Appendix C: Concurrency Management and Level of Service

Introduction

The TMP represents a multimodal approach to addressing transportation and includes programs, projects, and services that are intended to serve the communities transportation and land use vision as articulated in the Redmond Comprehensive Plan. The City of Redmond's plan-based transportation concurrency system is a tool to ensure the pace of development does not exceed the pace at which the multimodal, growth-related program, projects, and services included in the TMP are implemented.

The 2004 Comprehensive Plan and 2005 TMP established the framework for a new plan-based concurrency management system that would ensure the City meets its level of service (LOS) standard of growth occurring proportionately and in parallel with development of the City's transportation system. This was a significant change from the prior LOS and concurrency management system which was based solely on measuring vehicle LOS at system intersections in seven Transportation Management Districts. This system was determined to be inconsistent with other Comprehensive Plan policy.

After the adoption of the 2005 TMP, the City embarked on a study to implement plan-based concurrency and the City's new LOS standard. The study resulted in establishing an LOS based on citywide person miles traveled, also referred to as Mobility Units. The study also resulted in updates to the City's Zoning Code consistent with Comprehensive Plan policy TR-27, which describes that Redmond's transportation concurrency management system is based on a "plan-based" approach to ensure that funding of programs, construction of projects, and provision of services occur in proportion to the needs of the City and the pace of growth. Another part of the study was determining how the new system would be administered to ensure implementation of growth-related multimodal transportation programs, projects, and services consistent with the Comprehensive Plan policy and the TMP. The resulting plan-based concurrency system now in place ensures the City is meeting the requirements of the Washington State Growth Management Act (GMA), while also simplifying the development review process.

The foundation of the plan-based concurrency system is an up-to-date plan of programs, projects, and services that supports the community land use vision. The TMP includes the Transportation Facilities Plan (TFP), which is multimodal in scope, financially constrained, and based on Redmond's 2030 vision of a balanced land use and transportation system. The TFP represents a plan that responds to existing growth trends and prepares for future growth in the city's two urban centers while continuing to improve transportation within established neighborhoods.

The TMP also includes a Performance Measurement chapter which provides transportation system monitoring beyond what is required in this chapter to meet GMA level of service and concurrency requirements. The Performance Measurement chapter provides specific performance measures reported out annually for various transportation modes allowing the City to better manage the transportation system. This also allows the concurrency management system to focus on ensuring that implementation of growth-related programs, projects, and services included in the TFP keeps pace with growth.

Framework

The plan-based concurrency system is based on analysis of 2030 land uses (as contained in the Comprehensive Plan) and the 2030 TFP, which is designed to provide sufficient capacity for that land use. To maintain concurrency, then it will be necessary to appropriately pace land development with multimodal transportation system programs, projects, and services.

The overall concept for maintaining this critical balance of transportation concurrency in Redmond is shown in the figure below. The committed, complete, and existing "bucket" in the bottom right illustrates the short-term capacity that will be available to new development based on progress made by the City in implementing transportation programs, projects, and services.

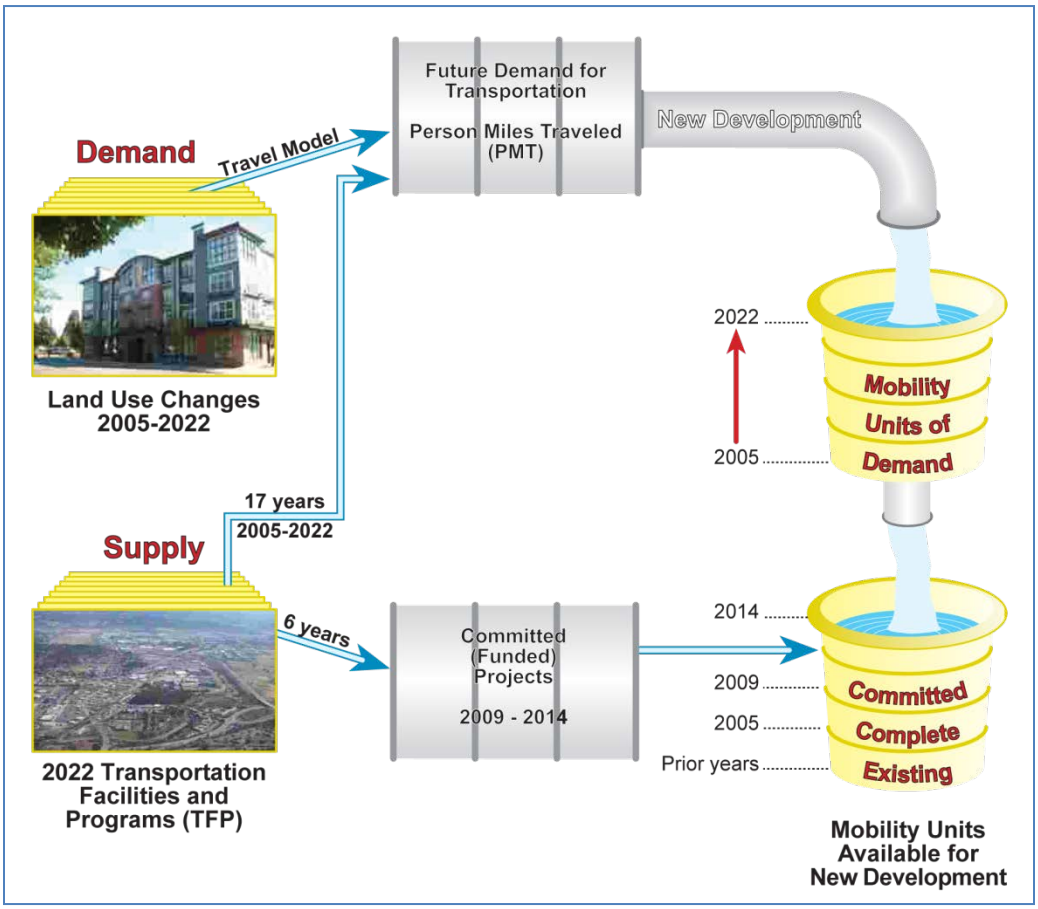

Figure 1. Redmond concurrency concept.

Level of Service

The level of service measure for concurrency is to demonstrate completion of the multimodal transportation system is occurring at the same rate or a faster rate than the growth in travel demand.

Demand

Measuring concurrency requires the creation of an apples-to-apples comparison between demand for and supply of multimodal transportation infrastructure. The starting point for this comparison is the development of a land use summary table. This table summarizes the total amount of new development, measured in the number of residential dwelling units and square feet of nonresidential space in 2010 and the 2030 land uses forecasted by district. The growth in development is calculated as the difference in the 2030 and 2010 land uses.

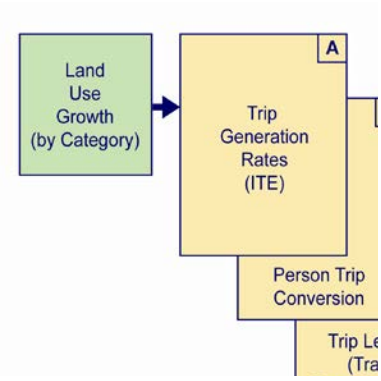

Figure 2. Person mile calculator.

Conventional planning practice determines transportation impacts by calculating the number of automobile trips that will be generated by the forecast land uses. Using a multimodal approach, the new plan-based concurrency system relies on a mode-neutral measure known as the “mobility unit” (measured in terms of person miles traveled rather than vehicle miles traveled or automobile delay).

Supply

Based on adopted plans and policies, the list of transportation programs, projects, and services to be implemented by 2030 is expected to be sufficient to meet the travel demand generated by new development. A key element of the plan-based concurrency system is communicating how much of the 2030 TFP is implemented within the six-year concurrency window.

In order to measure the amount of capacity available for each travel mode (e.g., bicyclists, motorists, pedestrians, and transit users), the City developed a measure called “system completion.”

The analysis uses the capacity-enhancing list of transportation programs, projects, and services from the 2030 TFP with cost estimates for each. Next, the analysis evaluates their status by determining how many projects are complete, fully funded, or partially funded in the City’s Six-Year Program. Based on this analysis, the percent of committed capacity-enhancing TFP programs, projects, and services is determined, as well as the number of mobility units of supply available.

Concurrency Management

Using the calculations described for supply and demand above, concurrency is determined by comparing the available transportation mobility units against the demand for mobility units generated by new development. To manage the pace of development in the short term, the concurrency test focuses on "how much room is left in the Six-Year Bucket?" This test entails a comparison of the available mobility units based on projects funded or constructed in the time horizon of the Six-Year Program, as required under the GMA. One important step in this process is to account for the mobility units that have been allocated for "pipeline" development projects that have been approved by the City but not yet occupied.

Available Mobility Units - Comparing Supply to Demand

The available mobility units are calculated by comparing the available supply to the demand. As shown below, the supply of mobility units represents the proportion of the TFP that is committed to be built during the next six years. As previously described, approximately 60 percent of the mobility units are currently available for development. The current demand for mobility units is represented by the amount of pipeline development approved within the city.

Management System and Development Review

Under the proposed plan-based concurrency system, concurrency approval of a proposed development is based on the availability of mobility units within the mandated six-year time frame. To manage the pace of development in the short term, the concurrency test will focus on "how much room is left in the Six-Year Bucket?" This test will entail a comparison of the available mobility units based on projects funded or completed in the Six-Year Program time horizon, as required under the GMA.

As part of the concurrency review process, each development proposal would be analyzed to determine the number of mobility units expected to be generated by the development. This demand for mobility units would then be compared to the available mobility units within the City's Six-Year Program. If sufficient mobility units are available, then the development is considered to be concurrent.

If the development is deemed to be not concurrent, then the applicant would need to wait until additional mobility units become available or pay for additional mobility units to offset the impacts of the development. Mobility units become available as additional projects are funded and committed by the City within its Six-Year Program, the Transportation Improvement Program, and Capital Investment Program. Alternatively, an applicant could agree to accelerate the implementation of key infrastructure projects in order to provide sufficient transportation system capacity. This process would be similar to the supplemental mitigation procedures currently used under the City's existing concurrency regulations.

Once concurrency is achieved, the proposed development would need to comply with SEPA requirements, applicable City zoning and building codes, and pay transportation impact fees.

TRENDS AND CONDITIONS

Comparing Supply and Demand

The current demand for mobility units (person miles of travel) is based on the total amount of development that is either in the development design and review "pipeline," under construction or complete during the planning horizon. Based on current development, 35,429 mobility units of demand planned for in the 2005 Transportation Master Plan have been allocated to these projects.

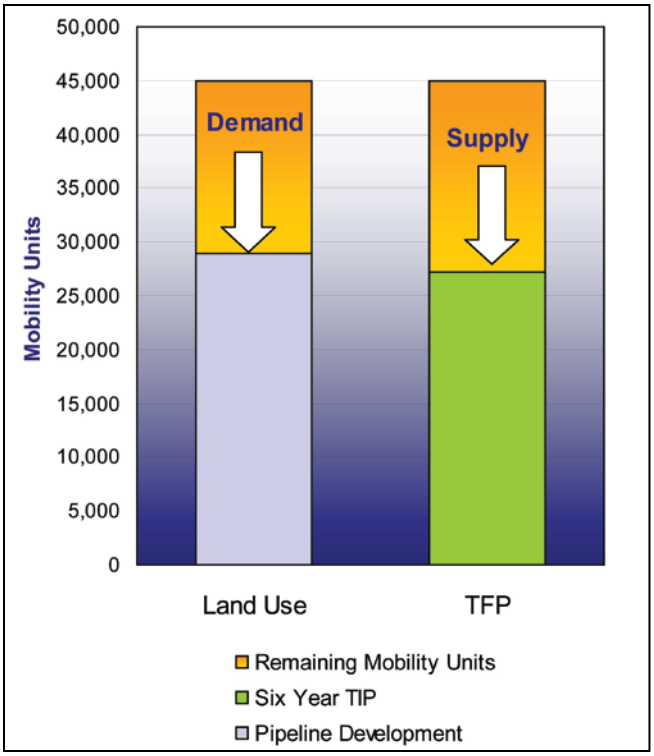

Figure 3. Mobility units concept.

The current supply for mobility units is based on the total amount of capacity-enhancing programs, projects, and services in the Transportation Facility Plan which are either complete or committed. This is also referred to as system completion. Based on analysis of completed projects and the current Six-Year TIP, there are 44,060 mobility units of supply available.

The comparison of current mobility unit demand and mobility unit supply available determines the amount of mobility units available for new development. The City currently has 8,631 mobility units of supply available (44,060 - 35,420 = 8,631).

System Completion

System completion refers to the portion of the TFP that is complete or committed. The result of this analysis showed that the total system completion equals the sum of the Six-Year Transportation Improvement Program (TIP)/Capital Improvement Program (CIP) (60 percent).

State Highway Levels of Service

The Washington State Growth Management Act requires that cities' comprehensive plans include "[e]stimated traffic impacts to state-owned transportation facilities resulting from land use assumptions to assist the department of transportation in monitoring the performance of state facilities, to plan improvements for the facilities, and to assess the impact of land-use decisions on state-owned transportation facilities."[1] Redmond has two state routes within its borders: SR 520 and SR 202 (Redmond-Woodinville Road NE/Redmond Way). Table 1 includes volume-to-capacity (V/C) ratios for the Redmond extents of these facilities for the 2010 baseline and in 2030 with projected land-use changes and completion of the Transportation Facilities Plan (see Chapter 7 – Transportation Facilities Plan). The 2030 land use data used in estimating the V/C ratios are consistent with the adopted 2030 land use growth targets for the City of Redmond (see Chapter 2 – Trends and Conditions)

Table 1. V/C Ratios for Highways of State significance in Redmond.

	Volume to Capacity (V/C Ratio)			
	2010		2030 TFP	
Corridor	MD	PM	MD	PM
SR 520 WB from Redmond Way to West Lake Sammamish Parkway NE	0.79	0.82	0.89	0.89
SR 520 EB from Redmond Way to West Lake Sammamish Parkway NE	0.75	1.16	0.84	1.17
SR 520 WB from West Lake Sammamish Parkway NE to NE 51st Street	0.61	0.55	0.67	0.57
SR 520 EB from West Lake Sammamish Parkway NE to NE 51st Street	0.62	0.85	0.62	0.89
SR 520 WB from NE 51st Street to NE 40th Street	0.61	0.57	0.71	0.67
SR 520 EB from NE 51st Street to NE 40th Street	0.42	0.62	0.54	0.72
SR 520 WB from NE 40th Street to 148th Avenue NE	0.58	0.54	0.72	0.71
SR 520 EB from NE 40th Street to 148th Avenue NE	0.49	0.58	0.6	0.68
Redmond Woodinville Road NE (SR 202) from NE 90th Street to NE 124th Street	0.92	1.34	1.06	1.66
Red-Wood Road (SR 202) from NE 85th Street to NE 90th Street	0.73	0.81	0.79	0.97
164th Avenue NE (SR 202) from NE 85th Street to Redmond Way	0.74	0.83	0.92	1.07
Redmond Way (SR 202) from 164th Avenue NE to 170th Avenue NE	0.52	0.5	0.84	1.08
Redmond Way (SR 202) from 170th Avenue NE to SR 520	0.89	0.98	1.07	1.12
Redmond Way (SR 202) from SR 520 to East Lake Sammamish Parkway NE	0.85	1.17	1.09	1.36
Redmond Way (SR 202) from East Lake Sammamish Parkway NE to 185th Avenue NE	0.72	1.04	0.87	1.21
Redmond Way (SR 202) from 185th Avenue to east city limits	0.66	1.03	0.83	1.26

[1] RCW 36.70A.070(6)(a)(ii)

Implementation and Action Steps

Once the TMP update is adopted, the concurrency management system will be recalculated using the adopted 2013-2030 Transportation Facility Plan from the TMP and the 2010-2030 growth targets from the Comprehensive Plan. The amount of "pipeline" development will also be updated to reflect the new 2013-2030 planning horizon. The result of this update will be an updated number of Mobility Units of supply available for new development.

Once the status of the concurrency management system has been updated, implementation of the growth related portion of the TFP annually and new development proposals will be tracked as developers apply for concurrency. Based on this information, the Mobility Units of supply available for new development will remain up to date.