



Carbon Monoxide Emission Modeling by Intersection OPTIMIZED CONDITIONS

Air quality and traffic flow improvements were modeled using SYNCHRO for each of the 40 intersections within the study area. Most of the traffic controllers were modeled as a change from pre-timed to actuated. Signal cycles were changed to 75 seconds with optimized timings and off-sets for the one hour time segment. Left turn protection was added at four intersections. Resulting CO emissions showed a 16.7% improvement (48.01 Kg projected during peak hour) and reduced fuel consumption to 687 gallons.

- Signalized Intersections
- CO Levels
- Very Low
- Low
- Low/Moderate
- Moderate
- Moderate/High
- High
- Very High

PM Peak Hour Emissions in grams per hour by intersection, ranging from 419 to 3285 g/hr.

CRITICAL INTERSECTIONS

LOCATION	Delay in sec.	Existing CO (g/hr)	CO with Optimized Signals
1ST STREET & WALNUT	33.10	3449	3285
7TH AVE & YAKIMA AVE	69.80	3350	2861
8TH STREET & YAKIMA AVE	42.10	3003	2311
3RD AVE & WALNUT	25.80	2916	2348
1ST STREET & B STREET	21.40	2688	1857
1ST STREET & YAKIMA AVE	24.80	2660	2372
5TH AVE & YAKIMA	14.40	2280	2247
6TH STREET & YAKIMA AVE	14.10	2193	1788
5TH AVE & WALNUT	15.80	2034	1990
1ST STREET & LINCOLN	12.30	1877	1944
3RD AVE & YAKIMA	12.30	1830	1573
1ST STREET & A STREET	23.40	1823	788
5TH AVE & LINCOLN	35.10	1757	1367
FRONT STREET & YAKIMA AVE	13.50	1623	1004
FRONT ST & WALNUT	9.40	1581	1188
2ND STREET & YAKIMA AVE	13.8	1406	1208



1:2400

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CITY OF YAKIMA, WA
Information Systems and
Traffic Engineering Division

2301 Fruitvale Blvd
 Yakima, WA 98902
 Phone: (509) 576-6417
 Fax: (509) 575-6238
 jdavenpo@ci.yakima.wa.us