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TO: Bellevue Transportation Commission
FROM: Kevin McDonald, AICP, Senior Transportation Planner, 452-4558
kmcdonald@bellevuewa.gov
SUBJECT: Downtown Transportation Plan Update - Transit

INTRODUCTION

The update to the Downtown Transportation Plan will address mobility issues and challenges and support Downtown growth and urban livability looking out to 2030.

On January 10, 2013, the Downtown mobility topic will be transit. Staff will review or outline:

- The shifting Downtown demographics and the implications for transit ridership
- The general framework for the discussion of Downtown transit; and
- The issues, analysis methodology and preliminary recommendations related to Downtown transit service coverage.

Downtown Transit Demand/Demographics

Downtown Bellevue Transit planning is about serving the anticipated jobs, residents and visitors to Downtown. Growth projections represent the sheer numbers of jobs (70,300) and residents (19,000) that will be present in Downtown by 2030. In addition to the numbers, the geographic distribution of jobs and population, and the demographics of the people living and working in Downtown have a bearing on the preferred location and quantity of transit service. While there is no projection for population and employment demographics, a look at trends provides an indication of the future.

Downtown Residents

The trend in the age of Downtown residents between 2000 and 2010 is documented in Table 1. This trend supports the concept of enhancing a robust transit system that is well integrated with land use and with the pedestrian system of sidewalks, crosswalks, mid-block crossings and through-block connections.

Dramatic shifts in demographics include significantly greater numbers of younger residents who are a component of the workforce in Downtown Bellevue and who commute to other employment centers. Among the expectations of these residents is a walkable urban environment that is well served by transit. Increasing numbers of young people under the age of 18 expect to have safe places to walk and transit to help them achieve independent mobility. Also there has been a consistent number of older residents who appreciate a walkable

community and who may be dependent on transit to get around Downtown and to regional destinations. Demographic projections are not available for the 2030 planning horizon, however it is expected that Downtown and citywide demographics will trend toward convergence, with the population pattern for Downtown resembling that of the city as a whole.

Table 1

Population Age Distribution				
	2000		2010	
Age	Citywide	Downtown	Citywide	Downtown
< 18	23,142 (21.1%)	125 (5%)	25,953 (21.2%)	544 (8%)
18-44	44,292 (40.4%)	836 (32%)	46,967 (38.4%)	4,263 (59%)
44-64	27,446 (25.0%)	501 (19%)	32,382 (26.5%)	1,222 (17%)
> 65	14,689 (13.4%)	1,126 (44%)	17,061 (13.9%)	1,118 (16%)
Median	38.2	57.3	38.5	34.1
Total Population	109,569	2,588 (2.4% of city total)	122,363	7,147 (5.8% of city total)

Downtown Workers

Employment opportunities within an urban environment that has significant amenities draw employees to Downtown Bellevue. An attraction of an urban environment is the ability for employees to access jobs using transit. Employers are attracted to Downtown Bellevue because it provides the type of work environment and mobility options favored by many employees. This convergence of interests has led to significant job growth, with 42,525 employees in Downtown Bellevue in 2010. This number is expected to increase to 70,300 in 2030.

Bellevue has long supported Transportation Demand Management programs that help large employers reduce the number of single occupant vehicles during peak commute hours. From 1993 to 2010, large Downtown employers reduced their employees' drive-alone rate from 68 percent to 56 percent. This downward trend in the drive-alone rate has occurred at the same time as considerable job growth – reflected in the growth in daily transit ridership Downtown from about 7,000 in 2002 to over 14,000 in 2010, and providing a partial explanation of the steady traffic counts on Downtown arterials.

Note of explanation from the December 14, 2012 meeting, regarding the question of different transit ridership numbers between the BKR Model and agency ridership: Transit ridership is expressed differently for different purposes any may not be based on equivalent measures. The resulting ridership numbers for the same time and place may be different, which can be

confusing. Transit agencies often refer to “ridership” as the total number of people getting on or off a bus, either in a geographic area or at a specific stop or station. A person who gets off one bus and transfers immediately to another bus as part of the same journey would count to the transit agency as one alighting and one boarding. Travel demand modeling such as that used by the City of Bellevue, refers to transit “person trips” as a count of the number of people whose journey begins or ends in Downtown - a transfer in Downtown from one bus to another is not considered a Downtown transit trip. Specifically for 2010 in Downtown, while the transit agencies report over 14,000 daily Downtown boardings and alightings, or “ons” and “offs”, the BKR model reports 11,200 daily Downtown transit trips – the difference accounted for by the method of counting.

Downtown Transit Scope of Work

In response to community input, as well as to the forecast transit demand based on population and employment growth, and the approved Measures of Effectiveness, staff has identified the following components of Downtown transit service as being essential to address in the Downtown Transportation Plan Update:

- **Coverage:** Providing short walk distance access to frequent transit service
- **Capacity:** Accommodating transit passengers on buses and platforms, and buses on Downtown streets and at the Transit Center
- **Speed and Reliability:** Moving passengers on busses to and through Downtown
- **Passenger Access, Comfort and Information:** Supporting transit passengers off the bus

Each component of this transit scope of work will be addressed separately. These components will form a comprehensive transit strategy for Downtown, that will be integrated with the Bellevue Transit Master Plan Update. The remainder of this memo, and the main topic of discussion at the January 10, 2013 Commission meeting will be Downtown Transit Coverage.

Downtown Transit Coverage

- **Measures of Effectiveness**

There are 2 adopted Measures of Effectiveness for purposes of describing transit coverage in the Downtown Transportation Plan Update:

- Percent of total daily person trip ends within a 5-minute walk of 15-minute transit service (served by frequent transit service).
- Percent of total daily person trip ends (served by all transit service)

The 15-minute frequent transit service metric is consistent with the standard used for the Bellevue Transit Master Plan Update. For the 2010 base year, Downtown Bellevue routes #271 and #550 met the frequent service description. Currently, RapidRide B and route #234 also provide frequent all day service. East Link stations Downtown and at Main Street/112th Avenue NE would be added for the 2030 analysis. It is assumed that

the route #550 would be reconfigured when East Link is operational but would still provide frequent service.

- **Walk distance methodology**

According to walkinginfo.org, transit riders will typically walk $\frac{1}{4}$ to $\frac{1}{2}$ mile (about a 5 to 10-minute walk for most people) to and from transit. Thus, the riders' needs as pedestrians extend beyond the bus stop to and from the surrounding neighborhood. Transit Cooperative Research Program (TCRP) Report 153 "Guidelines for Providing Access to Public Transportation Stations" documents the many factors other than distance that affect a transit rider's decision whether to walk, including urban design, pedestrian facilities, crime, and individual characteristics. In a favorable pedestrian environment, an able-bodied transit rider will often be willing to walk more than $\frac{1}{2}$ mile to a light rail station.

Complex walk distance methodologies can be used to determine walk distance to transit, whether the metric is described as a 5-minute walk or 10-minute walk, or a $\frac{1}{4}$ -mile walk or a $\frac{1}{2}$ -mile walk. Factors such as walk speed, topography, intersection delay and density and type of land use in the analysis area inform the walk distance calculation. Various combinations of factors can be used to analyze walk access to a specific transit facility, such as a light rail station. When the Measures of Effectiveness were adopted, the station planning methodology of precisely calculating walk distance was chosen. However such a detailed methodology is very data-intensive and may not be needed for a long-range, area-wide determination of transit coverage. This is especially true given that the precise future use of each development parcel, whether for job or for residences, as well as the precise location of future bus stops is unknown. The future precise location of each person and bus stop in Downtown Bellevue over a 20 year span of time represents a substantial leap of analytical power that is unnecessary to assess this MOE.

For area-wide analysis in the context of long-range planning, a more generic approach is usually taken. For instance, the Bellevue Transit Master Plan uses a $\frac{1}{4}$ mile radius (1,320 feet) from bus stops to demonstrate transit coverage on a citywide basis. Therefore staff proposes to modify the adopted transit MOEs to take a planning-level look at transit coverage.

- **MOE - Percent of total daily person trip ends within a 5-minute walk**

This MOE would be calculated based on transit coverage of an entire **Transportation Analysis Zone (TAZ)**. For Downtown Transportation Plan Update purposes, the residents and employees in a TAZ would be considered "served" by frequent transit if the TAZ is touched by a 600-foot radius circle around a bus stop pair (one stop in each direction) that is served by high frequency transit. The 600-foot radius was selected

because it is the approximate length of a block in Downtown Bellevue. This 600-foot metric coupled with a circle that touches a TAZ is intended to be a proxy for all the factors cited above that could be considered in an analysis. All of the trip ends assigned to residents and employees in a TAZ with 600-foot proximity of a transit stop would be counted in the MOE for transit service coverage. To support pedestrian access to transit, particular attention would be paid to pedestrian facilities within the TAZ and around the perimeter.

- **Transit Service Coverage**

Recommendations for Downtown bus routing and stops should consider the existing and anticipated location of residents and employees. Much of the projected residential growth will occur north and south of the commercial core of Downtown Bellevue, primarily north of NE 8th Street and south of NE 4th Street. The existing and anticipated concentration of employment is in a core area of Downtown bounded by Bellevue Way, NE 10th Street, 110th Avenue NE, and NE 2nd Street.

Within the Downtown neighborhoods are specific types of destinations that the community has indicated would be desirable places to access by transit. These include civic buildings, hotels, major shopping destinations and parks. Such destinations are largely within the major residential and employment areas, so they would be covered by transit that also serves housing and employment areas. High quality pedestrian facilities and wayfinding would support walking to these destinations.

- **Transit Service Connections**

The focus of the Downtown Transportation Plan Update is the transit coverage for Downtown residents, employees and visitors. Transit service that supports Downtown must also be planned in recognition of city and regional connections. While the specific measures of effectiveness approved for the Downtown Transportation Plan Update are applicable only Downtown, the design of the transit system will also consider the Bellevue Transit Master Plan Update, which has factors related to:

- Transit Connections with Bellevue Neighborhoods and Activity Areas
- Transit Connections with Regional Markets and Destinations

- **Walk to Transit Factors**

The following factors have been previously discussed with the Commission in the context of the Downtown pedestrian environment. These will be reviewed and discussed in more detail as they relate to the walk to transit and how the pedestrian environment affects access to transit. The perception of walk distance – and a person’s willingness to walk to transit or to other destinations Downtown - is related to the quality of the walking environment. Previous work has identified significant improvements for pedestrians including:

- **Sidewalks:** Providing sidewalks of reasonable width to accommodate anticipated pedestrian volumes, plus the type of landscaping (street trees or landscape strip) to provide a buffer from traffic
- **Crosswalks:** Establishing a hierarchy of crosswalk types that include standard crosswalks as the default, enhanced crosswalks where pedestrian volume and traffic speed and volume dictate additional measures to enhance function and visibility, and exceptional crosswalks to carry an intended urban design treatment and pedestrian emphasis along a corridor.
- **Mid-Block Crossings:** Identifying priority locations for near-term implementation to accommodate existing and anticipated pedestrian demand. Crossings could be at-grade or grade-separated, signalized or non-signalized depending on the need and context.
- **Through-Block Connections:** Providing design accessibility components and wayfinding that clearly communicate these connections on private property as public walkways.

Additional components of Downtown walkability that contribute to transit access include the following factors that will be more fully discussed in a subsequent meeting devoted specifically to Passenger Comfort, Access and Information:

- **Wayfinding:** Especially important at transit hubs in the absence of line-of-sight transit connections, and also to provide walk-route guidance to local destinations
- **Pedestrian amenities:** Benches, weather protection, pedestrian-scale lighting, etc. enhance transit access

Preliminary Conclusions and Recommendations

At the Commission meeting on January 10, staff will discuss the transit measures of effectiveness pertaining to frequent transit service coverage – with calculations using the 600-foot radius circle from a transit stop, plus the rule that includes all of the residents and jobs within a TAZ that is touched by the 600-foot radius circle. We will identify potential modifications to Downtown transit routes or bus stop locations that would enhance coverage.

NEXT STEPS

At the next scheduled Commission meeting on February 14, 2013 staff will continue the discussion of Downtown transit service. Preliminary recommendations regarding transit service capacity, speed and reliability, and passenger access, comfort and information will be presented and discussed.