street Names: A-B: W Mercer St C-D: 1st Ave West



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.2	3.8	Pass
2	2	10	10	4.2	3.8	Pass
3	3	10	10	4.0	3.7	Pass
4	4	10	10	4.0	3.7	Pass

\*Project PASSES 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at receptor 1.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

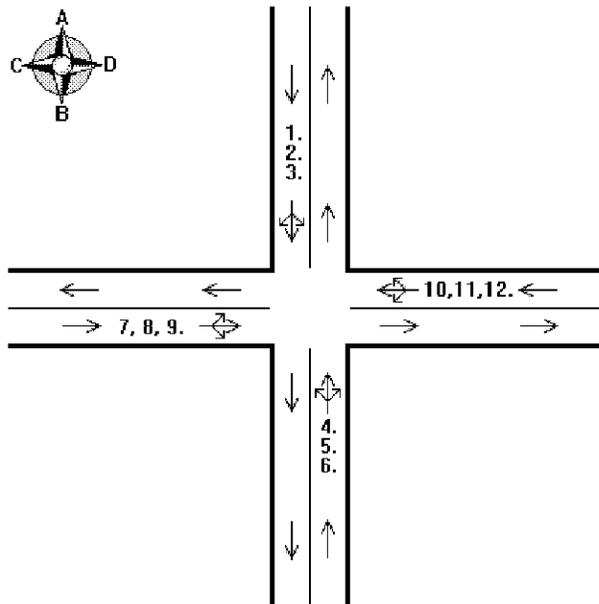
mercier west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	30
2	A-D Left Turn	28
3	A-C Right Turn	14
4	B-A Thru	200
5	B-C Left Turn	70
6	B-D Right Turn	170
7	C-D Thru	554
8	C-A Left Turn	45
9	C-B Right Turn	13
10	D-C Thru	274
11	D-B Left Turn	22
12	D-A Right Turn	77



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2011  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 74.97

Approach	Speed (mph)	EF (g/mile)
Leg A	15	8.72
Leg B	15	8.72
Leg C	15	8.72
Leg D	15	8.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

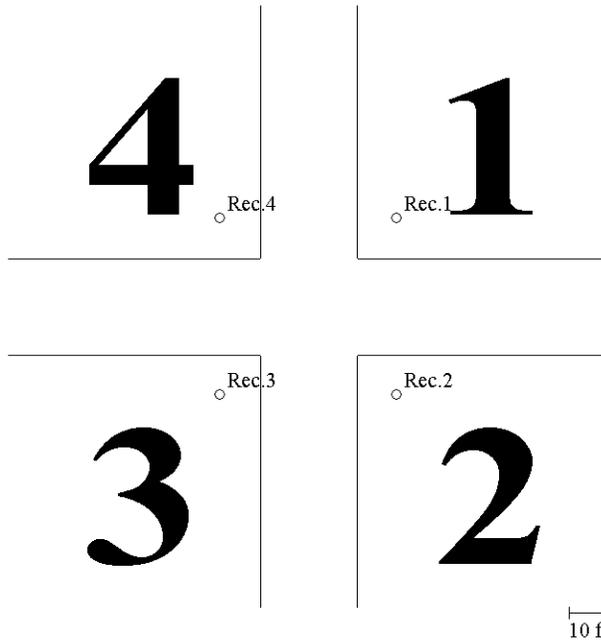
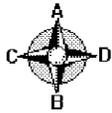
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

01-03-12  
08:22 AM  
mercero west



Description: **W Mercer St and Queen Anne Ave 2015 build PM**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: W Mercer St C-D: Queen Anne Ave**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.3	3.9	Pass
2	2	10	10	4.1	3.8	Pass
3	3	10	10	4.3	3.9	Pass
4	4	10	10	4.5	4.0	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 4**.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

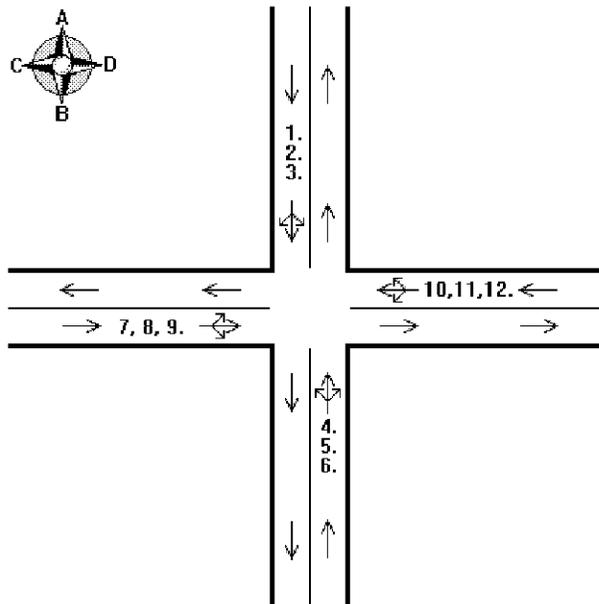
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	415
2	A-D Left Turn	90
3	A-C Right Turn	65
4	B-A Thru	3
5	B-C Left Turn	3
6	B-D Right Turn	3
7	C-D Thru	885
8	C-A Left Turn	80
9	C-B Right Turn	120
10	D-C Thru	620
11	D-B Left Turn	270
12	D-A Right Turn	200



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2015  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 58.91

Approach	Speed (mph)	EF (g/mile)
Leg A	15	6.95
Leg B	15	6.95
Leg C	15	6.95
Leg D	15	6.95

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

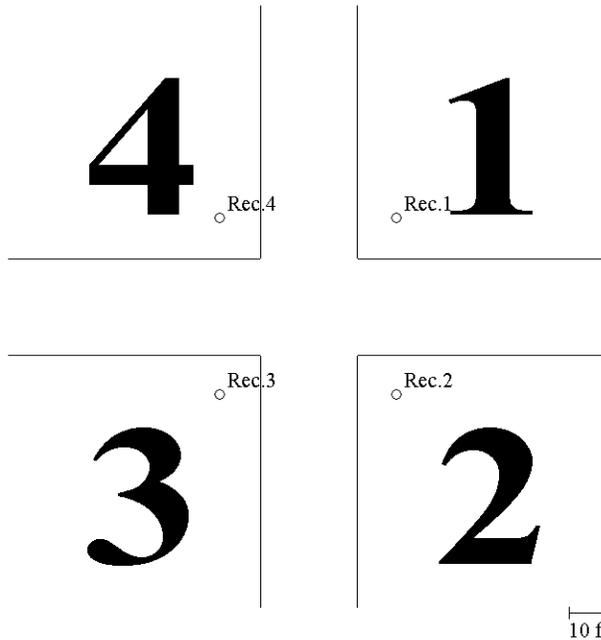
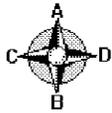
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

01-03-12  
08:17 AM  
mercero west



Description: **W Mercer St and Queen Anne Ave 2015 no build**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: W Mercer St C-D: Queen Anne Ave**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.1	3.8	Pass
2	2	10	10	4.2	3.8	Pass
3	3	10	10	4.4	4.0	Pass
4	4	10	10	4.1	3.8	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 3**.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

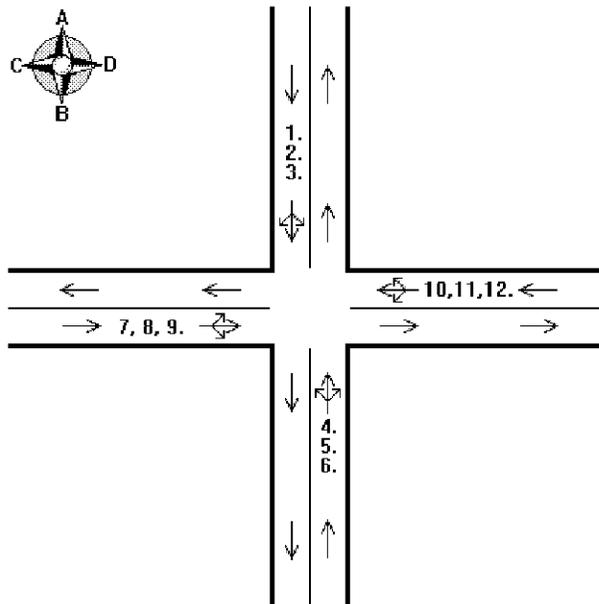
mercier west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	530
2	A-D Left Turn	90
3	A-C Right Turn	350
4	B-A Thru	3
5	B-C Left Turn	3
6	B-D Right Turn	3
7	C-D Thru	1005
8	C-A Left Turn	3
9	C-B Right Turn	120
10	D-C Thru	250
11	D-B Left Turn	50
12	D-A Right Turn	3



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2015  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 58.91

Approach	Speed (mph)	EF (g/mile)
Leg A	15	6.95
Leg B	15	6.95
Leg C	15	6.95
Leg D	15	6.95

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

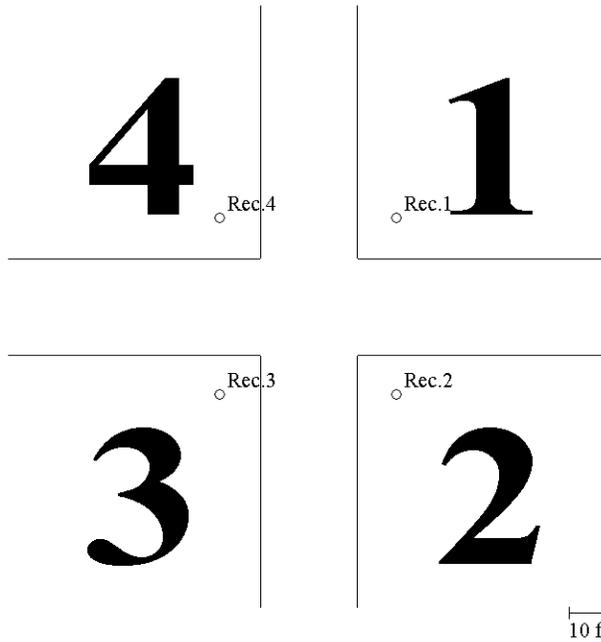
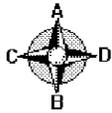
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

01-03-12  
08:28 AM  
mercero west



Description: W Mercer St and Queen Anne Ave 2030 build PM  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: Four-Way Intersection, 2 x 2  
 Street Names: A-B: W Mercer St C-D: Queen Anne Ave



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.5	4.0	Pass
2	2	10	10	4.4	4.0	Pass
3	3	10	10	4.6	4.1	Pass
4	4	10	10	4.8	4.3	Pass

\*Project PASSES 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at receptor 4.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

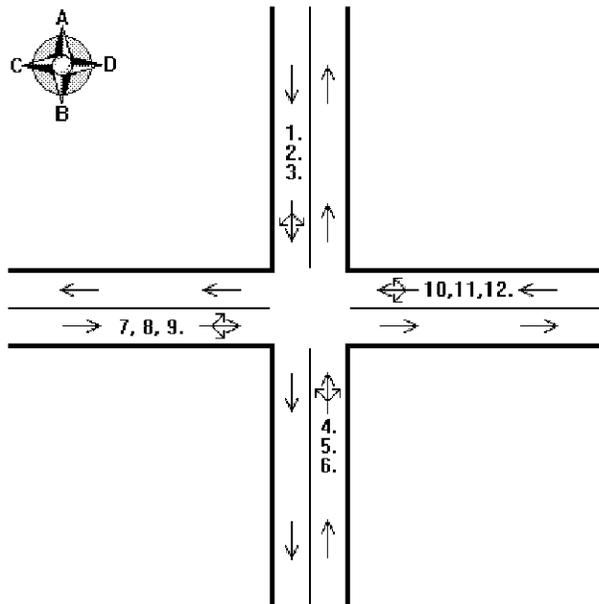
mercier west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	510
2	A-D Left Turn	65
3	A-C Right Turn	90
4	B-A Thru	3
5	B-C Left Turn	3
6	B-D Right Turn	3
7	C-D Thru	1015
8	C-A Left Turn	90
9	C-B Right Turn	150
10	D-C Thru	580
11	D-B Left Turn	375
12	D-A Right Turn	200



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2030  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 66.06

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.76
Leg B	15	7.76
Leg C	15	7.76
Leg D	15	7.76

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

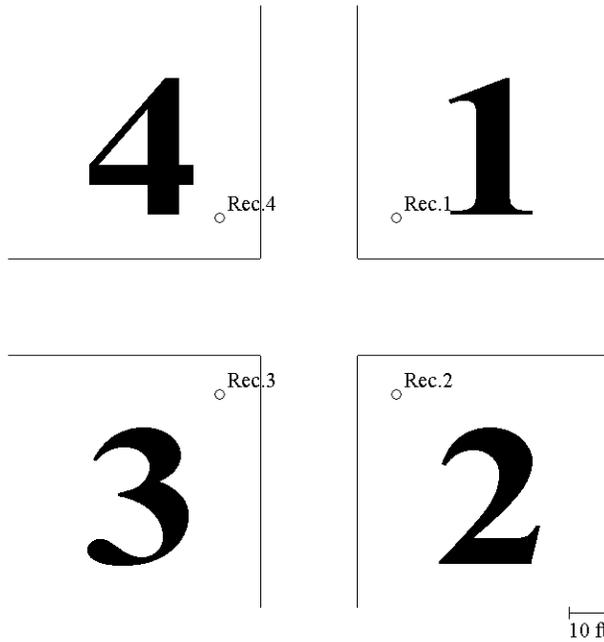
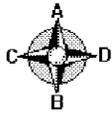
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

01-03-12  
08:24 AM  
mercero west



Description: W Mercer St and Queen Anne Ave 2030 no build PM  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: Four-Way Intersection, 2 x 2  
 Street Names: A-B: W Mercer St C-D: Queen Anne Ave



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.2	3.8	Pass
2	2	10	10	4.3	3.9	Pass
3	3	10	10	4.6	4.1	Pass
4	4	10	10	4.3	3.9	Pass

\*Project PASSES 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at receptor 3.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

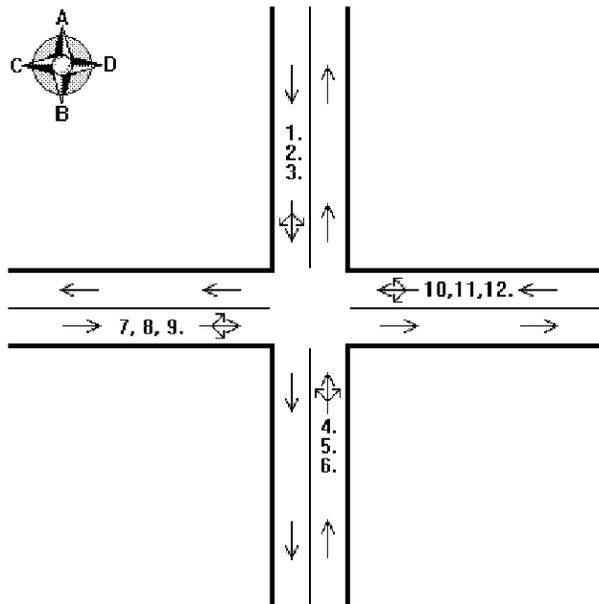
mercier west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	600
2	A-D Left Turn	120
3	A-C Right Turn	350
4	B-A Thru	3
5	B-C Left Turn	3
6	B-D Right Turn	3
7	C-D Thru	970
8	C-A Left Turn	3
9	C-B Right Turn	120
10	D-C Thru	300
11	D-B Left Turn	50
12	D-A Right Turn	3



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2030  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 66.06

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.76
Leg B	15	7.76
Leg C	15	7.76
Leg D	15	7.76

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

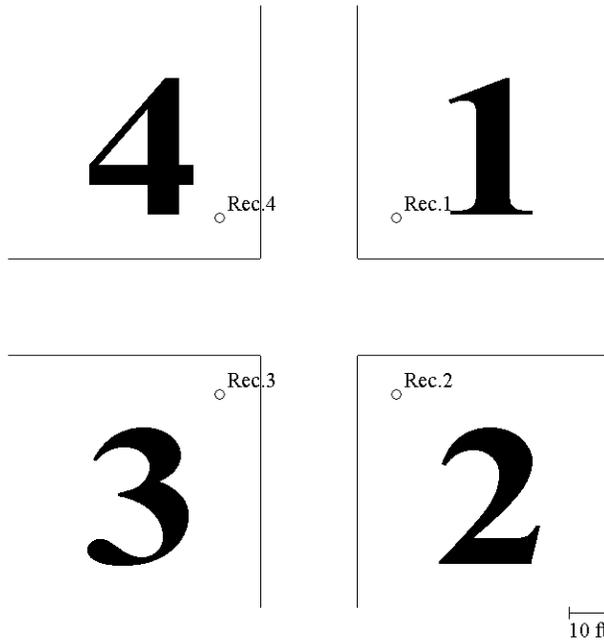
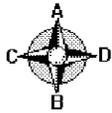
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

01-03-12  
08:39 AM  
mercero west



Description: W Mercer St and Queen Anne Ave 2040 build PM  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: Four-Way Intersection, 2 x 2  
 Street Names: A-B: W Mercer St C-D: Queen Anne Ave



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.5	4.0	Pass
2	2	10	10	4.4	4.0	Pass
3	3	10	10	4.6	4.1	Pass
4	4	10	10	4.8	4.3	Pass

\*Project PASSES 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at receptor 4.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

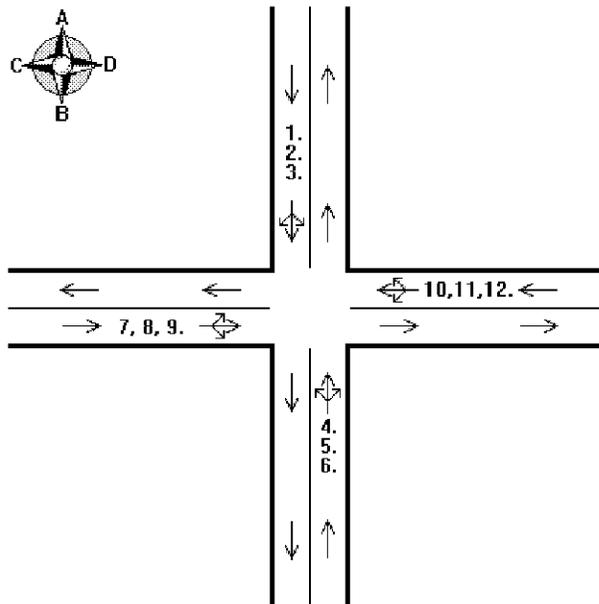
mercier west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	526
2	A-D Left Turn	67
3	A-C Right Turn	93
4	B-A Thru	3
5	B-C Left Turn	3
6	B-D Right Turn	3
7	C-D Thru	1047
8	C-A Left Turn	93
9	C-B Right Turn	155
10	D-C Thru	599
11	D-B Left Turn	387
12	D-A Right Turn	206



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2040  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 65.73

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.72
Leg B	15	7.72
Leg C	15	7.72
Leg D	15	7.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

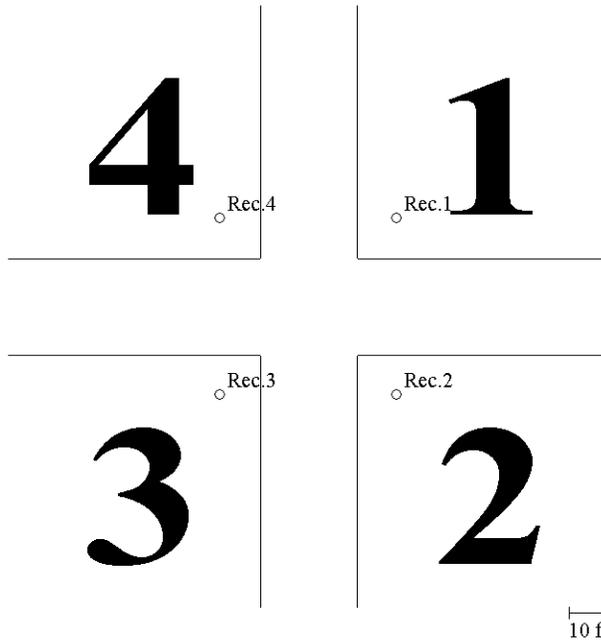
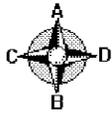
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

01-03-12  
08:36 AM  
mercero west



Description: W Mercer St and Queen Anne Ave 2040 no build PM  
 Performed by: dsa - esa  
 User's Phone Number - User's Email Address  
 Intersection Type: Four-Way Intersection, 2 x 2  
 Street Names: A-B: W Mercer St C-D: Queen Anne Ave



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.2	3.8	Pass
2	2	10	10	4.3	3.9	Pass
3	3	10	10	4.6	4.1	Pass
4	4	10	10	4.3	3.9	Pass

\*Project PASSES 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at receptor 3.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

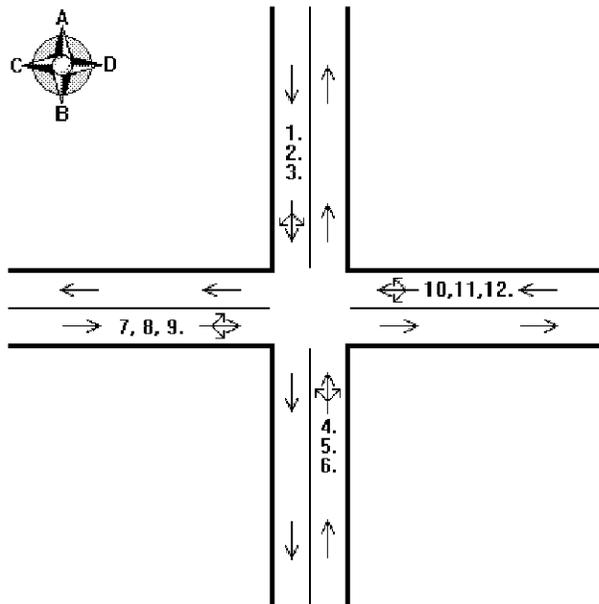
mercier west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	619
2	A-D Left Turn	124
3	A-C Right Turn	361
4	B-A Thru	3
5	B-C Left Turn	3
6	B-D Right Turn	3
7	C-D Thru	1001
8	C-A Left Turn	3
9	C-B Right Turn	124
10	D-C Thru	310
11	D-B Left Turn	52
12	D-A Right Turn	3



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2040  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 65.73

Approach	Speed (mph)	EF (g/mile)
Leg A	15	7.72
Leg B	15	7.72
Leg C	15	7.72
Leg D	15	7.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

### Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

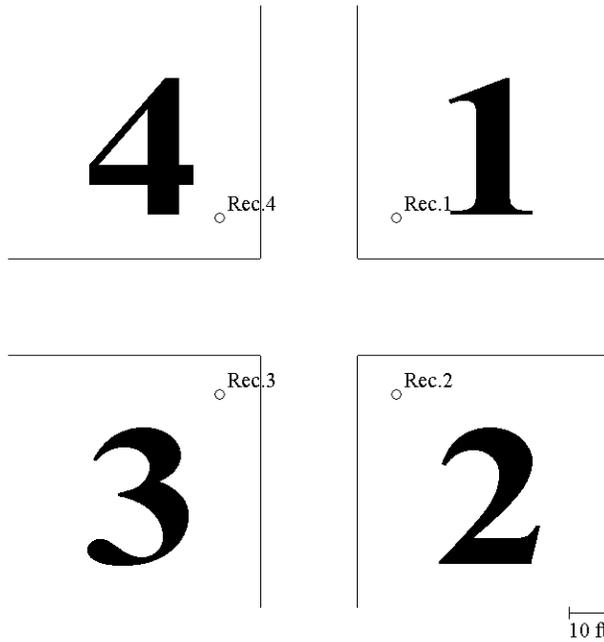
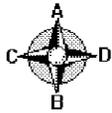
\*Red times are equal to the "Quick and Easy" values.

# Washington State Intersection Screening Tool 2.0

01-03-12  
08:11 AM  
mercero west



Description: **W Mercer St and Queen Anne Ave Existing**  
 Performed by: **dsa - esa**  
 User's Phone Number - User's Email Address  
 Intersection Type: **Four-Way Intersection, 2 x 2**  
 Street Names: **A-B: W Mercer St C-D: Queen Anne Ave**



## RESULTS:

Receptor#	Quadrant	Distance from A-B roadway (feet)	Distance from C-D roadway (feet)	CO 1-hour avg. Conc. (ppm)	CO 8-hour avg. Conc. (ppm)	Pass/Fail*
1	1	10	10	4.1	3.8	Pass
2	2	10	10	4.1	3.8	Pass
3	3	10	10	4.5	4.0	Pass
4	4	10	10	4.3	3.9	Pass

\*Project **PASSES** 1-hr and 8-hr NAAQS of 35 ppm and 9 ppm, respectively.

Largest modeled CO concentrations are at **receptor 3**.

- All CO concentrations include a background concentration of 3.0 ppm.
- 8-hr average CO concentrations are calculated by multiplying the 1-hr average concentrations (without background) by a persistence factor of 0.7 and then adding the background concentration.

# Washington State Intersection Screening Tool 2.0



## USER INPUTS

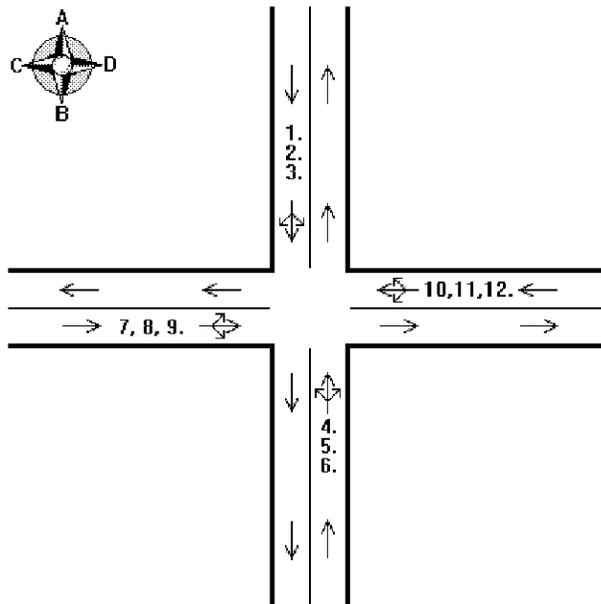
mercero west

Intersection Data:

Predominant Surroundings: **Central Business District**

Traffic Volumes:

Vol. Index	Movement	Volume (vph)
1	A-B Thru	429
2	A-D Left Turn	252
3	A-C Right Turn	210
4	B-A Thru	3
5	B-C Left Turn	3
6	B-D Right Turn	3
7	C-D Thru	650
8	C-A Left Turn	3
9	C-B Right Turn	102
10	D-C Thru	165
11	D-B Left Turn	26
12	D-A Right Turn	3



# Washington State Intersection Screening Tool 2.0



USER INPUTS continued...

mercier west

## CO Emission Factors Based On:

Location: Western Washington - KING County  
CO Maint. Area: Puget Sound  
I/M Program: Yes  
Model Year: 2011  
Gasoline sulfur content of 30 ppm for all model years.

## MOBILE6.2 CO Emission Factors:

Idle Emission Factor (g/hr): 74.97

Approach	Speed (mph)	EF (g/mile)
Leg A	15	8.72
Leg B	15	8.72
Leg C	15	8.72
Leg D	15	8.72

\*Note: Local roadways should be modeled using an approach speed of 15 mph or less.  
Highway ramps should be modeled using an approach speed of 5 mph.

## Traffic Signal Timing:

Total Cycle Length (sec): 60

## Red Times:

Type of Movement	Red Times (sec)
Leg A Thru & Rt	42
Leg A Left Turn	---
Leg B Thru & Rt	42
Leg B Left Turn	---
Leg C Thru & Rt	42
Leg C Left Turn	---
Leg D Thru & Rt	42
Leg D Left Turn	---

\*Red times are equal to the "Quick and Easy" values.