2011 Skagit County Road Segment & Intersection Concurrency

INTRODUCTION

Skagit County Code 14.28.110 "Annual Concurrency Assessment" requires that the County Engineer annually produce this report to update the status of County road concurrency. The following is produced to meet said requirement.

REQUIREMENTS

The concurrency assessment requires that "*the Skagit County Public Works Department, under the direction of the County Engineer, shall evaluate the High Traffic County Road Segments and High Traffic County Road Intersections using a Highway Capacity Manual type method (as selected by the County Engineer) to determine whether these road segments and intersections comply with the level of service standards adopted in the Comprehensive Plan*." These Levels of Service (LOS) are described as follows in Skagit County's Comprehensive Plan.

9A-4.5 *For individual road concurrency, the LOS standard for county road segments shall be LOS C as the general standard for County roads. LOS D shall be acceptable for all road segments that meet the following three criteria:*

(a) Annualized Average Daily Traffic (AADT) greater than 7,000 vehicles;

(b) Is NOT federally functionally classified as an 09-Local Access Road; and

(c) Is designated as a County Freight and Goods Transportation Systems Route (FGTS).

9A-4.6 *For individual road concurrency, the LOS standard for county road intersections shall be LOS D as calculated using an LOS method selected and documented by the County Engineer.*

LEVEL OF SERVICE DATA

Road Segments

As outlined in Skagit County's Transportation Systems Plan (TSP), the methodology used to acquire the LOS of county road segments is outlined in Chapter Six of the TSP.

> *"The Skagit County Public Works Traffic Engineering Unit has selected an LOS study volume unit threshold of 7,000 AADT. This threshold is an indicator that a road segment may be approaching the LOS C/D threshold and should be studied in depth."*

Table 1 shows the current County roads that meet the criteria for further study and the current LOS as determined using the Highway Capacity Manual and Highway Capacity Software developed for this use by the University of Florida. Also shown is the projected 5-year LOS. This projected LOS was determined using a three percent yearly growth factor for each road segment. Projects along these roadways that are scheduled to be completed within this 5 year period were not significant enough to include as separate items. As one can see from Table 1, all the criteria for LOS concurrency have been met.

Table 1 – Road Segments

Road #	Road Name	FFC	Truck Route	Beg MP	End MP	Length	2011 ADT	2012 ADT Estimate	2013 ADT Estimate	2014 ADT Estimate	2015 ADT Estimate	2016 ADT Estimate	2011 LOS	2016 LOS
21200	BOW HILL ROAD	07	T3	0.530	0.800	0.270	7598	7826	8061	8303	8552	8808	C	C
63000	COOK ROAD	07	T2	1.750	1.800	0.050	11979	12338	12709	13090	13482	13887	These 2 segments are in WSDOT ROW	
63000	COOK ROAD	07	T2	1.800	1.860	0.060	17334	17854	18390	18941	19510	20095		
63000	COOK ROAD	07	T2	1.860	1.890	0.030	11886	12243	12610	12988	13378	13779		
63000	COOK ROAD	07	T2	1.890	1.950	0.060	11886	12243	12610	12988	13378	13779	D	D
63000	COOK ROAD	07	T2	1.950	1.970	0.020	11886	12243	12610	12988	13378	13779		
63000	COOK ROAD	07	T2	1.970	2.191	0.221	12462	12836	13221	13618	14026	14447		
63000	COOK ROAD	07	T2	2.191	3.080	0.889	12462	12836	13221	13618	14026	14447		
63000	COOK ROAD	07	T2	3.080	3.360	0.280	12462	12836	13221	13618	14026	14447		
63000	COOK ROAD	07	T2	3.360	3.820	0.460	12462	12836	13221	13618	14026	14447	D	D
63000	COOK ROAD	07	T2	3.820	4.100	0.280	12462	12836	13221	13618	14026	14447		
63000	COOK ROAD	07	T2	4.100	4.320	0.220	12462	12836	13221	13618	14026	14447		
63000	COOK ROAD	07	T2	4.320	4.600	0.280	12462	12836	13221	13618	14026	14447		
63000	COOK ROAD	07	T3	4.600	4.880	0.280	11601	11949	12308	12677	13057	13449		
63000	COOK ROAD	07	T3	4.880	5.000	0.120	11601	11949	12308	12677	13057	13449		
63000	COOK ROAD	07	T3	5.000	5.080	0.080	11601	11949	12308	12677	13057	13449		
63000	COOK ROAD	07	T3	5.080	5.260	0.180	11601	11949	12308	12677	13057	13449		
63000	COOK ROAD	07	T3	5.260	5.320	0.060	11601	11949	12308	12677	13057	13449		
63000	COOK ROAD	07	T3	5.320	5.390	0.070	11601	11949	12308	12677	13057	13449	D	D
63000	COOK ROAD	16	T3	5.390	5.470	0.080	11601	11949	12308	12677	13057	13449		
63000	COOK ROAD	16	T3	5.470	5.500	0.030	11601	11949	12308	12677	13057	13449		
63000	COOK ROAD	16	T3	5.500	5.510	0.010	11601	11949	12308	12677	13057	13449		
63000	COOK ROAD	16	T3	5.510	5.620	0.110	11601	11949	12308	12677	13057	13449		
40200	FIR ISLAND ROAD	07	T3	0.000	0.410	0.410	9228	9505	9790	10084	10386	10698	C	C
80090	PIONEER HIGHWAY	07	T3	0.000	1.410	1.410	13867	14283	14712	15153	15607	16076	C	D
80090	PIONEER HIGHWAY	07	T3	1.410	1.740	0.330	9683	9973	10273	10581	10898	11225	C	C
80090	PIONEER HIGHWAY	07	T3	1.740	3.158	1.418	9676	9966	10265	10573	10890	11217		

Road Intersections

Intersection LOS

As with Road Segment LOS, Intersection LOS methodology is outlined in Chapter Six of the TSP. Intersection LOS, according to the Highway Capacity Manual, cannot be determined at stop controlled intersections. The individual stop-controlled leg LOS can be determined, but the overall intersection LOS cannot be determined. With regard to stop-controlled intersections, the TSP states that Skagit County will perform intersection analysis on;

> *"…intersections that may be approaching traffic signal warrants as described in the Manual on Uniform Traffic Control Devices (MUTCD). Signalization is considered as a possible solution to poor side street LOS; however, there have been many other considerations before concluding a traffic signal is required. Overall intersection safety is a major consideration and often results in alternatives to traffic signals such as route changes, additional lanes or new connections. When signalization occurs at an intersection the LOS can be determined as the average control delay to vehicles approaching the intersection."*

The TSP goes on regarding signalized and unsignalized intersections;

> *"Public Works staff will evaluate the LOS of all signalized locations on County Roads. They will also monitor traffic volumes on potential signalized locations to evaluate traffic signal warrants. This procedure will identify side street delay so capital projects may be identified and scoped. If signalization occurs, routes will be added to the list of intersections being monitored for LOS."*

And further;

"All existing traffic signalized intersections on County roads are operating at acceptable LOS."

Table 2 shows the signalized and unsignalized intersections on which Skagit County is collecting LOS data on a regular basis.

Table 2 – Intersections

Intersection Name	Intersection Type	NB Approach LOS	SB Approach LOS	EB Approach LOS	WB Approach LOS	Overall LOS	Meet MUTCD Signal Warrants?
Cook Road / Old Hwy 99 N	Signalized						Signalized
2011		B	B	B	B	B	
2016 Estimate		C	C	B	B	B	
Fir Island Rd / Pioneer Hwy	Stop Control*	LT		EB LT	EB RT	EB	
2011		A	No Delay	D	B	C	No
2016 Estimate		B	No Delay	F	C	F	
Best Road / McLean Road	Roundabout						
2011		All 4 legs experience a v/c ratio of 0.20 or less					
2016 Estimate		All 4 legs experience a v/c ratio of 0.33 or less					

* Stop Controlled intersections not subject to overall intersection LOS standards - only individual legs are subject to study

Though the eastbound left turn of Fir Island Road at Pioneer Highway has an LOS of "F" during the peak hour, the intersection does not meet MUTCD warrants for signalization, in part, because this peak hour LOS is not sustained throughout the day. Also, the intersection is immediately adjacent to Fir Island Road's intersection with Conway Frontage Road and Main Street (Conway) and sufficient storage for signalization is not possible.

More importantly, the Fir Island Road / Pioneer Hwy intersection is included in Skagit County's Six-year Transportation Improvement Program as outlined the Skagit County Code 14.28.110.

SUMMARY

At this time all Skagit County road segments and signalized intersections meet the current LOS standards as adopted in the Transportation Systems Plan and Comprehensive Plan of Skagit County. Therefore, all Skagit County road segments and intersections are concurrent.