

Transportation Master Plan Project Update:

Concurrency and Level of Service Options

City Council Meeting

November 6, 2017



Presented by:

Cheryl Paston, City of Sammamish
Kendra Breiland, Fehr & Peers
Victor Salemann, TSI

Discussion Topics

- Priorities we've heard
- Options for updating the concurrency program
- Use of innovative data
- Capital projects
- Next steps



Council Priorities: LOS and Concurrency Program

- ✓ **Driver experience** should be a key measure of system performance
- ✓ Consider **both the AM and PM** peak hours
- ✓ Simplify the program to make it **easier to understand**
- ✓ Leverage the **best available data**
- ✓ Maintain our ability to charge **high impact fees**



Community Feedback

- Received community feedback from **565 people**
- Diverse transportation priorities, desire to have **less congestion, more connections and more multimodal options**
- City should advocate for **regional improvements and more transit service**
- Most are more interested in **transportation projects** than the concurrency process



Potential Program Options

Option #1: Retain intersection LOS and segment evaluation, but with modifications.

Option #2: Base concurrency on intersections only, using multimodal LOS for planning and other modes.

Option #3: Complete replacement: base concurrency on travel time and multimodal LOS.



Option 1: Retain Current System, but with Modifications

- Replace Table T-8 (segment performance) with an arterial LOS table that focuses on **vehicle capacity measures only**
 - E.g. number of lanes, presence of turn lanes, medians and access management
- Remove non-motorized improvements in Table T-8
- Potentially discontinue “corridor averaging,” and instead evaluate each segment individually

Background Table T-8
Background Assumptions for Concurrency AWDT Threshold Definitions

TWO-LANE ROADWAY		TWO-DIRECTIONAL CAPACITY (VEHICLES PER DAY)		
		Principal or Minor Arterial	Collector	Neighborhood Collector
Base Capacity		12,850	9,020	2,850
Lane Width	10 feet	0	0	0
	11 feet	1,620	1,130	320
	12 feet	3,240	2,260	640
Striped Bike Lane/ Shoulder width¹		0	410	120
Median	None	0	0	0
	Median	4,640	3,240	920
	Left-Turn Lane or Physically Constrained	4,640	3,240	920
Walkway/Bikeway	None	0	0	0
	Sidewalk or Bikeway	1,160	810	230
	Both or Multi-use Path	1,620	1,130	320
Regional Trail width²		580	0	0
MAXIMUM CAPACITY		25,370	17,800	5,100

Option 1: Retain Current System, but with Modifications

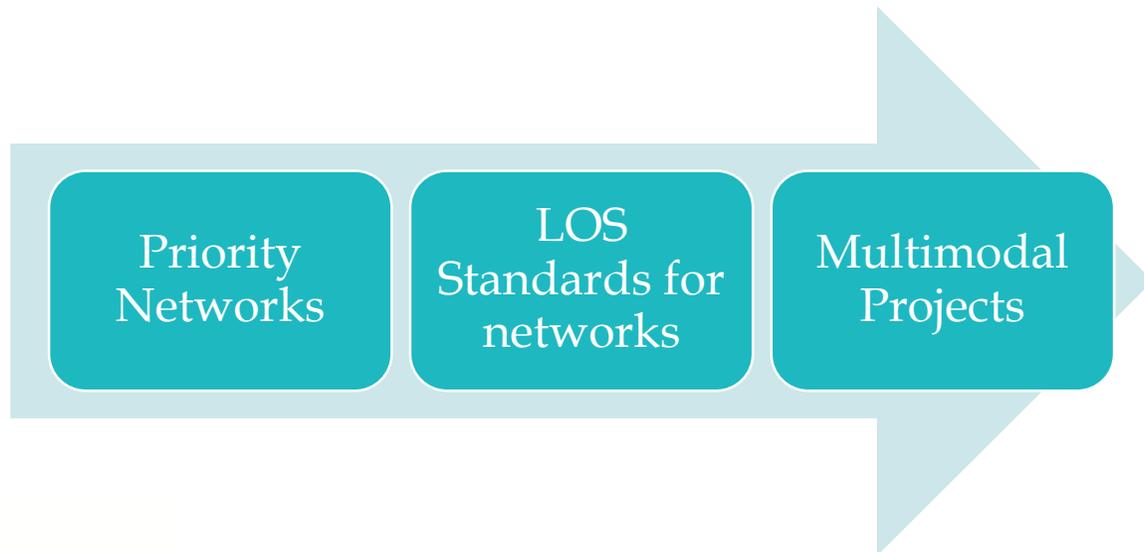
Continue use of intersection LOS measure, and consider incorporating **both AM and PM peak hours**

TABLE 1 INTERSECTION LOS CRITERIA (AVERAGE DELAY PER VEHICLE)

Level of Service	Signalized Intersections and Roundabouts	Two-way and all-way Stop-Controlled Intersections
A	< 10	< 10
B	> 10 to 20	> 10 to 15
C	> 20 to 35	> 15 to 25
D	> 35 to 55	> 25 to 35
E	> 55 to 80	> 35 to 50
F	> 80	> 50

Option 1: Retain Current System, but with Modifications

- Remove non-motorized facilities from concurrency but develop a **Multimodal LOS standard** to ensure these improvements remain eligible for impact fees



Option 1: Retain Current System, but with Modifications

Pros:

- ✓ If policy changes are minimal, could be done quickly
- ✓ Grounded in most recent HCM research
- ✓ Provides more flexibility in the siting of bike, pedestrian and transit improvements
- ✓ Maintains current impact fee program

Cons:

- ✗ Maintains the complexity of the current system
- ✗ Using most recent HCM methodology would increase existing deficiencies
- ✗ Removal of segment averaging would reduce flexibility in the timing of project implementation

Option 1: Retain Current System, but with Modifications

Cost: \$\$

Timeline*:

- 6-8 weeks to develop a revised arterial LOS table
- 3-4 months to develop an AM model
- TMP defines bike/pedestrian/transit networks and LOS

*Note: The timeline noted above does not include Planning Commission or Council processes associated with an amendment to the Comprehensive Plan, which is a requirement when changes are made to the Transportation Element.

Option 2: Base Concurrency on Intersections Only

- Concurrency focuses solely on **intersection LOS**, a direct measure of **driver experience**
- **Removes Table T-8** (segment performance) entirely
- Consider incorporating **both AM and PM peak hours** into LOS standard
- As in Option 1, implement a **Multimodal LOS standard**

Background Table T-8
Background Assumptions for Concurrency AWDT Threshold Definitions

TWO-LANE ROADWAY		TWO-DIRECTIONAL CAPACITY (VEHICLES PER DAY)		
		Principal or Minor Arterial	Collector	Neighborhood Collector
Base Capacity		12,850	7,200	2,850
Lane Width	10 feet	0	0	0
	11 feet	1,620	1,130	320
	12 feet	3,240	2,260	640
Striped Bike Lane/Shoulder width¹	8 feet max.	0	410	120
Median	None	0	0	0
	Median	4,640	3,240	920
	Left-Turn Lane	4,640	3,240	920
Walkway/Bikeway²	None	0	0	0
	Walkway	1,160	810	230
	Bikeway	1,620	1,130	320
	Both	1,620	1,130	320
Regional Trail width	12 feet max.	580	0	0
MAXIMUM CAPACITY		25,370	17,800	5,100

Option 2: Base Concurrency on Intersections Only

Pros:

- ✔ Could be done quickly and would greatly simplify the City's concurrency program
- ✔ Grounded in most recent HCM research
- ✔ Provides more flexibility in the siting of bike, pedestrian and transit improvements
- ✔ Maintains current impact fee program

Cons:

- ✘ May require additional documentation to justify some capacity projects in the impact fee program

Option 2: Base Concurrency on Intersections Only

Cost: \$

Timeline*:

- 4-5 weeks to rewrite LOS standards
- 3-4 months to develop an AM model
- TMP defines bike/pedestrian/transit networks and LOS

*Note: The timeline noted above does not include Planning Commission or Council processes associated with an amendment to the Comprehensive Plan, which is a requirement when changes are made to the Transportation Element.

Option 3: Base Concurrency on Travel Time and Multimodal LOS Standard

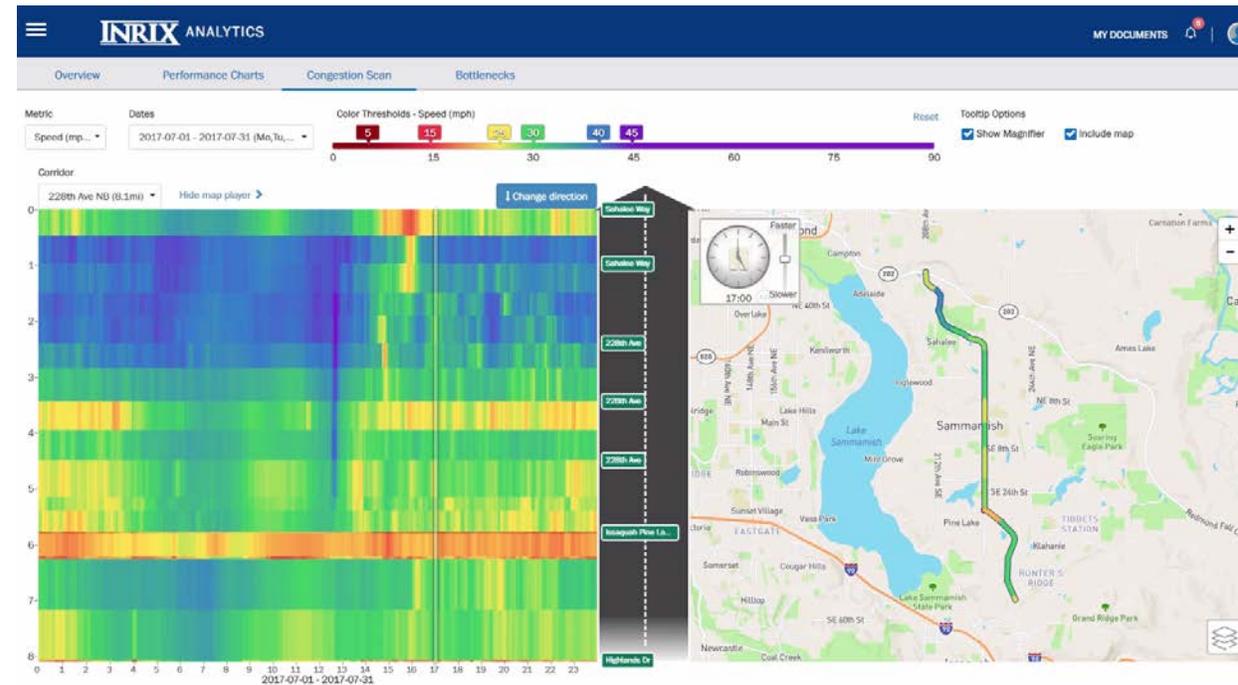
- Complete replacement of current program
- Focus program on travel times, incorporating both AM and PM peak hour conditions
- Travel times could be collected using INRIX data

Background Table T-8
Background Assumptions for Concurrency AWDT Threshold Definitions

TWO-LANE ROADWAY		TWO-DIRECTIONAL CAPACITY (VEHICLES PER DAY)		
		Principal or Minor Arterial	Collector	Neighborhood Collector
Base Capacity		12,850	5,220	2,850
Lane Width	10 feet	0	0	0
	11 feet	1,620	1,130	320
	12 feet	3,240	2,260	640
Striped Bike Lane/Shoulder width¹	8 feet max.	0	410	120
Median	None	0	0	0
	Median	4,640	3,240	920
	Left-Turn Lane	4,640	3,240	920
Walkway/Bikeway²	None	0	0	0
	Walkway	1,160	810	230
	Bikeway	1,620	1,130	320
	Both	1,620	1,130	320
Regional Trail width	12 feet max.	580	0	0
MAXIMUM CAPACITY		25,370	17,800	5,140

Option 3: Base Concurrency on Travel Time and Multimodal LOS Standard

- Travel times are a direct measure of **driver experience**
- City would need to **adopt travel time standards** for corridors throughout the City
- While the consultant can recommend standards based on HCM research, the ultimate standard would be a **policy decision**
- Can implement a **Multimodal LOS** standard to define needs for walk, bike and transit



Speeds in Sammamish at 5:00 pm weekday
Credit: TSI and INRIX

Option 3: Base Concurrency on Travel Time and Multimodal LOS Standard

Pros:

- ✓ Travel times are a strong measure of driver experience
- ✓ Real time data could be used to continuously monitor travel times
- ✓ Provides more flexibility in the siting of bike, pedestrian and transit improvements
- ✓ Eliminate segments/corridors
- ✓ Maintains current impact fee program

Cons:

- ✗ Longer timeline to develop
- ✗ Travel time standards and corridors to measure would need to be defined by policy
- ✗ Complexity of development review process would be greater since future travel time (speed) is difficult to predict

Option 3: Base Concurrency on Travel Time and Multimodal LOS Standard

Cost: \$\$\$\$\$

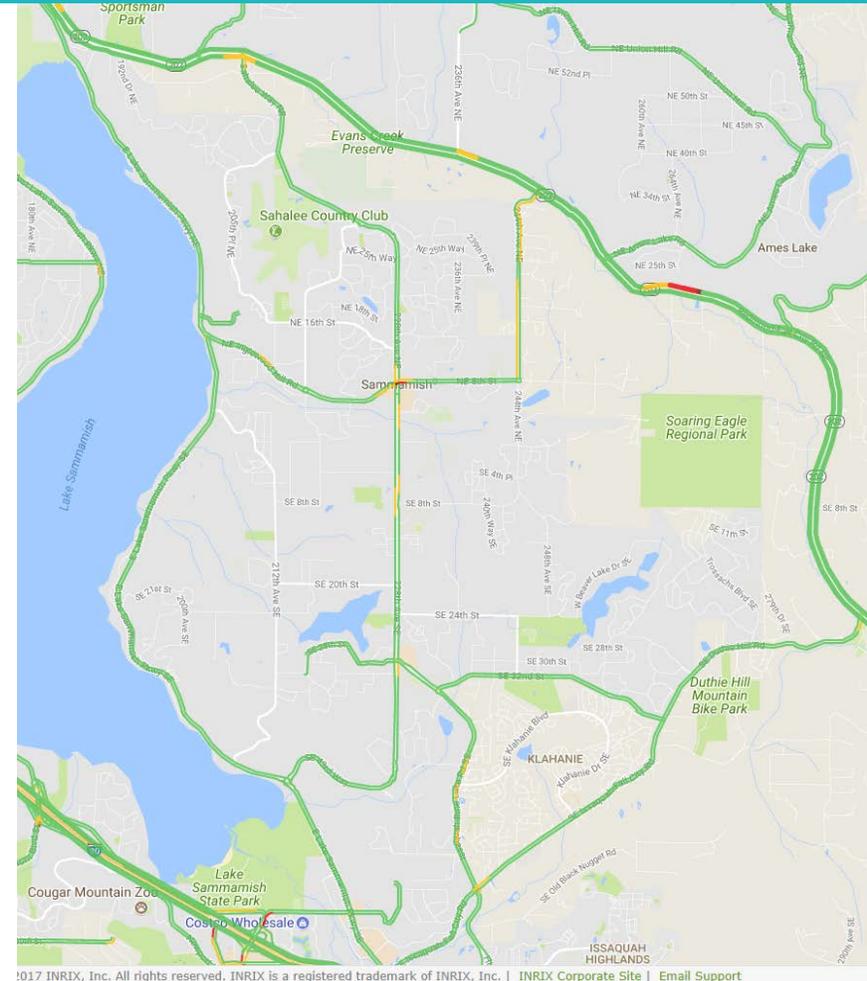
Timeline*:

- 6-9 months to develop all new program
- TMP defines bike/pedestrian/transit networks and LOS

*Note: The timeline noted above does not include Planning Commission or Council processes associated with an amendment to the Comprehensive Plan, which is a requirement when changes are made to the Transportation Element.

Innovative Data

- Would monitor the performance of the transportation system over time
- Would prioritize near-term projects
- Unlike collecting traffic counts, INRIX data is available in real-time
- Data could be used to evaluate impacts of short-term road closures
- INRIX data is affordable – \$15K annually for base packages (not available for all roads)

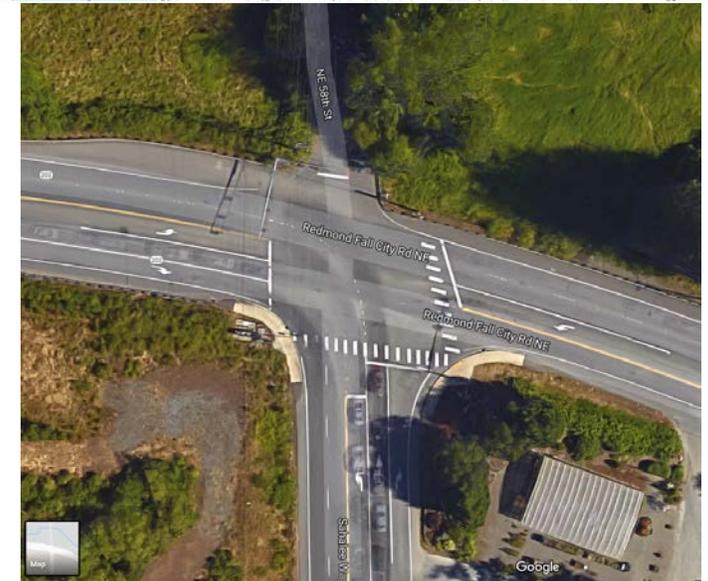


Sammamish corridors where INRIX has speed data

Credit: INRIX

Near-Term Capital Project Options

1. Revise the Sahalee Way project to focus on intersection improvements and added capacity
2. Fund the design of the Issaquah-Pine Lake Road Project
3. Set aside funding to address minor intersection improvements needed throughout the year
4. Set aside funding (seed money) to improve intersections outside of City limits
 - Prioritize Highway 202/Sahalee Way intersection improvement to correspond with the Sahalee Way Improvement Project.
 - Participate in the development of WSDOT's I-90/Front Street Interchange Study



Next Steps

Item	Date
Council Meeting: TMP Update & Capital Project Discussion	November 21, 2017
Technical Workshop #2: Detailed Discussion of Preferred Concurrency Option & Use of Innovative Data	November 28, 2017
Develop Concurrency Policy & Continue Work on TMP	Quarter 1 2018
Adopt Transportation Element with New Concurrency Policy & Continue Work on TMP	Quarters 2 & 3 2018
Finalize and Adopt TMP	Quarter 4 2018

Thank you!

Questions??