



# Institute of Transportation Engineers

A Community of Transportation Professionals



## Summer E-Newsletter

Transportation Planning Council  
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St. Louis

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### Transportation Planning Council 2011 Executive Committee

- Bradley K. Strader,  
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- Lawrence J. Marcus,  
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### Chairman's Message

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Meet me in St. Louis!

This is an exciting time for the transportation planning profession. These articles highlight some of the innovative approaches transportation professionals are applying to a wide range of projects internationally, namely linking land use with transportation as part of long-range planning; new metrics for measuring sustainability and the "completeness" of our transportation systems; and reducing the number and length of vehicle trips. Incidentally, this issue highlights the importance of volunteers to the work of the Transportation Planning Council. TPC member Patricia Tice served as the volunteer editor of this newsletter in addition to writing an article herself. We would like to thank the volunteers who contributed articles to this newsletter and encourage all TPC members to contact us with ideas for future articles or other volunteer opportunities.

P.E., PTOE

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- Philip L. Winters

Would you like to learn more about the innovative approaches highlighted in this issue? Have any ideas of your own to share? Come join us at the ITE Transportation Planning Council conversation circle in St. Louis! St. Louis is a wonderful venue (OK, a bit hot in August) to discuss innovations. The East-West Gateway Council of Governments (the MPO for the St. Louis area) has led the "Great Streets" program. For those of us that are baseball lovers, there is arguably not a better baseball town than St. Louis. And the Cardinals will be at home, so be sure to bring some red to wear! A few of us may catch a ball game Saturday night after what is sure to be a rousing TPC meeting or at least catch the game at a local watering hole for some fun networking. Check in with me or we'll improvise after Saturday's meeting.

The idea is to combine learning, networking, and fun. I just returned from the North Carolina ITE mid-year meeting in beautiful (and also hot) Asheville, full of unique sessions. North Carolina's Section leadership has worked to make "ITE Funner." Would you believe a session on dealing with rockslides kept us spellbound? A session on using social media kept us in stitches! And I was on the winning team on a scavenger hunt through the city (thanks in no small part to the presence on our team of a NC State intern that grew up in Asheville). Let's bring some of that enthusiasm with us to St. Louis.

## Integration of Transportation and Land Use Policies, Regulations, and Incentives in Bellingham, WA

*Chris Comeau, AICP  
Transportation Planner, City of Bellingham, WA*

[Bellingham, Washington](#) is a progressive small city (population 81,000) located along the far northwestern inland coast of Washington State, 85 miles north of Seattle and 45 miles south of Vancouver, British Columbia, Canada. As the primary center for employment, shopping, entertainment, education, and medical services, Bellingham plays an important role in the development of the entire Whatcom County region.

Planning under Washington's Growth Management Act, Bellingham has adopted an internally consistent Comprehensive Plan with a transportation element([link](#)

[www.cob.org/services/neighborhoods/community-planning/transportation/long-range-planning.aspx](http://www.cob.org/services/neighborhoods/community-planning/transportation/long-range-planning.aspx)) containing multimodal transportation goals and policies designed to support alternative forms of transportation and compact mixed use urban infill development prescribed by the land use element. Multimodal goals and policies in the transportation element also support public transit, which is not a city service. City transportation planners work hand-in-hand with the regional transit agency, Whatcom Transportation Authority (WTA), to incorporate high-frequency (15-minute headway) transit service routes into citywide planning efforts for mixed-use urban villages and transit-oriented development. Long-term mode shift goals adopted in the transportation element serve as targets to reduce the percentage of total trips made by single-occupant vehicles.

Bellingham has also developed regulatory programs to implement these strategies. In 2008, Bellingham transportation planners and transportation consulting firm [TranspoGroup, Inc.](#) developed and adopted a new [Multimodal Transportation Concurrency Program](#) that includes level of service (LOS) measurements for pedestrian, bicycle, multi-use trails, and public transit in addition to the traditional auto-centric volume to capacity (v/c) ratio LOS standards used by most jurisdictions. The program integrates transportation with land use by dividing the City into sixteen mobility sheds (See Figure 1) called Concurrency Service Areas (CSA) and classifying each according to land use typology and availability of multimodal transportation facilities and transit service. Each CSA is classified as Type 1, 1A, 2, or 3, as listed below and weighted with policy dials (See Table 1.) to reflect the relative importance of different transportation modes in the three different CSA Types.

- **Type 1 CSA** are Urban Villages with adopted Master Plans. They are characterized by a high percentage of pedestrian and bicycle facilities, high frequency transit service, and higher density land uses with a good mix of services. Western Washington University is classified as Type 1A CSA #5 due to the extremely high transit service and ridership, campus parking limitations, and the adopted WWU Institutional Master Plan.
- **Type 2 CSA** are transition areas between Urban Villages and outlying areas. Type 2 CSAs are characterized by a moderate percentage of pedestrian and bicycle facilities, high frequency transit service, and moderate density land uses that are primarily residential with a small degree of mixed uses.
- **Type 3 CSAs** are primarily east of Interstate 5 and at the edges of the City. Type 3 CSA are characterized by a low percentage of pedestrian and bicycle facilities, moderate to low transit service availability, moderate to low density land use with a small degree of mixed uses, and a high degree of automobile dependency.

[Figure 1.](#)

[Table 1.](#)

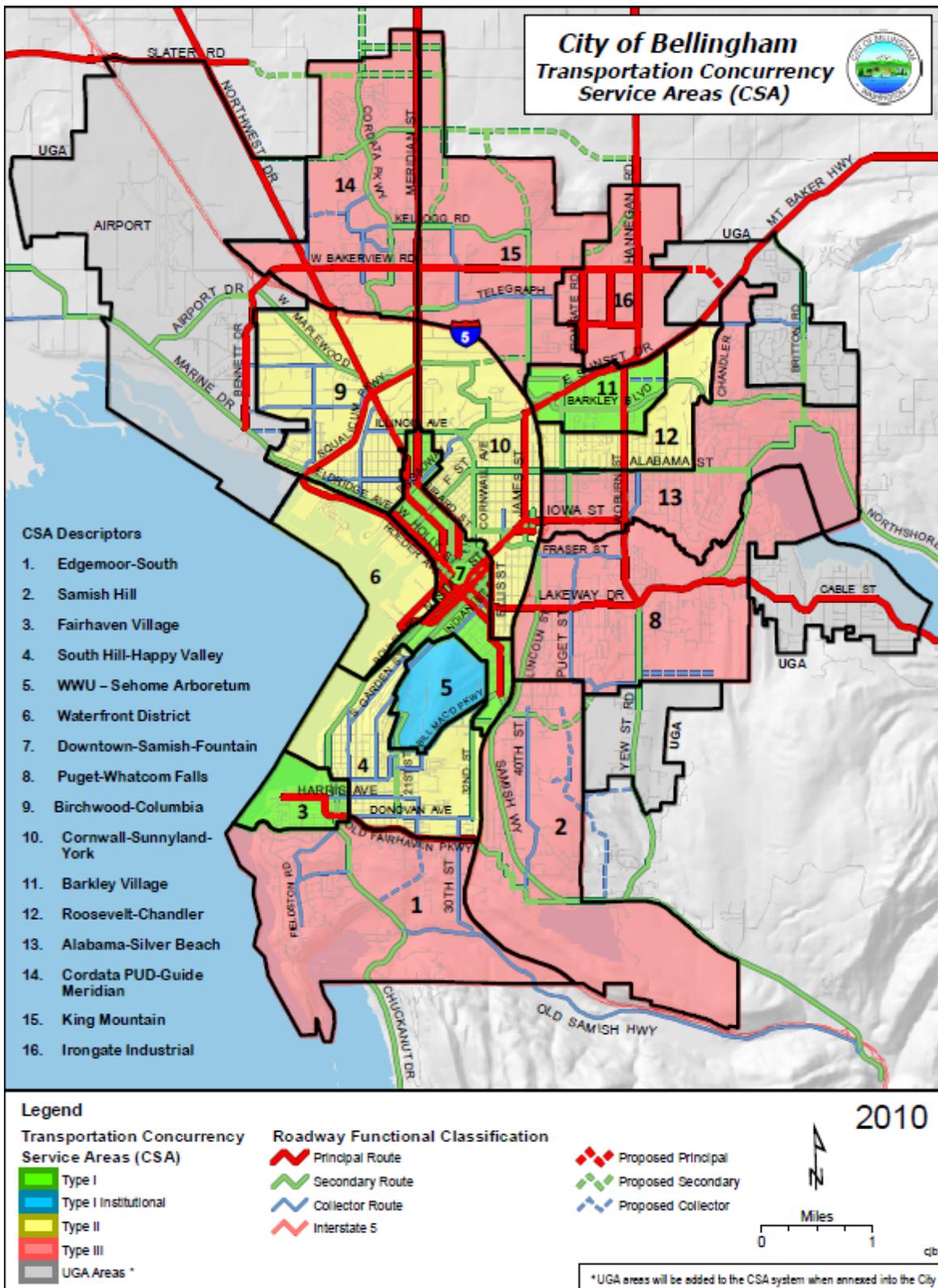


Figure 1. Bellingham’s 16 Concurrency Service Areas (CSA)

**Table 1. Multimodal Transportation Policy Dials Applied To Land Use Environments**

	Transportation Concurrency Service Areas		
Mode	Type 1 <sup>1</sup>	Type 2 <sup>2</sup>	Type 3 <sup>3</sup>
<i>Motorized</i>			
<b>Auto</b>			
Mode weight factor <sup>4</sup>	<b>0.70</b>	<b>0.80</b>	<b>0.90</b>
<b>Transit</b>			
Mode weight factor <sup>5</sup>	<b>1.00</b>	<b>1.00</b>	<b>0.80</b>
<i>Non-Motorized</i>			
<b>Pedestrian</b>			
Percent threshold for minimum system complete <sup>6</sup>	<b>50%</b>	<b>50%</b>	<b>50%</b>
Person trip credit for 1% greater than minimum threshold <sup>7</sup>	<b>20</b>	<b>20</b>	<b>20</b>
Mode weight factor <sup>8</sup>	<b>1.00</b>	<b>0.90</b>	<b>0.80</b>
<b>Bicycle</b>			
Percent threshold for minimum system complete	<b>50%</b>	<b>50%</b>	<b>50%</b>
Person trip credit for 1% greater than threshold	<b>20</b>	<b>20</b>	<b>20</b>
Mode weight factor <sup>9</sup>	<b>1.00</b>	<b>0.90</b>	<b>0.80</b>
<b>Multi-Use Trails<sup>10</sup></b>			
Person trip credit for 1% greater than threshold <sup>11</sup>	<b>10</b>	<b>10</b>	<b>10</b>
Mode weight factor <sup>12</sup>	<b>1.00</b>	<b>0.90</b>	<b>0.80</b>

1. Type 1 = Urban Village areas with adopted master plans, high-density mixed use zoning, or an active master plan process.
2. Type 2 = Medium density areas adjacent to and influenced by Urban Villages.
3. Type 3 = Lower density and auto-oriented areas outside of Urban Villages.
4. Auto mode weight factor considers the importance of roadways to a service area, relative to the availability of other mode alternatives.
5. Transit mode weight factor considers the availability/viability of the transit mode to a service area.
6. This is the minimum level of the planned system completed for it to be considered a viable mode alternative.
7. Person trips credited to service area based on the amount of the system completed minus the minimum threshold.
8. Pedestrian mode weight factor considers the importance of pedestrian facilities to a service area, relative to land use and travel patterns.
9. Bicycle mode weight factor considers the importance of bicycle facilities to a service area, relative to land use and travel patterns.
10. Multi-Use Trails = relatively level, multi-use trails connecting activity centers, destinations, and biking facilities.
11. Person trips credited to service area based on each comparative 1% of the total planned bike system adopted in Comprehensive Plan.
12. Multi-Use Trail mode weight factor considers the importance of bike-friendly trails to a service area, relative to land use and travel patterns.

The existing pedestrian and bicycle measurements are facility-based and measure the relative completion of the planned system. Person trip credits are calculated for both the pedestrian and bicycle modes based on the percent complete of the planned system in each CSA. The multi-use trail component includes bicycle-friendly trails and adds person trip credits to each CSA based on the relative completeness of the planned bicycle system. The pedestrian, bicycle, and multi-use trail person trip credits are combined for a total non-motorized person trips available for each CSA.

Bellingham transportation planners consider this [award-winning](#) program a work in progress, however, and are now attempting to enhance the Multimodal Transportation Concurrency Program by developing and incorporating connectivity metrics and analysis capability into it. Connectivity is an often used, but also often undefined term and concept in transportation planning with no real value associated with what is being measured. A [ViaCity](#) software application created by [TranspoGroup, Inc.](#) uses Route Directness Index (RDI) methodology to calculate the straight line (crow's flight) distance between two points or destinations and the actual route distance for a traveler. A higher RDI value indicates a more direct route with better connectivity to the traveler's destination while a lower RDI value indicates a less direct route that requires a traveler to go out of their way. ViaCity applies RDI to GIS maps and can be as accurate as the precision of the GIS data. Bellingham is in the process of developing connectivity analysis at the parcel level to further integrate and prioritize transportation improvements with land use plans and intends to develop a connectivity metric to the Multimodal Transportation Concurrency Program.

In 2010, Bellingham developed and adopted economic incentives called [Urban Village Vehicle Trip/Transportation Impact Fee \(TIF\) Reductions](#) to lower the cost of development in areas promoted as the most appropriate for growth based on the availability of multimodal transportation facilities. The vehicle trip reductions are based on a blend of methodology from the ITE Trip Generation Manual and accepted trip generation research and are only available for use in select Urban Village mixed use areas that are well-served with pedestrian, bicycle, and transit service.

Automatic vehicle trip reductions include:

- 15% for mixed use Urban Village locations;
- between 2% and 10% for proximity to transit service; and,
- 10% for large employers that are required to comply with Washington State law for Commute Trip Reduction.

Further vehicle trip reduction is possible for voluntary performance measures, such as 1% for each WTA transit pass purchased and/or 2% for each purchase of membership to a Car Share organization. Bellingham transportation planners consider these vehicle trip reductions to be a work in progress and would like to include other performance measures, such as on-site bicycle parking, employee van-pool participation, etc., if they can be proven to correlate with on-site vehicle trip reduction.

For more information about Bellingham, WA's integrated multimodal transportation-land use planning programs, please contact Chris Comeau, AICP, Transportation Planner, [ccomeau@cob.org](mailto:ccomeau@cob.org) or (360) 778-7946.