



## EXISTING CONDITIONS SUMMARY

### Bethany Boulevard Corridor Operations

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This memorandum summarizes the key findings of the existing conditions traffic analysis.

Traffic data was collected during a mid-week day in September 2009 and consisted of 24-hour automated tube counts (including total traffic volumes, heavy vehicle data, and speed data) and peak-hour intersection turning movement counts. The peak hours were found to occur from 7:00 to 8:00 a.m. and from 4:00 to 5:00 p.m.

The intersections were analyzed using guidelines outlined in the *2000 Highway Capacity Manual* and the *2003 Manual on Uniform Traffic Control Devices*. As defined in the County's 2020 Transportation Plan, intersections should operate at level-of-service "E" or better and with a volume-to-capacity ratio (v/c) of less than or equal to 0.99 during the peak hours.

#### Existing Traffic Characteristics

- Existing turning movement volumes at the study intersections are shown in Figures 1 and 2 for the weekday a.m. and p.m. peak hours, respectively. The following table summarizes the key traffic statistics.

Existing Traffic Characteristics	at Bronson Road	at Ridgetop Lane
Average Daily Traffic Volumes	19,500 vehicles	17,300 vehicles
AM Peak Hour Volumes	1,400 vehicles	1,250 vehicles
PM Peak Hour Volumes	1,600 vehicles	1,500 vehicles
Truck Percentage (%) – Daily	3.4% (663 trucks)	4.0% (700 trucks)
Average Speeds	32 mph	32 mph
85 <sup>th</sup> Percentile Speeds	39 mph	39 mph

Note: Posted speed along Bethany Boulevard is 35 miles per hour

#### Level-of-Service Results

- The unsignalized intersections of Telshire Drive, Oak Hills Drive, Emily Lane, and Bronson Road all operate at level-of-service "F," as motorists experience unacceptably high delays on the minor street approaches during the peak hours.
- The unsignalized intersections of Ridgetop Lane, Audrey Drive, and Avondale are operating acceptably.
- The signalized intersection at West Union Road operates at acceptable levels of service and below capacity.

## Queuing Issues

- During both the morning and evening peak hours, queuing issues were observed in the vicinity of the Bronson Road and Highway 26 interchange. During the a.m. peak hour, southbound queues from the Highway 26 interchange spill back to Bronson Road and interfere with turning movements at the Bronson Road intersection. During the p.m. peak hour, queues in the northbound left-turn lane at the Bronson Road intersection extend back to the interchange and impact traffic flow at the Highway 26 ramps.

## Safety Analysis

- A review of crash records found there has not been any unusual frequency or significant pattern of crashes at the study intersections within the past five years of available crash data (2004 through 2008). The Bronson Road intersection had the highest crash rate, with a total of ten crashes (over the five-year period); while the West Union intersection had a total of six crashes. All other intersections had fewer than five crashes over the five years.
- Washington County maintains the Safety Priority Index system (SPIS), which ranks the intersections within the county in terms of crash frequency, crash rate, and crash severity. A review of the most current (2005 – 2007) list revealed that two intersections within the project study area are on the SPIS:
  - NW Bethany Boulevard / NW Bronson Road (ranked #175 of 272); and,
  - NW Bethany Boulevard / NW Telshire Terrace (ranked #161 of 272).

## Pedestrian Facilities

- Sidewalks are not currently provided along the east side of Bethany Boulevard throughout the project area. A continuous sidewalk is provided along the west side of Bethany Blvd in the form of a separated asphalt path.

## Bicycle Facilities

- There are currently no bicycle lanes or other bicycle facilities on Bethany Boulevard within the project area. However, bike lanes are present along Bethany Boulevard north of West Union Road.

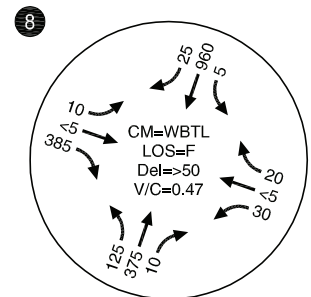
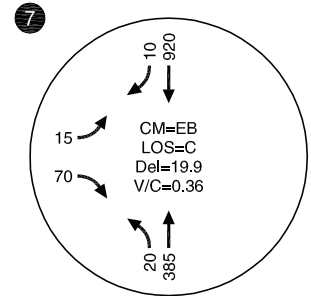
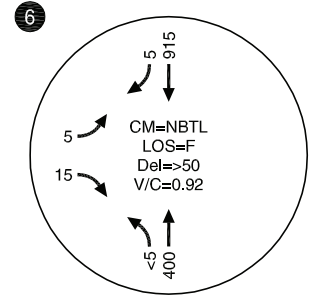
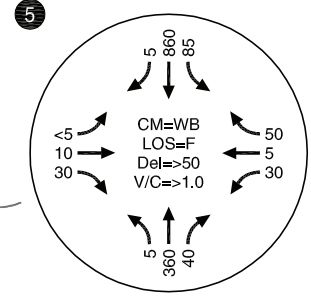
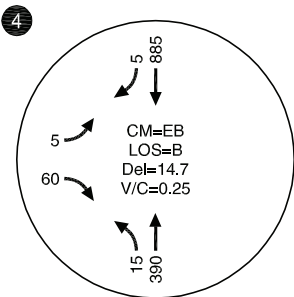
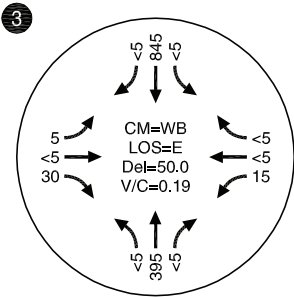
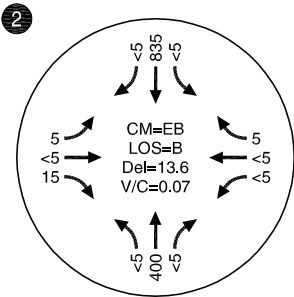
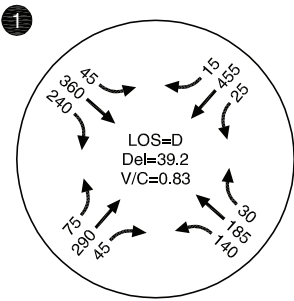
## Signal Warrants

- Signal warrant analyses were conducted at the Bronson Road intersection and the Oak Hills Drive intersection to determine whether a traffic signal should be installed at either of these unsignalized intersections. This analysis found:
  - The Bronson Road intersection meets the traffic volume criteria, and thus a traffic signal is warranted.

- The Oak Hills Drive intersection does not currently meet the standard warrants for signalization. However, a signal may be warranted if there is an anticipated increase in either: (1) traffic volumes on Oak Hills Drive, or (2) pedestrian crossings related to the school.



(NO SCALE)



**LEGEND**

- CM = CRITICAL MOVEMENT (UNSIGNALIZED)
- LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED)/CRITICAL MOVEMENT LEVEL OF SERVICE (UNSIGNALIZED)
- Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED)/CRITICAL MOVEMENT CONTROL DELAY (UNSIGNALIZED)
- V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

**EXISTING TRAFFIC OPERATIONS  
 WEEKDAY AM PEAK HOUR  
 WASHINGTON COUNTY, OR**

FIGURE  
**1**

H:\profile\10601 - NW Bethany Blvd (Bronson to West Union)\dwg\figs\10601\_Public Involvement\_01.dwg Jun 09, 2010 - 3:00pm - darguea Layout Tab: 01

