EXISTING AND FUTURE CONDITIONS REPORT

Bellevue Transit Master Plan

CITY OF BELLEVUE

February 2013

Department of Transportation

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INTRODUCTION

The City of Bellevue's transit system is intimately woven into existing demographic, economic, and social conditions. For instance, by understanding the major employment areas of the city, one can better determine the location and times of day when transit is required.

This evaluation of existing and future conditions involves extensive use of geographic information systems (GIS), route performance data, market research, and travel demand model data to provide:

- An overview of the current bus network structure, services provided in terms of miles and hours, and services consumed (i.e. ridership);
- An assessment of transit service availability and competitiveness in terms of service area coverage, frequency of service by day-of-week and time period, directness of service, and bus versus automobile travel times compared between major activity center and residential neighborhoods;
- An appraisal of route performance as measured by efficiency, effectiveness, and reliability;
- An understanding of key demographic characteristics that influence transit performance;
- An understanding of public opinion regarding transit service in Bellevue; and,
- An evaluation of changing demographics, land use characteristics, and travel patterns that will affect future transit performance.

This Existing and Future Conditions Report serves as an important input into the service planning process detailed in Figure 1. Information gathered at this stage will inform the development of market driven strategies that represent the best course of action for the future delivery of public transportation services in Bellevue.

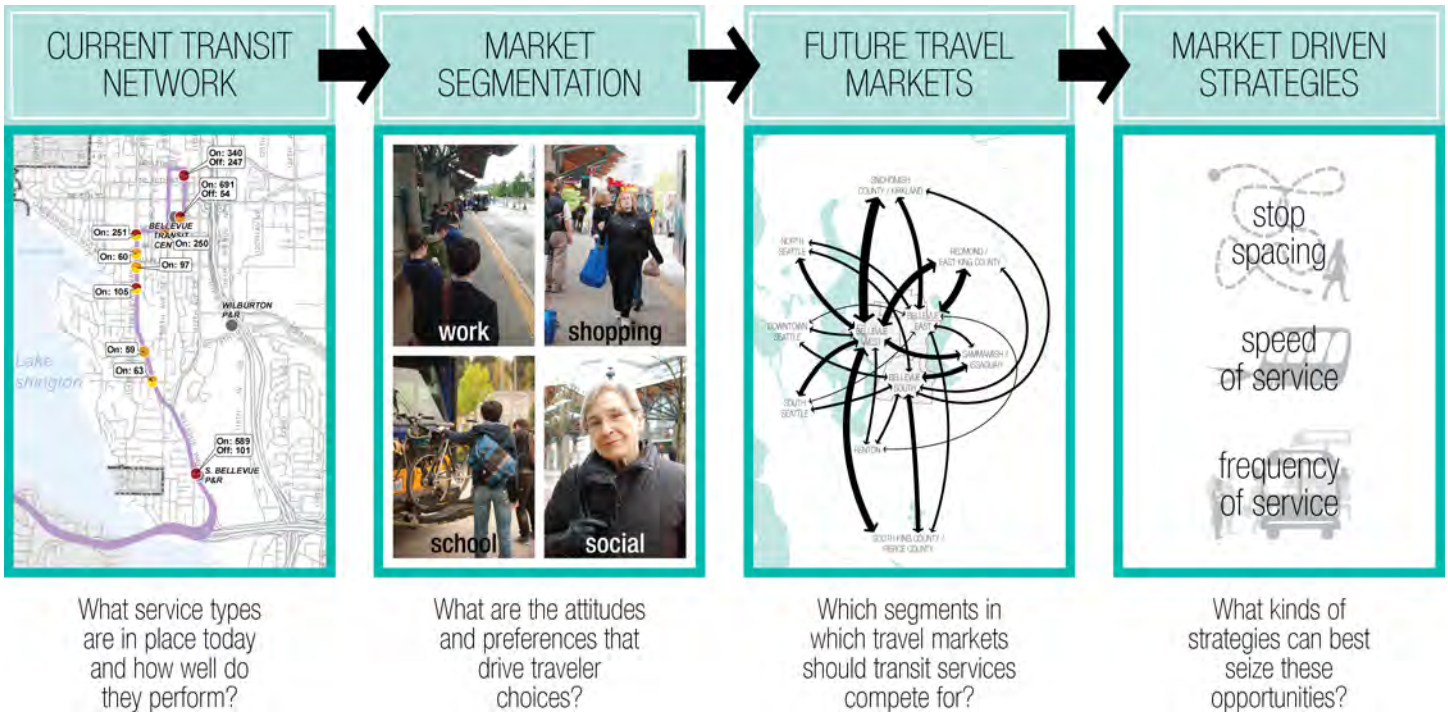


Figure 1 The service planning process arrives at market driven strategies based on a detailed review of the current transit network, an assessment of the attitudes and preferences that drive traveler choices, and an evaluation of future travel markets.

MAJOR FINDINGS

The service planning process helps answer fundamental questions: How will transit help people get to work, health care, and recreation in 20 years? What strategies will help us achieve this vision in a sustainable and cost-effective way? Finding throughout this report (see Figure 2) will help address these and other questions and inform the development of Bellevue's market driven service strategies.

CURRENT TRANSIT NETWORK

Between 2003 and 2012, daily transit ridership in Downtown Bellevue increased from 7,350 to 17,700, a 141% increase in boardings/alightings. Drivers of this ridership increase include thousands of new residents and employees; the number of residents in Downtown Bellevue grew from 2,588 in 2000 to 7,147 in 2010 (a 176% increase) and the number of employees grew from 34,042 to 42,525 (a 25% increase) during this same time-period. Both King County Metro and Sound Transit responded to this increased demand for transit with enhanced service levels to Downtown Bellevue in both regional routes as well as local core routes such as the RapidRide B Line (Downtown Bellevue–Downtown Redmond), Route 271 (Issaquah–Downtown Bellevue–University of Washington), and Route 240 (Downtown Bellevue –Renton).

10 PERCENT
Of Bellevue residents use transit to travel to work (Source: U.S. Census Bureau, 2007-2011 American Community Survey)

17 PERCENT
Of commute trips to Downtown Bellevue occur via transit (Source: 2011 Bellevue Mode Share Survey)

57 PERCENT
Of regular riders (3+ times per week) in Bellevue use transit during the morning peak (Source: 2012 Bellevue Transit Improvement Survey)

72 PERCENT
Of Bellevue residents have a stop within a quarter-mile of their home with 30 minute bus service frequency during the morning peak (Source: U.S. Census Bureau, 2006-2010 American Community Survey)

83 PERCENT
Of Bellevue residents agree that the city should work with regional transit agencies to improve local and regional public transportation serving Bellevue (Source: 2012 Bellevue Budget Survey Report)

111 PERCENT
Increase in daily transit usage in Bellevue from 2003 to 2012 (Source: Fall 2003 and Spring 2012 King County Ridership Data

Figure 2 Indicators of existing conditions in Bellevue.

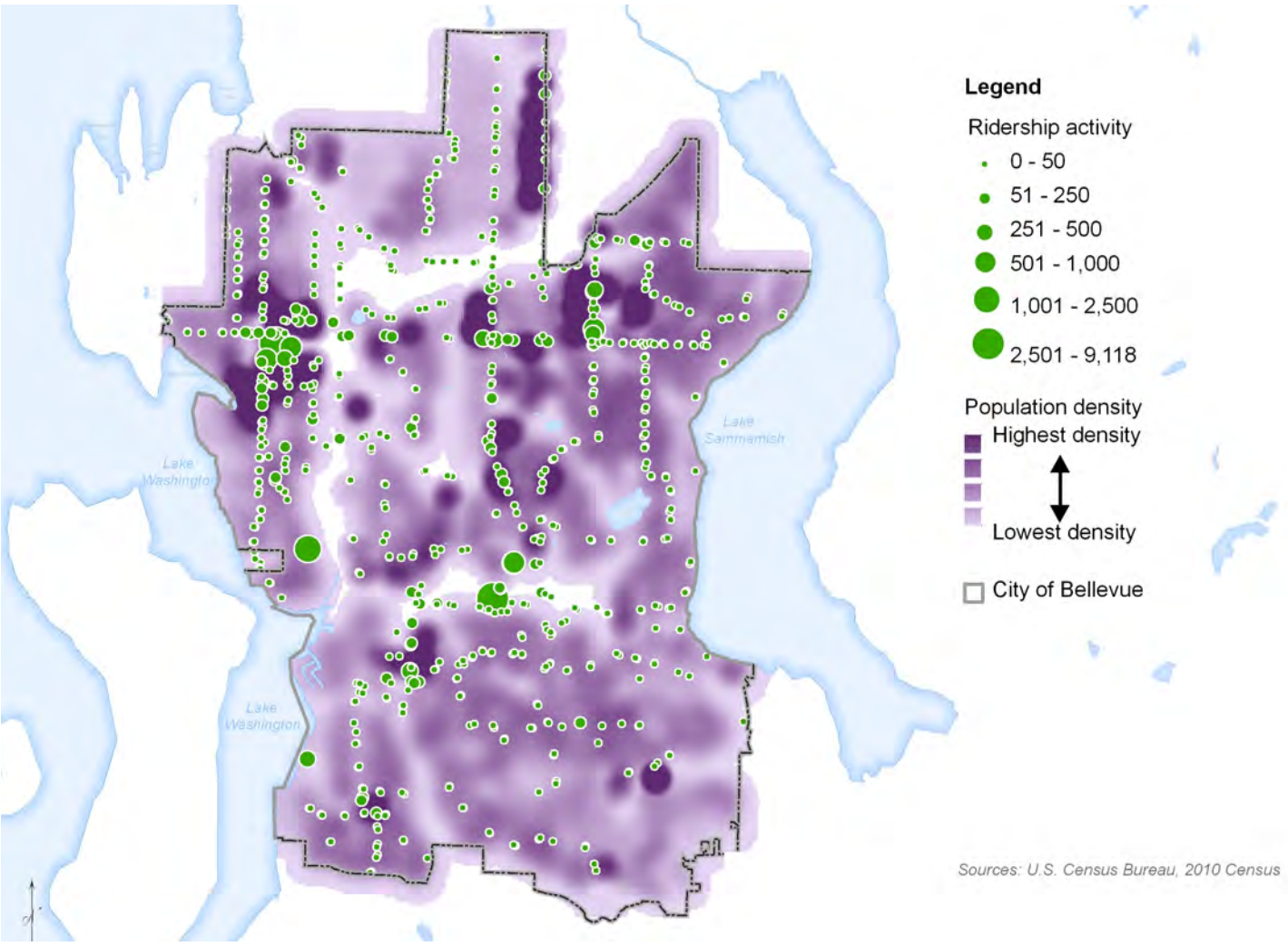


Figure 3 Population density in Bellevue is correlated with transit usage. This is consistent with extensive research that density within walking distance (typically quarter-mile) to a bus stop is a good predictor of mode share, and is, along with parking policies and transit quality, the factor that most influences ridership.

Investments in additional transit service have supported non-downtown areas as well. For example, ridership in the Crossroads area increased from 1,710 (Fall 2003) to 3,501 (Spring 2012), a 105% increase in boardings/alightings. The takeaway from these findings is that if the proper mix of high density employment, housing, and frequent transit service is offered, Bellevue residents and employees will use transit more often (see Figure 3).

Infrastructure improvements that support passenger comfort and enhance transit speed and reliability are also important factors that help attract and retain riders. One of the reasons for the 141% increase in Downtown Bellevue ridership has been the investments in an expanded Bellevue Transit Center as well as the NE 6th St Direct Access Ramps. Ridership loads on buses from I-405 routes which benefit from these improvements have

increased dramatically. For example, ST Route 532 (Downtown Bellevue–Everett) usage increased from 53,327 annual riders (Q2 2005) to 116,259 annual riders (Q2 2012), more than doubling the number of passengers.

Likewise, the Eastgate Park & Ride and Direct Access Ramps have led to a significant increase in ridership (see Figure 4). The Park & Ride's 1,000 new stalls (opened in 2004) have filled up; the facility, which now accomodates 1,646 vehicles, is operating at 93% utilization (Q3 2012). The Eastgate Direct Access Ramps opened in 2006; since then, Sound Transit has been able to double weekday service levels via Route 554 between Issaquah, Eastgate, Mercer Island, and Downtown Seattle as a result of the travel time savings from the ramps. The Park & Ride and Direct Access Ramps, combined with increased frequencies, are directly responsible for the 296% increase in Eastgate area ridership between 2003 and 2012, from 2,200 to 8,689 weekday boarding/alightings.

Looking to the future, growth in ridership presents a challenge because many existing transit capital facilities in Bellevue are at or over capacity. The Bellevue Transit Center cannot accommodate more bus layover as all bus bays are currently full during peak times and Bellevue's major park & rides –such as Eastgate, South Bellevue, and South Kirkland – are all at capacity.

While ridership on most Bellevue routes has grown since 2003, certain routes had much higher ridership gains than others. Regional Sound Transit routes have had tremendous ridership growth between Spring 2005 and Spring 2012, including:

- Routes 555/556 (Issaquah–Downtown Bellevue–Northgate) which increased from 20,006 to 84,111 annual riders (+320%).
- Route 532 (Downtown Bellevue–Lynnwood–Everett) which increased from 53,327 to 116,256 annual riders (+118%).

Figure 4 Together, the Park & Ride and Direct Access Ramp form Eastgate's central focal point for transit.

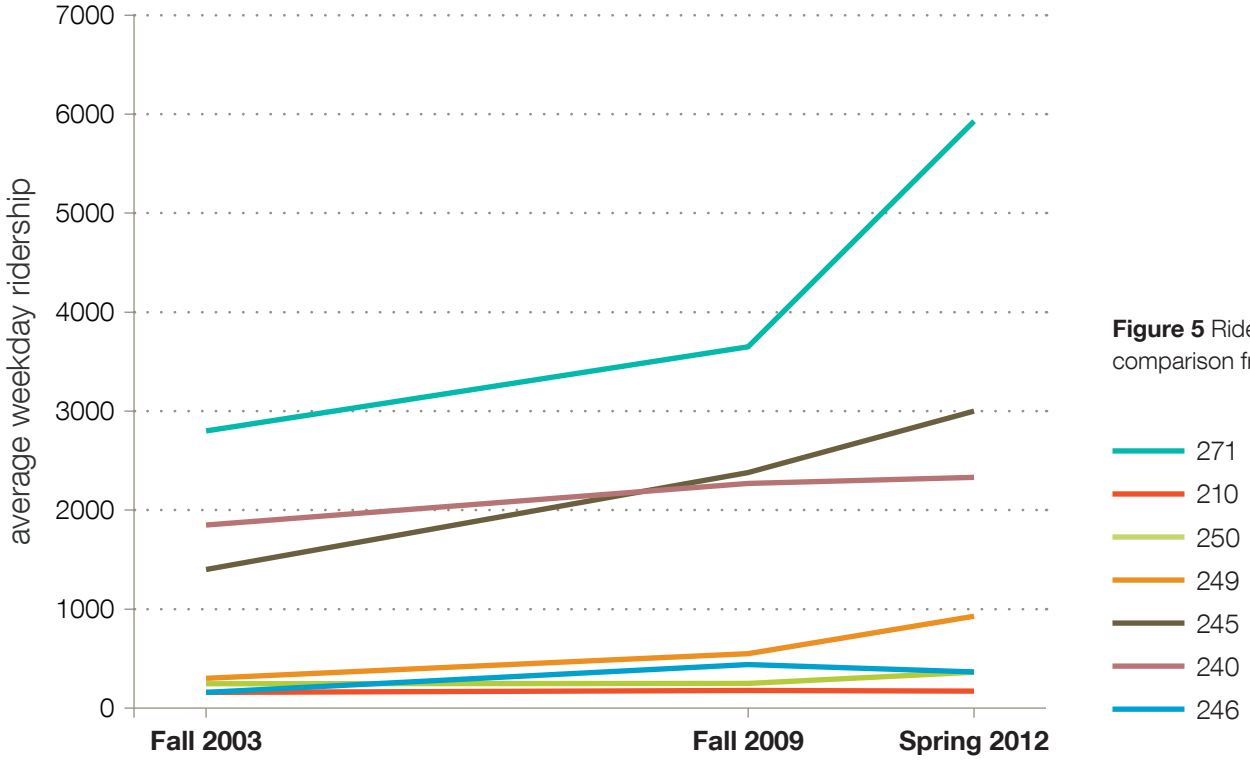


Figure 5 Ridership growth comparison from 2003 to 2012.

- Route 554 (Issaquah–Eastgate–Downtown Seattle) which increased from 129,152 to 228,012 annual riders (+77%).
- Route 550 (Downtown Bellevue–Mercer Island–Downtown Seattle) which increased from 352,242 to 590,341 annual riders (+68%).

Ridership on select King County Metro routes has also increased dramatically between Fall 2003 and Spring 2012. Figure 5 shows some of the changes between Fall 2003, Fall 2009, and Spring 2012. Routes with significant ridership increases between Fall 2003 and Spring 2012 include:

- Route 249, average weekday ridership increased from 300 to 928 (+209%), although it should be noted that Route 249 was modified in Fall 2011.
- Route 245, average weekday ridership increased from 1,400 to 3,000 (+114%).
- Route 271, average weekday ridership increased from 2,800 to 5,928 (+112%).

King County Metro routes with less ridership growth include: Routes 210 (160 weekday riders to 172

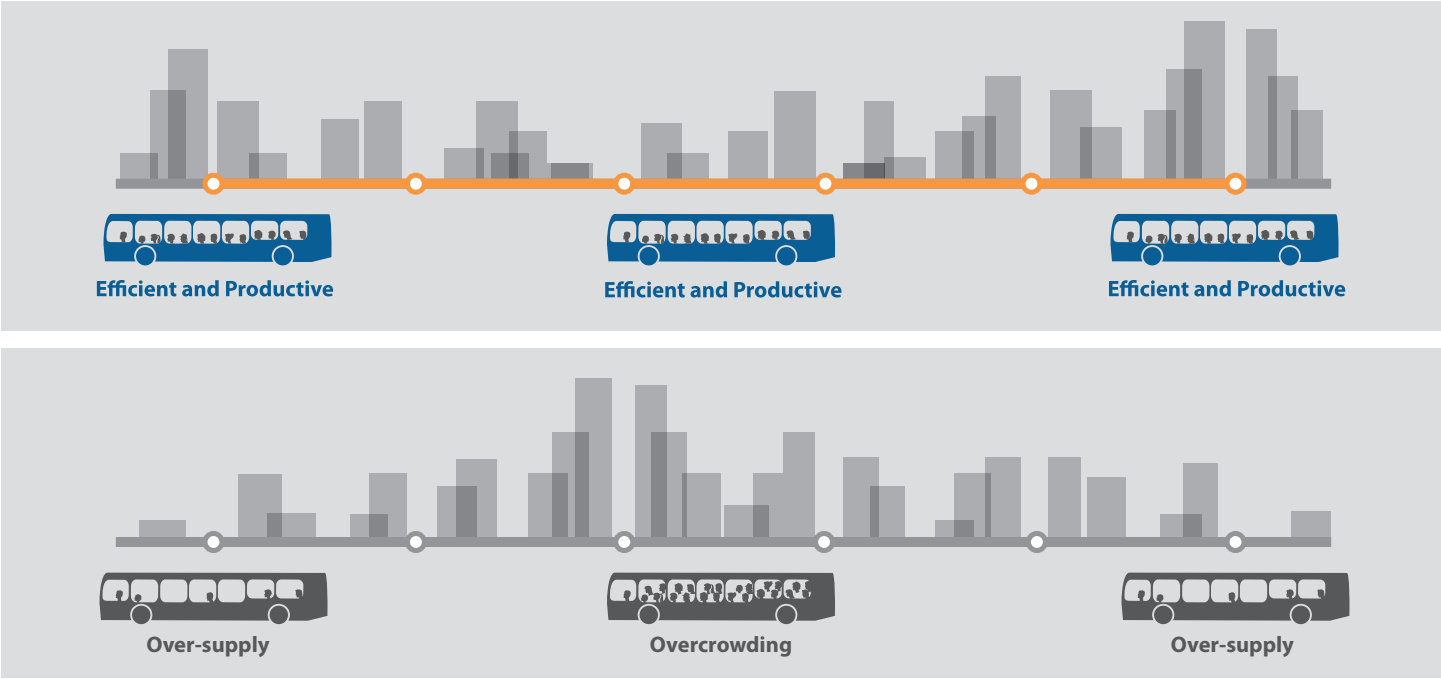


Figure 6 A transit line (bottom graphic) without strong anchors results in low ridership levels at one or both ends. Strong lines (top graphic) start and end at major activity centers or connection points.

GRAPHIC BY TransLink

+8%); Route 240 (1,850 weekday riders to 2,330 +26% – peak 15-minute service was added in 2009 but ridership has flatlined); and Route 246, which had a ridership decrease between Fall 2009 and Spring 2012.

RapidRide B Line has continued the ridership growth trend in the NE 8th St / 156th Ave NE Corridor connecting Downtown Bellevue and Downtown Redmond. Route 253, which had a 73% increase in usage between 2003 (1,750 daily riders) and 2009 (3,030 daily riders), formed the basis for the RapidRide B Line. Since implementation in 2011, RapidRide B ridership in the corridor increased from 5,070 (Spring 2011; based on Route 253 and 235E ridership numbers) to 5,870 (September 2012), a 16% increase.

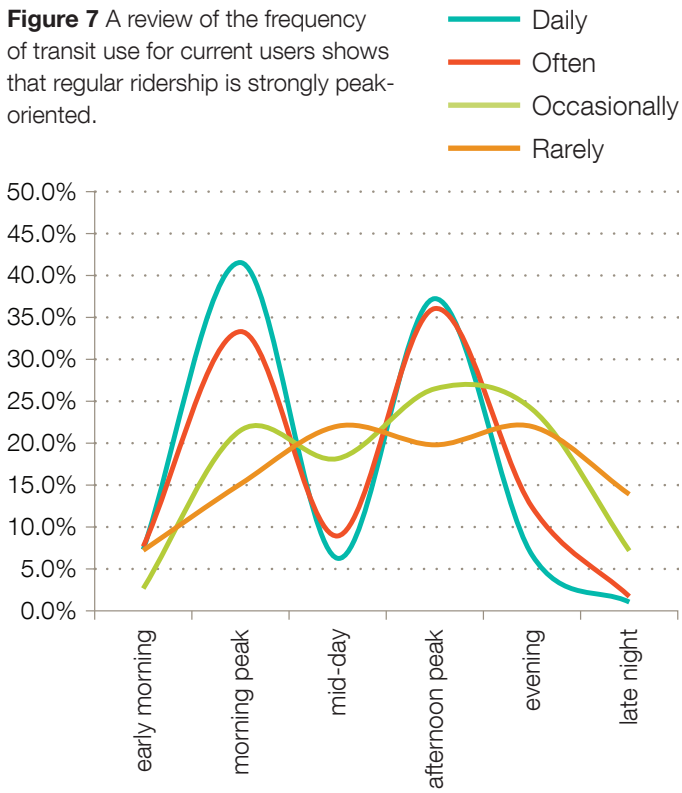
High ridership corridors are typically those with frequent service that have strong anchors at both route ends (see Figure 6). Route 550, Route 245, and Route 253/RapidRide B Line are all examples of such corridors. All three of these routes had frequency increases to accommodate growing demand and

they show that connecting the right population and employment markets with high quality, frequent service leads to improved ridership.

Ridership on routes with a circuitous neighborhood routing (e.g., Route 246 which connects the neighborhoods of Woodridge and Somerset with Downtown Bellevue, Eastgate, and Factoria) has not gone up as consistently as the high frequency corridor routes. Balancing the needs of lower density areas with continued ridership growth in high density and growing corridors will be an on-going challenge for the City of Bellevue.

The additional positive ridership trend in Bellevue may face challenges in the future. Despite recent improvements in the economic condition of the region, Metro is still struggling with the effects of the 2008 economic downturn. It is currently balancing its budget with the assistance of the $20 temporary Congestion Reduction Charge (CRC) on vehicles licensed in King County. Without this charge, King County Metro may need to cut service countywide by over 600,000 annual service hours, or 17% of the current Metro system (*Source: King County Metro*). A sustainable funding solution is a clear challenge for King County Metro, and the impacts of service reductions would likely be felt in Bellevue.

Figure 7 A review of the frequency of transit use for current users shows that regular ridership is strongly peak-oriented.



MARKET SEGMENTATION

The *Bellevue Transit Improvement Survey* (Spring 2012) suggests that commuting to/from work is the most common trip purpose among transit users in Bellevue. The survey also found that over half of all regular riders (those who use transit 3+ times per week) use transit during the morning and afternoon peak (56.9% and 54.0%, respectively), while less than 20% use transit during other times of the day (see Figure 7). This is consistent with findings in both Redmond and Seattle. The strongly peak-oriented nature of Bellevue's transit service, with the most

frequent service being available during the morning and afternoon, shows that transit service in Bellevue is designed primarily to capture the work market.

When asked how the City could best leverage its influence with local transit agencies to improve service in Bellevue, respondents to the *Bellevue Transit Improvement Survey* expressed support for the following three priorities: (i) improve weekday frequency; (ii) improve schedule reliability and on-time performance; and, (iii) improve the speed of service. Bellevue residents are more likely than respondents overall to support increasing frequency throughout the day and to expand service coverage into un-served Bellevue neighborhoods. Finally, Park & Ride vehicle capacity is widely considered to be inadequate and requires investment.

FUTURE TRAVEL MARKETS

According to Bellevue-Kirkland-Redmond travel demand model projections, the total number of daily person trips to/from or internal to Bellevue will increase from 1,220,000 in 2010 to 1,751,000 in 2030, a 43% increase. Approximately 43% of this growth stems from regional travel to/from the Bellevue West area (228,000 new trips) which includes Downtown Bellevue. An estimated 86,000 of these new trips are projected to use the I-405 North Corridor to/from the Bellevue West area.

Within Bellevue, an estimated 237,000 new daily person trips are projected from 2010 to 2030 (see Figure 8). The majority of these new trips (157,000) are within the Bellevue West area centered on Downtown Bellevue and most of these trips are non-work trips (144,000). This reflects the growing importance of Downtown Bellevue as not just a job center, but an overall regional destination.

The non-work trip market, particularly in the densely populated and retail/ entertainment rich area of the Bellevue West area, represents the single-

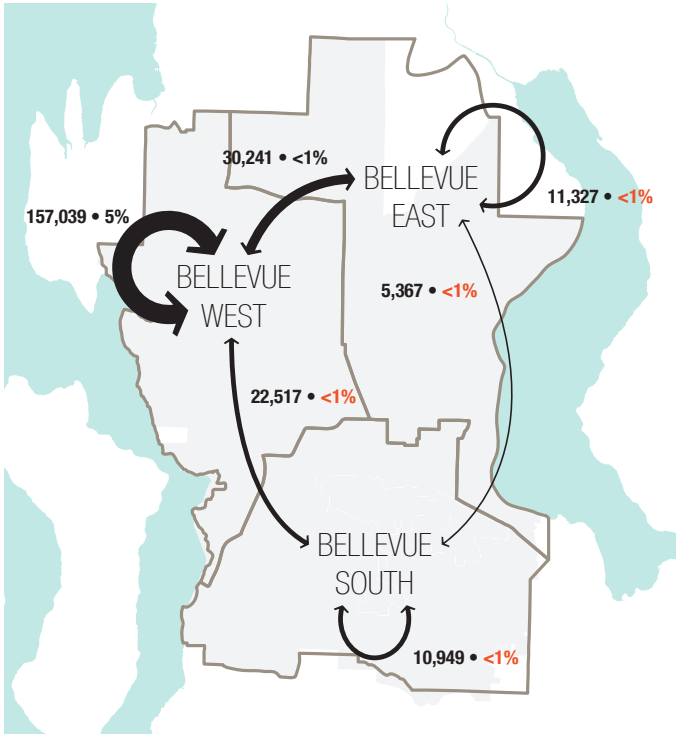


Figure 8 The change in daily person trips within the city of Bellevue's three districts from 2010 to 2030.

ELAPSED TIME: **00:00**

ELAPSED TIME: **01:00**

ELAPSED TIME: **02:00**

ELAPSED TIME: **03:00**

Figure 9 Elapsed travel time (3 minutes) for Route 271 as it travels one block on 150th Avenue SE, from SE 38th Street to SE 37th Street.

largest untapped market for transit in Bellevue. The existing transit network is not well designed to capture these non-work trips, as frequencies during off-peak time (often with headways of more than 15 minutes) are often insufficient to attract choice riders – those who have other travel options besides public transportation.

Although this increase in forecasted growth in trips to Bellevue is expected to result in increased transit usage, it is also expected to put additional pressure on an already congested street network. Increasing congestion and the related increases in running times for transit are expected to be an on-going challenges in the future (see Figure 9). It is not uncommon for transit agencies to forecast a 0.5% increase in annual running time which increases operating costs with no corresponding increase in service levels.

MARKET DRIVEN STRATEGIES

The findings presented above and detailed in the rest of this Existing and Future Conditions Report will inform the development of short- and long-term policies, programs, and projects that help foster a high-quality transit system that is easier, more effective, and more enjoyable for residents, employees, and visitors in Bellevue. The specifics of these market driven strategies will be detailed in the Transit Service Vision Report.

CURRENT TRANSIT NETWORK

King County Metro and Sound Transit jointly operate 42 different bus routes in the city of Bellevue. Together these agencies operated 1,977 weekday bus trips with at least one stop on a Bellevue street (Spring 2012 data). Figure 11 on page 12 shows that the greatest concentration of daily bus trips are found in Downtown Bellevue, Crossroads, Factoria, Eastgate, Bellevue College, and along SR-520 and I-90.

"One of the main reasons I like living in Bellevue is that I can commute to the U-District and Downtown Seattle by bus without having to make any transfers. There are a lot of neighborhoods in Seattle that can't even make that claim."

Bruce, All-Around Transit User
Resident of Bellevue

KING COUNTY METRO

King County Metro operates 33 routes (Summer 2012 Service Change) providing at least one stop within Bellevue city limits:

- Only one route (the RapidRide B Line) is a very frequent service connecting centers with 15 minute headways or better operating 16 to 20 hours daily (see Figure 10).
- Five routes (234, 235, 245, 255, and 271) are frequent services connecting centers with 30 minute headways or better all day, and 15 minutes during peak hours.
- Six routes (221, 226, 240, 241, 246, and, 249) are local services connecting neighborhoods and centers with 30+ minute headways.
- Twenty routes (111, 114, 167, 210, 211, 212, 215, 216, 217, 218, 219, 232, 237, 242, 243, 244, 250, 265, 269, and 342) are Peak-Only services on weekdays, connecting regional

PHOTO BY John Tiscornia

Figure 10 RapidRide B Line provides very frequent, all-day, two-direction service connections between Downtown Bellevue, Crossroads, Overlake Village, Overlake, 154th Ave NE/ Willows Road, and Downtown Redmond. Increased bus stop spacing, signal priority systems, real time information at stations, and off-bus fare collection are all features of RapidRide that contribute to increase travel speeds and decrease boarding time.

employment centers with varying headways (e.g., Route 212 operates with 7-15 minute headways).

- Only one route (280) is a late night (after 1 AM) service connecting local and regional employment areas.

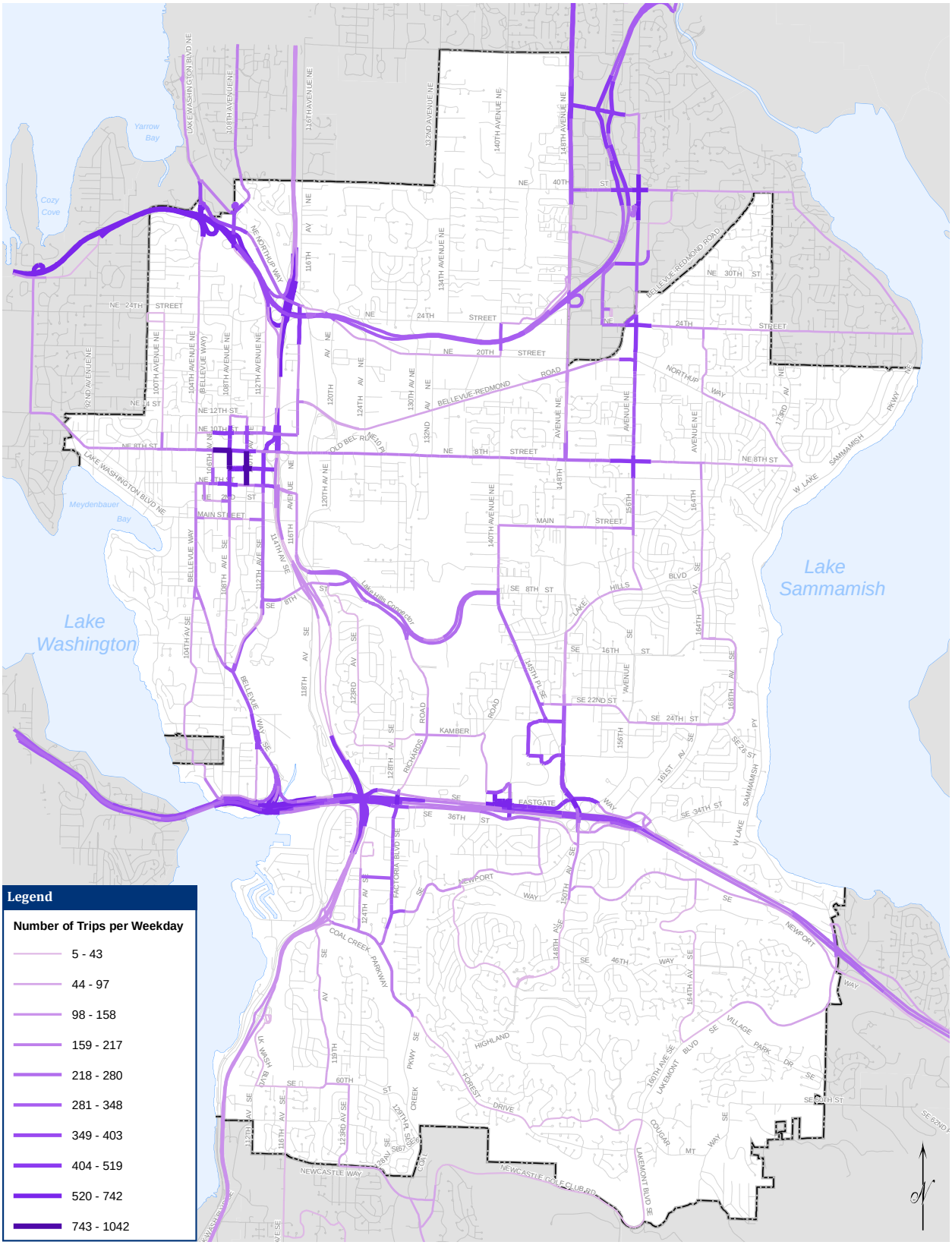


Figure 11 City of Bellevue weekday bus trips.

In addition to these regular fixed route services, Metro operates five Student Transit routes (823, 824, 887, 888, and 889) that connect Bellevue neighborhoods underserved by standard Metro services to Bellevue high schools. The operating expense of these school related routes is paid for by the Bellevue School District. These routes operate two trips every school day – one each in the morning and afternoon – consistent with school schedules.

SOUND TRANSIT

Sound Transit regional express bus services connect Bellevue with destinations in Seattle, North King County, Kirkland, Redmond, Issaquah, Mercer Island, Renton, South King County, Everett, and Lynnwood. Sound Transit contracts with King County Metro (routes 540, 550, 554, 555, 556, and 560), Community Transit (routes 532 and 535), and Pierce Transit (Route 566) to operate regional express bus connections to/from the city of Bellevue. Five of these routes operate all day (535, 550, 554, 560, and 566) and four operate in the peak period only (532, 540, 555, and 556). Five routes operate weekdays only (532, 540, 555, 556, and 566) and four routes (535, 550, 554, 560) operate on both weekdays and weekends (see Figure 12).

PHOTO BY John Tiscornia

Figure 12 Route 550, also known as the Bellevue to Seattle Express, provides the core transit connection between these two activity centers, operating along Bellevue Way and the I-90 corridor. Service operates all day, seven days a week. Route 550 is a well-performing, mature route and is part of a corridor slated for light rail transit in the future.

EAST LINK PLANNING

East Link, the extension of Link Light Rail to the Eastside, was passed as part of the Sound Transit 2 ballot measure in 2008. The extension will run from International District Station (Seattle) east along I-90, across Mercer Island, and north up Bellevue Way and 112th Ave SE into Downtown Bellevue, where it will go east through the Bel-Red Corridor and terminate at Overlake Transit Center. Service is projected to open in 2023 and will serve six stations in Bellevue.

EXISTING SERVICE NETWORK

Transit services can be categorized by time of day (whether Peak-Only or All-Day), level of service (service frequency), and type of connections (whether regional, sub-regional or local).

Service Categories

The regional transit network is categorized by King County Metro into Peak-Only and All-Day routes for the purpose of measuring and monitoring service performance. It is also categorized into "Service Families" according to level of operating frequency for the purpose of monitoring service levels by transit corridor (see Table 1).

Table 1 Typical frequency, span, days, and hours of operation by Metro service family category.

Service Family	Frequency			Days of Service	Hours of Service
	Peak	Off-Peak	Night		
Very Frequent	15 or better	15 or better	30 or better	7 days	16-20 hrs
Frequent	15 or better	30	30	7 days	16-20 hrs
Local	30	30-60	—*	5-7 days	12-16 hrs
Hourly	60 or worse	60 or worse	—	5 days	8-12 hrs
Peak	8 trips/day min	—	—	5 days	Peak

**Night service on local corridors is determined by ridership and connections.*

At the same time, the City of Bellevue categorizes the network of services operating in the city into three categories:

- **Regional services:** Cross subarea and county lines connecting the city of Bellevue with other regional destinations within King, Snohomish, and Pierce Counties (note: routes to Seattle are considered regional routes).
- **Eastside services:** Provide connectivity between the city of Bellevue and other Eastside destinations. Eastside routes connect the city of Bellevue with the following destinations: Kingsgate, Redmond, Kirkland, Woodinville, Totem Lake, Bear Creek P&R, and Issaquah.
- **Community services:** Exclusively serve the city of Bellevue, connecting Bellevue neighborhoods with each other and with Downtown Bellevue.

"More direct routes from neighborhoods to Downtown Bellevue."

Jacqueline, Non-Commute Transit User
Resident of Bellevue

Figure 13 and Figure 15 on page 17 summarize the different route classifications in use by Metro and the City of Bellevue. In general, there is correspondence between Peak-Only services and Regional services, and between All-Day services and Eastside and Local services, however exceptions exist in both groups where a Regional service operates All-Day (i.e. ST Route 550), and an Eastside service operates Peak-Only (i.e. KCM Route 232).

"Recent improvements to Routes 271 and 255 are deeply appreciated by me. Both the increased frequency during the day and evening hours."

Anonymous, All-Around Transit User
Resident of Bellevue

All-Day Routes

All-day routes operate throughout the day, providing connections from morning through evening between designated regional growth centers, manufacturing/industrial centers, and other areas of concentrated activity, serving a variety of travel needs and trip purposes. Seventeen routes comprise Bellevue's All-Day Service Network.

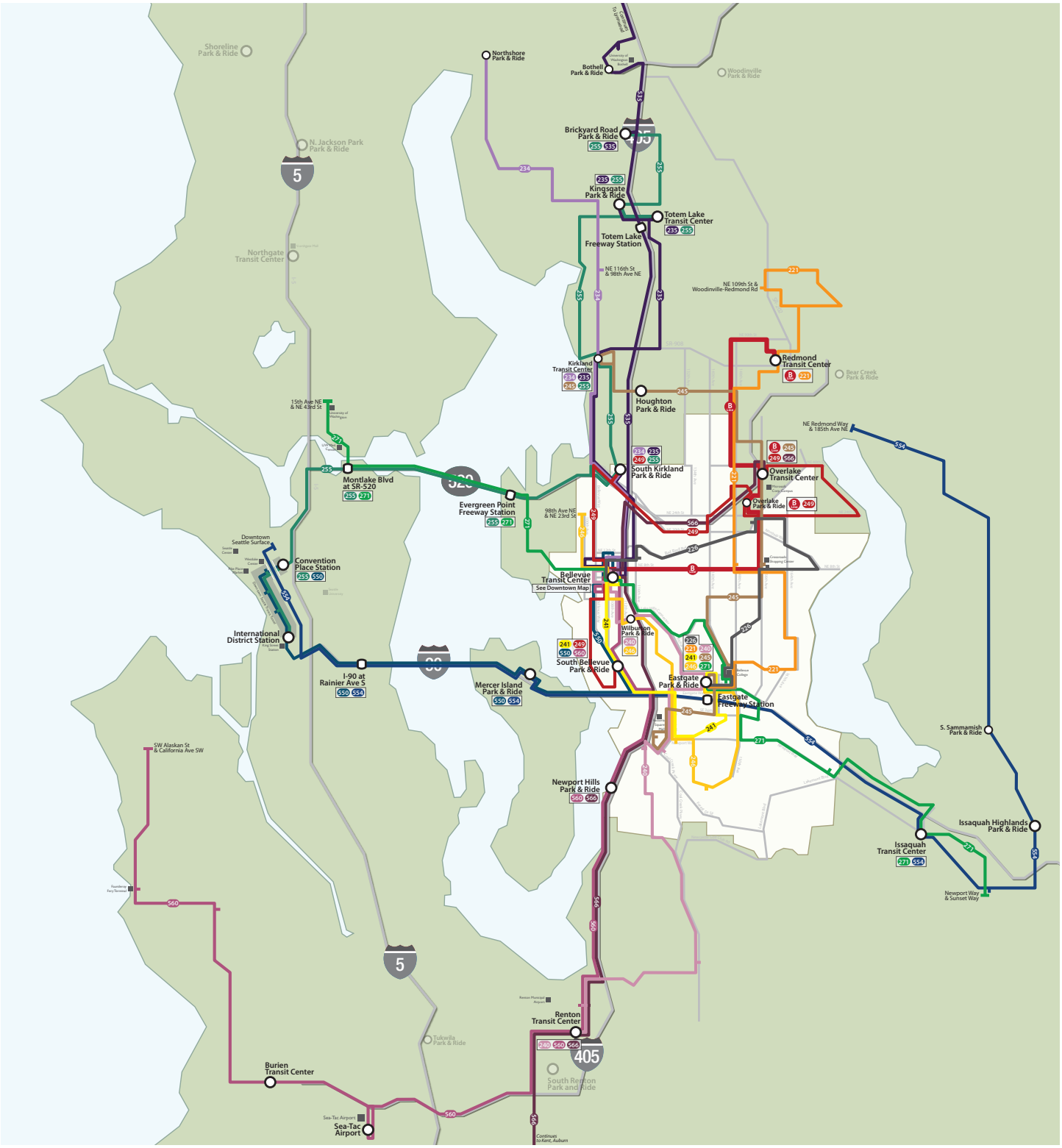
Compared with the Peak-Only Service Network, the All-Day Service Network provides more extensive

Route	KCM Service Family	Bellevue Category	Seattle Core
B Line — *Bellevue to Redmond* *via NE 8th St, 156th Ave NE*	Very Frequent Service	Eastside Service	—
221 — *Redmond to Eastgate* *via 148th Ave, Crossroads, Bellevue College*	Local Service	Eastside Service	—
226 — *Eastgate to Bellevue* *via Crossroads, Bel-Red Road*	Local Service	Community Service	—
234 — *Kenmore to Downtown Bellevue* *via Juanita*	Frequent Service	Eastside Service	—
235 — *Kingsgate to Bellevue* *via Kirkland*	Frequent Service	Eastside Service	—
240 — *Bellevue to Renton* *via Newcastle, Factoria*	Local Service	Regional Service	—
241 — *Bellevue to Eastgate* *via Factoria*	Local Service	Community Service	—
245 — *Kirkland to Crossroads, Factoria* *via Overlake, Eastgate*	Frequent Service	Eastside Service	—
246 — *Eastgate to Bellevue* *via Somerset, Factoria, Woodridge*	Local Service	Community Service	—
249 — *Overlake to Bellevue* *via Sammamish Viewpoint, Northup Way*	Local Service	Community Service	—
255 — *Totem Lake to Downtown Seattle* *via Kirkland, SR-520*	Frequent Service	Regional Service	Serves Seattle Core
271 — *U. District to Bellevue, Issaquah* *via SR-520, Lake Hills, Newport Way*	Frequent Service	Regional Service	Serves Seattle Core
535 — *Bellevue to Lynnwood* *via Totem Lake, UW Bothell*	Local Service	Regional Service	—
550 — *Bellevue to Downtown Seattle* *via I-90, Mercer Island*	Very Frequent Service	Regional Service	Serves Seattle Core
554 — *Issaquah to Downtown Seattle* *via Eastgate, Mercer Island*	Local Service	Regional Service	Serves Seattle Core
560 — *Bellevue to Sea-Tac Airport, West Seattle* *via Renton, Burien, White Center*	Local Service	Regional Service	—
566 — *Auburn to Overlake* *via Kent, Renton, Bellevue*	Local Service	Regional Service	—

Figure 13 All-Day service route descriptions, service families and categories (based on Summer 2012 Service Change).

coverage within Bellevue, including service to the neighborhoods of East Bellevue, Wilburton, Northeast Bellevue, Richards Valley, South Bellevue, and Somerset, none of which are served by Peak-Only routes. However, the All-Day Service Network generally provides less direct service to

Figure 14 All-Day transit service network (Summer 2012).



neighborhoods outside of Bellevue, such as North Seattle and East Renton Highlands, instead primarily serving major transit centers. Two exceptions to this are Kirkland and Redmond, which are both relatively better served by Bellevue's all-day routes (see Figure 14).

Peak-Only Service

Peak-Only service provides faster travel times and accommodates very high demand for travel to and from major employment centers and Park & Ride lots during morning and afternoon commuting periods. Peak services operate between 5-9 AM and 3-6 PM.

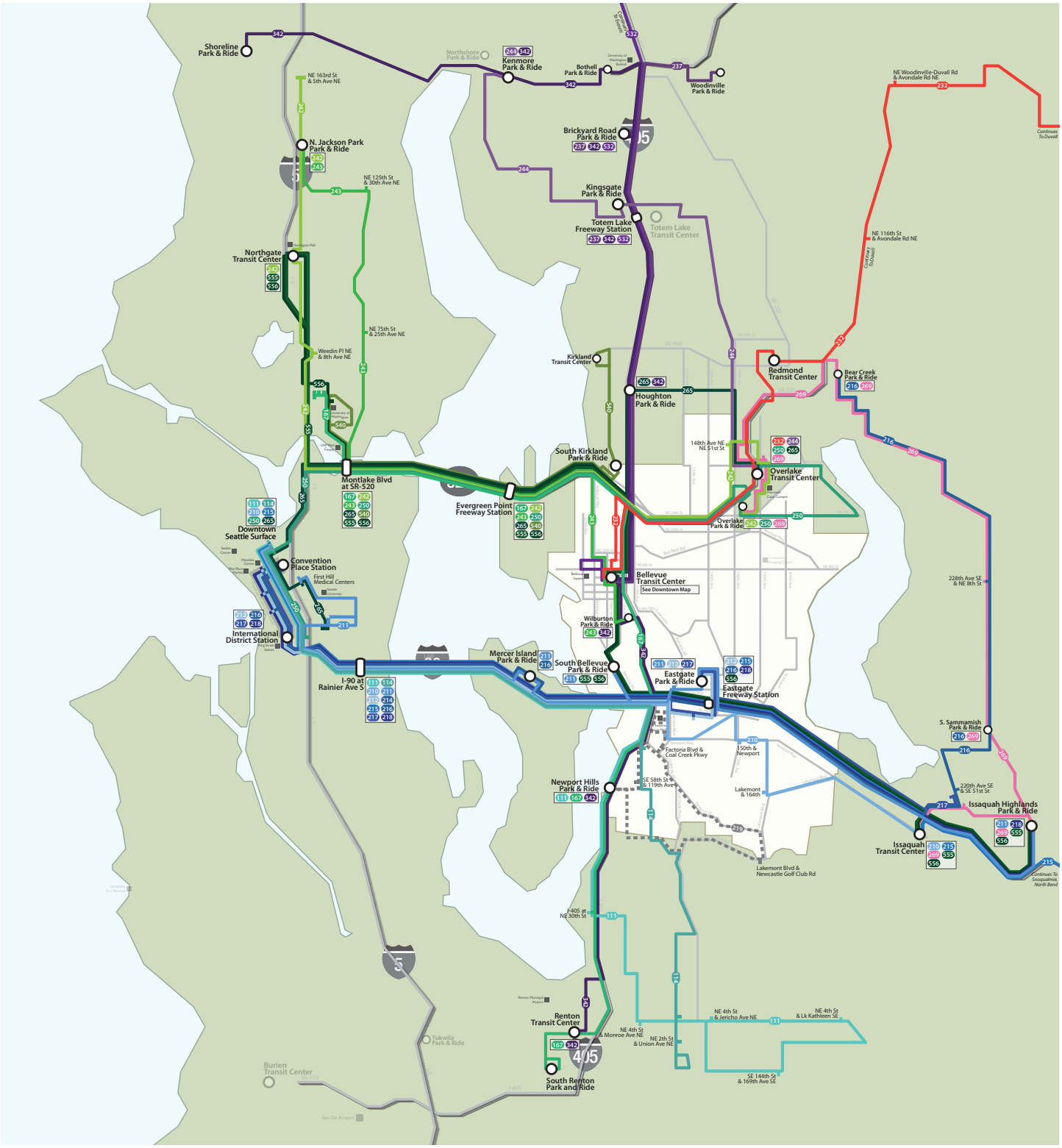
Route	KCM Service Family	Bellevue Category	Seattle Core
111 Maplewood to Downtown Seattle via Lake Kathleen	Peak Service	Regional Service	Seattle Core
114 Renton Highlands to Downtown Seattle via Newport Hills	Peak Service	Regional Service	Seattle Core
167 Renton to University District via I-405	Peak Service	Regional Service	Seattle Core
210 Issaquah to Downtown Seattle via Lakemont	Peak Service	Regional Service	Seattle Core
211 Eastgate to First Hill via South Bellevue, Mercer Island	Peak Service	Regional Service	Seattle Core
212 Eastgate to Downtown Seattle via I-90	Peak Service	Regional Service	Seattle Core
215 North Bend to Downtown Seattle via Snoqualmie, I-90	Peak Service	Regional Service	Seattle Core
216 Bear Creek to Downtown Seattle via Sammamish	Peak Service	Regional Service	Seattle Core
217 Downtown Seattle to North Issaquah via Factoria, Eastgate	Peak Service	Regional Service	Seattle Core
218 Issaquah Highlands to Downtown Seattle via I-90	Peak Service	Regional Service	Seattle Core
219 Newport Hills to Newcastle, Factoria Factoria Square Loop	Peak Service	Community Service	—
232 Duvall to Bellevue via Redmond	Peak Service	Eastside Service	—
237 Woodinville to Downtown Seattle via Totem Lake	Peak Service	Regional Service	Seattle Core
242 Ridgecrest to Overlake via Northgate	Peak Service	Regional Service	Seattle Core
243 Jackson Park to Bellevue via Lake City	Peak Service	Regional Service	—
244 Kenmore to Overlake via Kingsgate	Peak Service	Eastside Service	—
250 Redmond to Downtown Seattle via Overlake	Peak Service	Regional Service	Seattle Core
265 Overlake to First Hill via Rose Hill, Downtown Seattle	Peak Service	Regional Service	Seattle Core
269 Overlake to Issaquah via Sammamish	Peak Service	Eastside Service	—
342 Shoreline to Renton via Bellevue	Peak Service	Regional Service	—
532 Bellevue to Everett via Totem Lake, UW Bothell	Peak Service	Regional Service	—
540 Kirkland to U. District via SR-520	Peak Service	Regional Service	Seattle Core
555 Bellevue to Everett via Lynnwood, UW Bothell	Peak Service	Regional Service	Seattle Core
556 Issaquah to Northgate via Eastgate, Bellevue, U. District	Peak Service	Regional Service	Seattle Core

Figure 15 Peak-Only service route descriptions, service families and categories (based on Summer 2012 Service Change).

Twenty-three routes comprise Bellevue's Peak-Only Service Network.

Within Bellevue, the Peak-Only Service Network primarily serves transit centers via freeways and major arterials. The only Bellevue neighborhood with service exclusively during peak hours is

Figure 16 Peak only transit service network (Summer 2012).



Newcastle, served by Route 210. Forest Drive was also previously served exclusively during the peak prior to the deletion of Route 219, but it is now not served at all. North Seattle, Shoreline, Woodinville, Northeast King County, and Everett are served by a direct connection with Bellevue exclusively during peak hours (see Figure 16).

Service Availability

An effective transit line provides the appropriate level of service to meet demand and encourage people to use it. An example of this might be a line on which buses run often during the day to help get students to school, but less often in the evenings when fewer people are expected to ride it. This type of service meets demand when it is greatest, while also keeping operating costs in check.

The City of Bellevue conducted a detailed analysis of service coverage in two dimensions: geographical coverage (where is service available) and time of day coverage (when is service available). These two dimensions are important to understand the availability of service and its potential utility. After all, if service is only available in the peak period the public can only use it for commute trips to a job during regular hours. If service is available throughout the day, and on weekends, the public can use it for a variety of other trip purposes (shopping, medical, personal errands, etc).

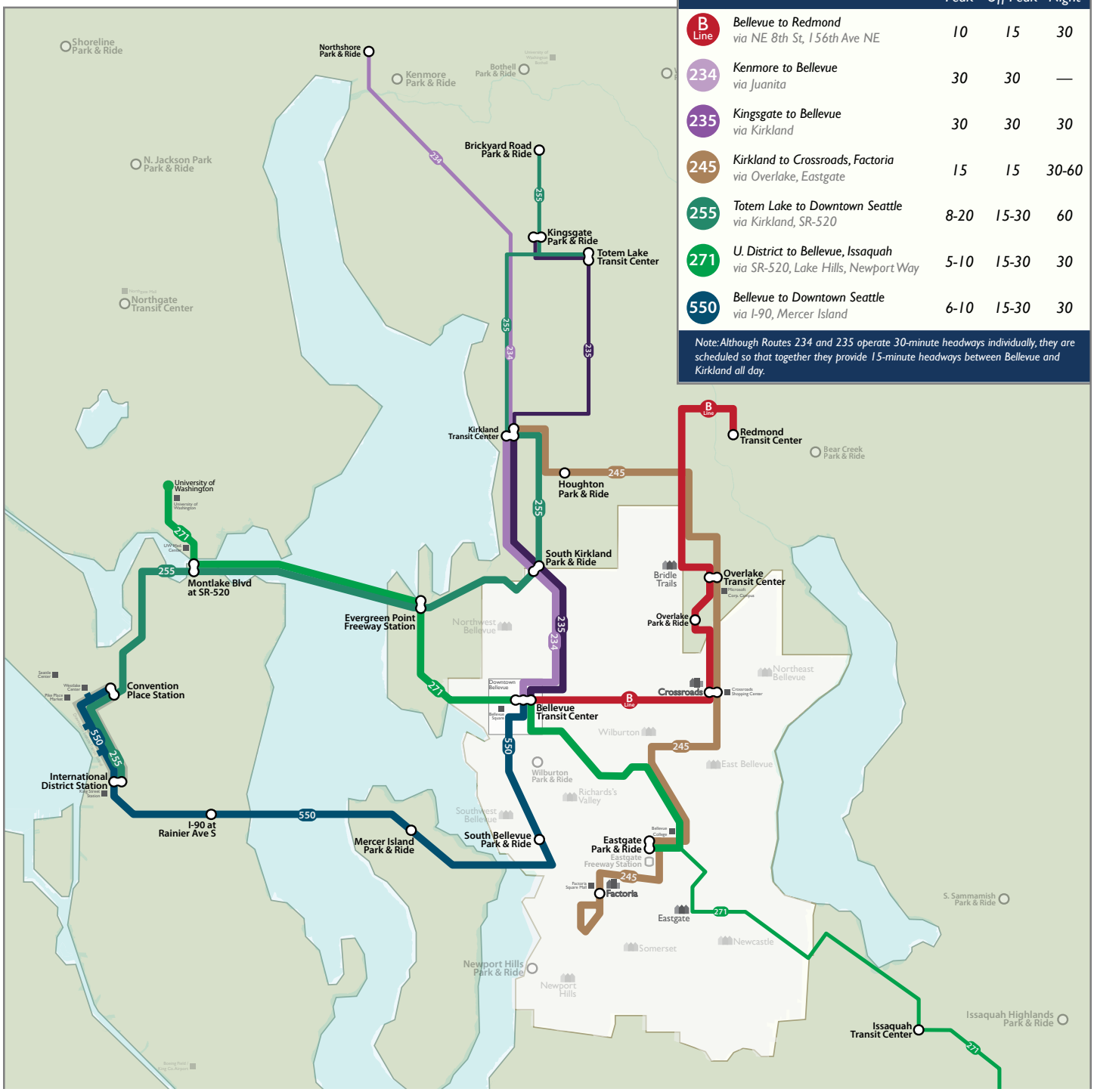
The frequency of service (how often service runs) adds the final dimension of availability (can I use it now, is it frequent enough that I can just show up at the stop and use it). Figure 17 on page 20 reflects corridors in Bellevue where transit service runs at least every 15 minutes in both directions in both the peak and off-peak hours.

Table 2 on page 21 summarizes operating headways (the amount of time in minutes between consecutive trips in the same direction of travel) and

"A reliable transit system has sufficient frequency regardless of day of the week or time of day and is within walking distance from home."

Barbara, All-Around Transit User
Resident of Bellevue

Figure 17 Frequent service network. Frequent service is defined as all-day service that operates approximately every 15 minutes or better during most portions of the day. Note that on the map below, thick lines indicate corridors with frequent service, while thin lines represent portions of a route with less frequent service (map based on Summer 2012 network, and headways).



		Weekday Headways		
		Peak	*Off-Peak*	*Night*
B Line	*Bellevue to Redmond* *via NE 8th St, 156th Ave NE*	*10*	*15*	*30*
234	*Kenmore to Bellevue* *via Juanita*	*30*	*30*	*—*
235	*Kingsgate to Bellevue* *via Kirkland*	*30*	*30*	*30*
245	*Kirkland to Crossroads, Factoria* *via Overlake, Eastgate*	*15*	*15*	*30-60*
255	*Totem Lake to Downtown Seattle* *via Kirkland, SR-520*	*8-20*	*15-30*	*60*
271	*U. District to Bellevue, Issaquah* *via SR-520, Lake Hills, Newport Way*	*5-10*	*15-30*	*30*
550	*Bellevue to Downtown Seattle* *via I-90, Mercer Island*	*6-10*	*15-30*	*30*

Note: Although Routes 234 and 235 operate 30-minute headways individually, they are scheduled so that together they provide 15-minute headways between Bellevue and Kirkland all day.

Table 2 Service headways (Summer 2012).

Route	Weekday					Saturday			Sunday		
	AM Peak (5:00-9:00)	Midday (9:00-15:00)	PM Peak (15:00-18:00)	Evening (18:00-22:00)	Night (22:00-1:00)	Daytime (5:00-18:00)	Evening (18:00-22:00)	Night (22:00-1:00)	Daytime (5:00-18:00)	Evening (18:00-22:00)	Night (22:00-1:00)
B Line	10	15	10	15	30	15	15	30	15	15	30
111	20-30	—	20-30	—	—	—	—	—	—	—	—
114	30	—	30	—	—	—	—	—	—	—	—
167	30	—	30	—	—	—	—	—	—	—	—
210	4 trips	—	4 trips	—	—	—	—	—	—	—	—
211	30	—	30	—	—	—	—	—	—	—	—
212	7-15	—	7-15	—	—	—	—	—	—	—	—
215	30	—	30	—	—	—	—	—	—	—	—
216	30	—	30	—	—	—	—	—	—	—	—
217	3 trips	—	3 trips	—	—	—	—	—	—	—	—
218	9-30	—	10-30	—	—	—	—	—	—	—	—
219	2 trips	—	3 trips	—	—	—	—	—	—	—	—
221	30	30	30	30-60	1 trip	30	60	—	60	60	—
226	30	30	30	60	—	30	60	—	60	60	—
232	30	—	30	—	—	—	—	—	—	—	—
234	30	30	30	60	—	60	—	—	60	—	—
235	30	30	30	30	30-60	60	60	60	60	60	60
237	3 trips	—	2 trips	—	—	—	—	—	—	—	—
240	15-30	30	15-30	30-60	60	30	60	60	60	60	60
241	30	30	30	60	—	30	60	—	60	60	—
242	20-30	—	30	—	—	—	—	—	—	—	—
243	3 trips	—	2 trips	—	—	—	—	—	—	—	—
244	30	—	30	—	—	—	—	—	—	—	—
245	15	15	15	30	60	30	30	60	30-60	60	60
246	30	60	30	—	—	—	—	—	—	—	—
249	30	30	30	—	—	45	—	—	45	—	—
250	30	—	30	—	—	—	—	—	—	—	—
255	20	30	20	30	60	30	30-60	60	30-60	30-60	60
255 variant	10	15	10	30	60	30	30	60	30-60	30-60	60
265	15-20	—	15-20	—	—	—	—	—	—	—	—
269	20-30	3 trips	20-30	1 trip	—	—	—	—	—	—	—
271	10-30	30	30	60	30	30	60	—	60	60	—
271 variant	5-10	15	5-10	30	—	30	60	—	30-60	60	—
280	—	—	—	—	2 trips	—	—	2 trips	—	—	2 trips
342	30	—	30	—	—	—	—	—	—	—	—
532	10-30	—	15-30	—	—	—	—	—	—	—	—
535	30	30	30	—	—	60	60	—	—	—	—
540	15-30	—	15-30	—	—	—	—	—	—	—	—
550	6-10	15	6-10	30	30	15	30	30	30	30	30
554	30	20	20-30	30-60	60	30-60	60	60	30-60	60	60
555	30	1 trip	30	—	—	—	—	—	—	—	—
556	30	1 trip	30	—	—	—	—	—	—	—	—
560	30	60	30	60	60	60	60	60	60	60	60
560 variant	30	—	30	—	—	—	—	—	—	—	—
566	7-30	30	10-30	30-60	—	—	—	—	—	—	—

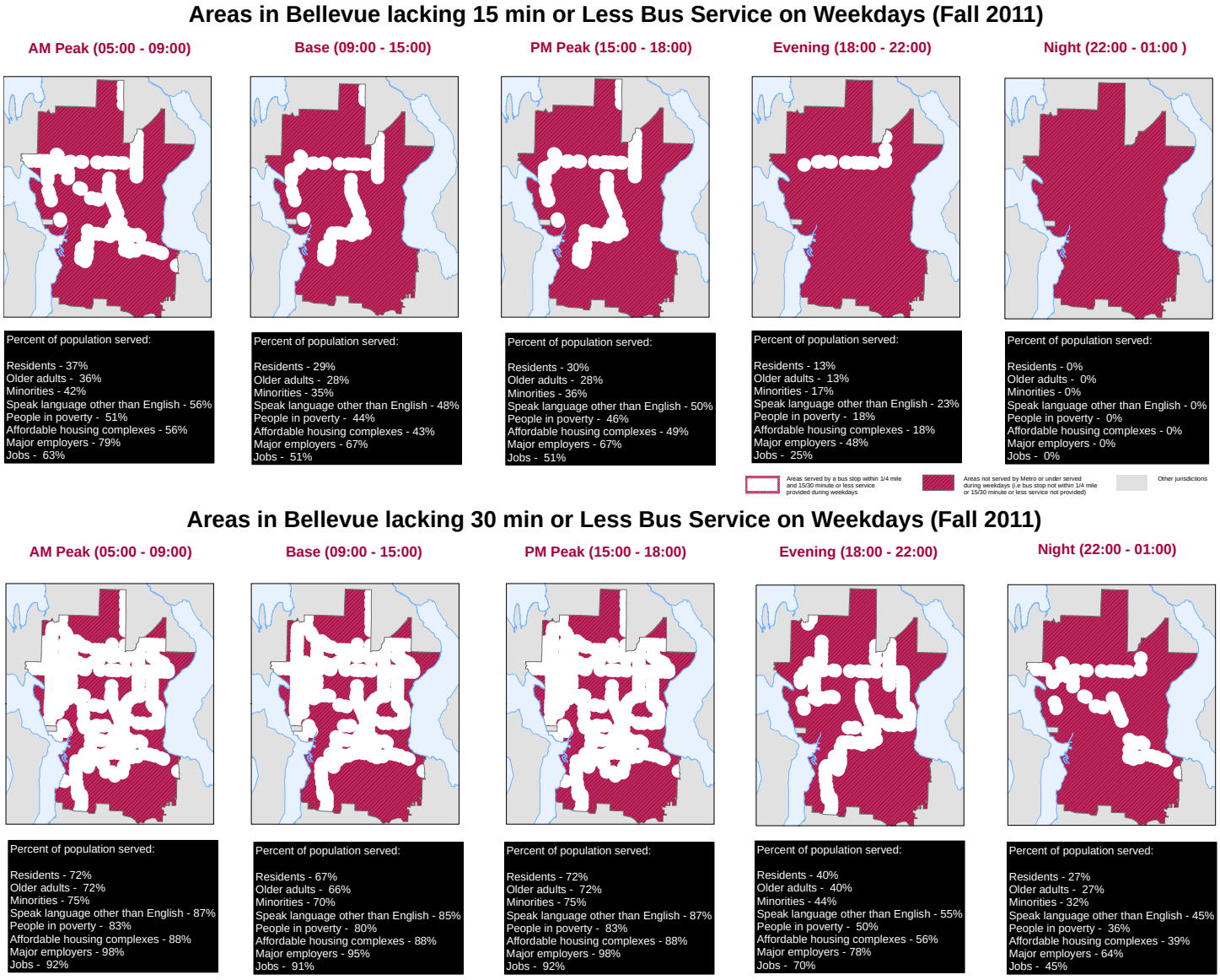
> **"Make bus routes more accessible during the late evening. Most Bellevue bus routes end at around 10 PM or 11 PM. [This] makes it difficult for people to got to social gatherings in the late evening. Also, some people have graveyard shifts."**
>
> *Juan, Non-Commute Transit User*
> *Resident of Bellevue*

span of service (the amount of time each day the route is operating) for all 42 routes serving Bellevue.

Research suggests that 30-minute service frequency is considered to be unattractive to choice riders, while 15-minute service in the peak periods is considered a significant threshold to making transit competitive with driving. This threshold mainly relates to the amount of time people are willing to wait if they just miss a bus. With a 30-minute wait until the next bus, most people with a car available will not risk having to wait that long, and will thus not attempt to take the bus at all.

Frequency of service varies significantly by day of week and time of day in Bellevue. Detailed

Figure 18 Weekday Level of Service Coverage



Sources: U.S. Census Bureau, 2006-2010 American Community Survey, Puget Sound Regional Council 2011 Covered Employment, City of Bellevue's Commute Trip Reduction Program list of Major Employers, City of Bellevue Housing Affordability and Housing Choice Report, King County Assessor.

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breakdowns of the number of households, older adults, minorities, non-native English speakers, people in poverty, renters, major employers, and jobs covered by either 15-minute or 30-minute service by time of day and day of week is shown in Figure 18 and Figure 19, with the detailed numbers shown in Table 3 on page 24.

It should be noted that a quarter-mile of air distance from a bus stop is used in generating these figures which is likely to over-estimate accessibility for these population groupings who may have to walk much longer than a quarter-mile on the street network to access the bus stop. Knowing that every transit trip begins and ends with pedestrian travel, walk-

> **"I need to get to work by 5:00 AM and no buses run early enough for me to get to work on time."**
>
> *Myra, Former Transit Rider*
> *Resident of Bellevue*

Figure 19 Weekend Level of Service Coverage

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Sources: U.S. Census Bureau, 2006-2010 American Community Survey, Puget Sound Regional Council 2011 Covered Employment, City of Bellevue's Commute Trip Reduction Program list of Major Employers, City of Bellevue Housing Affordability and Housing Choice Report, King County Assessor.

	housing units served		# of households served		population served		# of older adults served		# of people in poverty served		# of renters served		minority population served		# of people who speak a language other than english served		covered jobs	
Weekday	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
15 minute																		
AM	25,754	44%	22,979	42%	47,751	37%	6,440	36%	4,210	51%	23,038	43%	17,997	42%	26,606	56%	77,307	63%
Midday	20,630	35%	18,227	33%	38,154	29%	5,047	28%	3,652	44%	19,670	37%	15,165	35%	22,851	48%	62,947	51%
PM	21,203	36%	18,761	34%	39,302	30%	5,131	28%	3,826	46%	20,361	38%	15,584	36%	23,621	50%	63,087	51%
Evening	9,301	16%	8,030	15%	16,214	13%	2,362	13%	1,487	18%	9,505	18%	7,346	17%	10,811	23%	31,148	25%
30 minute																		
AM	44,908	76%	41,103	75%	93,169	72%	13,100	72%	6,867	83%	40,106	76%	32,122	75%	40,991	87%	113,288	92%
Midday	42,291	72%	38,587	71%	86,426	67%	11,836	66%	6,660	80%	37,959	72%	30,049	70%	40,143	85%	111,499	91%
PM	44,908	76%	41,103	75%	93,169	72%	13,100	72%	6,867	83%	40,106	76%	32,122	75%	40,991	87%	113,288	92%
Evening	26,449	45%	23,765	44%	51,906	40%	7,297	40%	4,134	50%	23,724	45%	18,946	44%	26,034	55%	85,254	70%
Nighttime	19,581	33%	17,679	32%	35,330	27%	4,874	27%	3,025	36%	16,996	32%	13,720	32%	21,155	45%	55,692	45%
Weekend	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
15 minute																		
Sa Daytime	15,611	27%	13,695	25%	26,832	21%	3,770	21%	2,440	29%	13,988	26%	10,719	25%	17,679	37%	46,012	38%
Sa Evening	10,132	17%	8,811	16%	17,767	14%	2,442	14%	1,771	21%	10,388	20%	7,879	18%	11,888	25%	31,974	26%
Su Daytime	10,134	17%	8,813	16%	17,773	14%	2,442	14%	1,771	21%	10,390	20%	7,880	18%	11,892	25%	31,974	26%
Su Evening	8,921	15%	7,732	14%	16,155	12%	2,178	12%	1,731	21%	9,721	18%	7,360	17%	10,771	23%	31,974	26%
30 minute																		
Sa Daytime	39,304	67%	35,819	66%	79,576	61%	10,792	60%	6,506	78%	35,861	68%	28,557	67%	38,183	81%	101,291	83%
Sa Evening	21,198	36%	18,753	34%	39,174	30%	5,184	29%	3,725	45%	19,978	38%	15,367	36%	23,282	49%	64,618	53%
Sa Nighttime	15,847	27%	13,909	25%	27,208	21%	3,851	21%	2,460	30%	14,116	27%	10,842	25%	17,832	38%	46,012	38%
Su Daytime	21,198	36%	18,753	34%	39,174	30%	5,184	29%	3,725	45%	19,978	38%	15,367	36%	23,282	49%	64,618	53%
Su Evening	16,332	28%	14,357	26%	28,077	22%	3,927	22%	2,500	30%	14,359	27%	10,956	26%	18,148	38%	47,683	39%
Su Nighttime	15,847	27%	13,909	25%	27,208	21%	3,851	21%	2,460	30%	14,116	27%	10,842	25%	17,832	38%	46,012	38%
Totals	**58,827**		**54,590**		**129,674**		**18,069**		**8,310**		**53,030**		**42,917**		**47,279**		**122,635**	

Sources: Population data – U.S. Census Bureau, 2010 Census and 2006-2010 American Community Survey, King County Assessor and City of Bellevue Department of Planning and Community Development; Job data – Puget Sound Regional Council covered employment estimates.

Notes:

- *Actual population numbers are likely slightly higher than values shown as the City's total population as of August 1, 2012 was estimated to be 130,200. Occupancy rates in 2010 were lower than they are today. Adjustments were made to Census Blocks where known differences between 2010 and 2012 exist due to new development in 2010.*
- *Estimates for people in poverty and those that speak a language other than English are estimates from the 2006-2010 ACS, which have margins of error.*
- *Covered employment estimates from PSRC are based on the Washington State Employment Security Department's (ESD) Quarterly Census of Employment and Wages (QCEW) series. This series consists of employment for those firms, organizations and individuals whose employees are covered by the Washington Unemployment Insurance Act. Covered employment excludes self-employed workers, proprietors, CEOs, etc., and other non-insured workers. Typically, covered employment has represented 85-90% of total employment. Note that this includes part-time and temporary employment, and if a worker holds more than one job, each job would appear in the database.*

Method: Parcels with the number of residential units from the King County Assessor's office were joined to Census Block and Census Block Group data tables and given occupancy rate, average household size, percent of older adults, poverty rate, percentage of renters, and percentage of population that speak a language other than English at home. From these data population, number of older adults, etc were calculated per parcel. Parcels falling within a 1/4 mile of bus stops on routes with the specified frequencies were selected and populations summarized.

Table 3 Populations served by 15 and 30-minute frequency bus routes in Bellevue

access to a bus stop is considered a critical factor for assessing the accessibility of the stop location.

On weekdays, the following service frequency variations are observed: during the AM peak period (05:00 to 09:00) 37% of Bellevue's population has access to 15-minute service within a quarter-mile walk of a bus stop; and, during the off-peak hours

(09:00 to 15:00) 29% of Bellevue's population has access to 15-minute service within a quarter-mile walk of a bus stop. As indicated, service is most frequent during peak commute hours. However, even during this period, gaps exist in the service network in the following areas: (i) Bridle Trails, a low-density/high income residential area characterized by large homes in large individual lots; (ii) Somerset and Newcastle, areas characterized by single family homes, low density and a disconnected street network comprised mostly of cul-de-sacs; and, (iii) pockets or network gaps in Northeast Bellevue, close to Lake Sammamish and Redmond, and in the Bel-Red Northup area, the latter of which is characterized by large warehousing and light industrial properties. In the weekday evening hours (18:00 to 22:00) 13% of Bellevue's population has access to 15-minute service within a quarter-mile walk of a bus stop. During these evening hours, access to frequent 15-minute transit service is restricted to stops along NE 8th St and 156th Ave NE between Downtown Bellevue and Crossroads.

The following service frequency variations are observed on Saturdays: during the base hours (09:00 to 15:00) 21% of Bellevue's population has access to 15-minute service within a quarter-mile walk of a bus stop; and, during the evening hours (18:00 to 22:00) 14% of Bellevue's population has access to 15-minute service within a quarter-mile walk of a bus stop. On Sundays, the following service frequency variations are observed: during the base hours (09:00 to 15:00) 14% of Bellevue's population has access to 15-minute service within a quarter-mile walk of a bus stop; and, during the evening hours (18:00 to 22:00) 12% of Bellevue's population has access to 15-minute service within a quarter-mile walk of a bus stop. During these weekend hours, access to frequent 15-minute transit service is restricted to stops along NE 8th St and 156th Ave NE between Downtown Bellevue and Crossroads.

"If I miss a bus in Seattle due to a class / meeting finishing late, I can expect another one in about 10 minutes. In Bellevue, I have to wait for 30 minutes (1 hour on weekends)."

Alexandra, All-Around Transit User
Resident of Bellevue

Figure 20 Bellevue Board and Commission members who participated in the Transit Master Plan Forum on September 18, 2012 agreed that "More can be done to improve transit service for people who depend on transit due to age or disability, in areas of lower density, and at non-peak hours (midday, evening, and weekend)."

These findings are consistent with the perspective of Transit Master Plan Forum participants who believe that transit in Bellevue, as it currently operates, is well used by work commuters and those attending special events in Seattle. Transit is considered to be inconvenient for shopping trips, doctor's appointments, and midday, evening, and weekend travel (see Figure 20). The following reflects some of the comments from Bellevue Board and Commission members at the Forum on this topic:

- "The challenge is getting people from neighborhood areas to reliable transit." – *Scott Lampe, Transportation Commission*
- "Transit in Bellevue primarily benefits the working commuter, especially those who work in Downtown Bellevue. Transit in Bellevue does not serve seniors well; and it does not work well for appointments, shopping and errands…. Bellevue has changing demographics that need non-commute transit: young singles that don't own cars; more minorities, more households without kids." – *Pat Sheffels, Planning Commission*
- "I take the bus wherever I need to go when I'm downtown. When I have an evening meeting, I drive because buses drop off after 7 PM." – *Hal Ferris, Planning Commission*

TRANSIT USE PROPENSITY

Despite the service availability issues noted in the previous section, Metro and Sound Transit service coverage is generally well matched to the Transit Use Propensity (TUP) assessment (based on 2010 Census data) detailed in this section. Figure 21 shows Bellevue's TUP Index by Traffic Analysis Zone (TAZ) with Downtown TAZs aggregated. In general, areas with the highest concentrations of service in Bellevue are generally where transit propensities are highest, and the lower concentrations of service are where transit propensities are lower.

Figure 21 takes into account the concentration (density) of people who live or work in each of these TAZs and merges this data with demographic characteristics (low income households, persons with disabilities, and seniors aged 65+) of population groups who are more likely to use transit. In general, transit usage tends to be better in high density areas

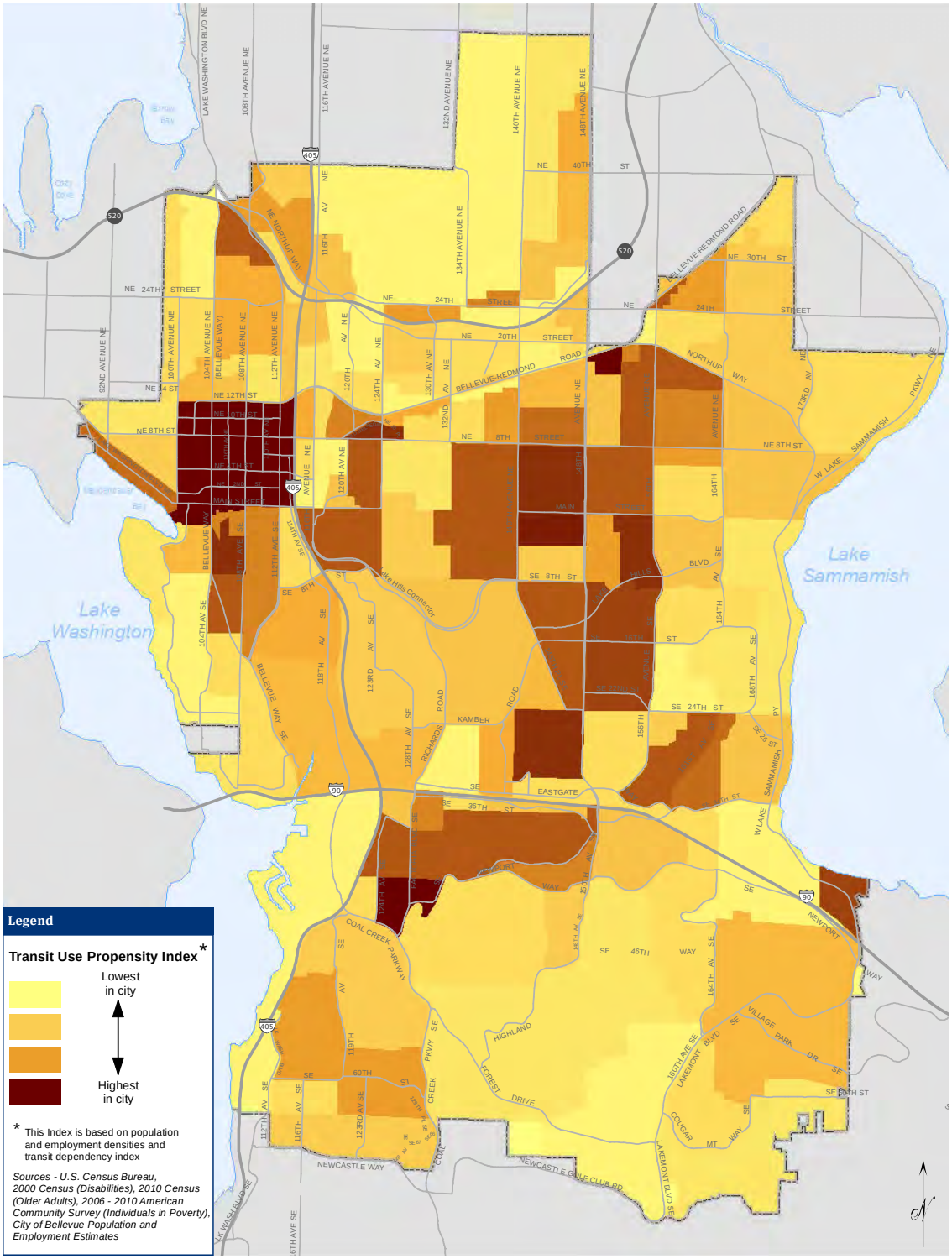


Figure 21 Transit use propensity index.

rather than low-density areas. Likewise, areas with high rates of transit dependency, which refers to those individuals that rely on transit because they are unable to afford a private vehicle or cannot drive due to a physical or mental impairment, correspond with higher ridership.

The TUP Index combines[1] population density, employment density, and the transit dependency index[2] in order to highlight areas with the most transit propensity in Bellevue. TUP scores are highest in Downtown Bellevue, as well as several pockets outside of the urban core: Factoria, Eastgate, Main St, 148th Ave NE, and Bel-Red Road. Most arterial corridors with high TUP scores are served by transit operating every 30 minutes or better during the day, but the area where service drops off the most is in southeast Bellevue.

*[1] Combined using the following formula: (2*Employment Density) + (Population Density) + (Transit Dependency Index) = TUP Index.*

[2] Transit Dependency Index was created by averaging rates of low income households, persons with disabilities, and seniors aged 65+ within each TAZ.

BUS STOP SPACING

"The bus stop can be quite a distance from where people live. We are one block south of NE 8th St and it is still quarter-mile. It would be much longer for most in our neighborhood."

Derek, Non-Commute Transit User
Resident of Bellevue

Bus stop spacing along a route affects the overall speed of the route as well as the accessibility. Frequent stop spacing allows for customers to access the route with minimal walking, but also causes the bus to stop more often, slowing the route for all passengers on board. The *Bellevue Transit Improvement Survey* (Spring 2012) showed that for both former riders and non-riders the primary reason they do not or no longer use transit was "travelling by bus takes too long". Consolidating bus stop spacing in Bellevue is one strategy for improving transit speed and travel times.

While customers may perceive frequently spaced bus stops as an indication of convenience, the time spent serving closely spaced stops along a route adds

running time and makes the overall transit trip longer and less competitive with other modes. A quarter-mile walk is considered the maximum distance that passengers will typically walk to reach transit; a half-mile is often used for high-quality transit service such as Light Rail or Bus Rapid Transit (BRT). Service design standards, including King County Metro's, frequently specify stop spacing around quarter-mile to balance passenger access with transit travel speed.

Nationally, stop spacing guidelines vary widely. Table 4 summarizes stop spacing guidelines from two industry-level reports (Texas Transportation Institute, 1996; Transportation Research Board, 1980) and from TriMet's (Portland, OR) service planning guide (1989). High density areas generally are associated with smaller distances between routes. In Central Business Districts, stops can be spaced as closely as every other intersection, according to these guidelines, whereas in rural areas stops may only occur every half-mile.

Table 5 on page 30 is an assessment of stop spacing made for all routes that make local stops within Bellevue. Because some commuter routes and regional routes that use the freeway only have a few stops in Bellevue, their stop spacing was not examined. Most Bellevue routes have stop spacing less than one quarter-mile, or less than King County Metro's service guidelines, but within national guidelines. Routes 226, 245, 246, and 249 have the closest stop spacing, all with less than 0.15 miles between stops. All are potential candidates for bus stop consolidation, which could improve the speed and reliability of these routes.

"The routes, though they are where I want to go, aren't very direct. There are typically so many stops between where I start and where I want to go, so the ride often takes too long."

Carmel, All-Around Transit User
Resident of Bellevue

	TriMet	TCRP Report 19	NCHRP 69
High density (80 units/acre), CBD, shopping centers	—	300 – 1,000	440 – 528
Fully developed residential area 22 to 80 units/acre)	780	500 – 1,200	660 – 880
Low density residential (4 to 22 unites/acre)	1,000	600 – 2,500	2,640 – 1,056
Rural (less than 4 unites/acre)	as needed	650 – 2,640	2,640 – 1,320

**Distance is in feet. Source: www.its.pdx.edu/downloads/stop_spacing_lit.doc*

Table 4 Selected bus stop spacing standards.

Table 5 Selected bus stop spacing conditions on Bellevue routes. It should be noted that the route length and number of bus stops data is for the portion of these routes in Bellevue (not for the entire route length).

Route	Route Length (ft)	Number of Bus stops	Avg. Distance between bus stops (ft)	Avg. Distance between bus stops (miles)
221	58,005	73	795	0.15
226	69,022	107	645	0.12
234	17,808	22	809	0.15
235	17,808	22	809	0.15
240	53,582	69	777	0.15
241	46,351	44	1,053	0.20
245	56,255	74	760	0.14
246	61,674	94	656	0.12
249	58,940	101	584	0.11
271	80,594	69	1,168	0.22
550	28,033	18	1,557	0.29
RapidRide B	30,079	20	1,504	0.28

Table 6 Auto and transit times are calculated at both the local and regional level. At the local level, connections between Activity Centers and Neighborhoods are considered. At the regional level, connections between Activity Centers and Regional Centers are considered. In each case, the address listed in the table is assumed to be the center of the area. Regional destinations center on transit hubs.

Activity Centers	Place	Address
Downtown Bellevue	Bellevue Transit Center	108th Ave NE & NE 6th St
Crossroads	Crossroads Mall	156th Ave NE & NE 10th St
Overlake	Overlake Park & Ride	Overlake Park & Ride
Factoria	Factoria Square Mall	Factoria Blvd SE & SE 40th Ln
Eastgate	Eastgate Park & Ride	140th Ave SE & SE 32nd St
Neighborhoods	**Place**	**Address**
Bridle Trails	N. Bellevue Community Center	148th Ave NE & NE 43rd St
Richards Valley	Woodridge Elementary School	123rd Ave SE & SE 20th St
Somerset	Somerset Elementary School	Somerset Blvd SE & 143rd Ave SE
Northwest Bellevue	Northtowne Shopping Center	104th Ave NE & NE 28th Pl
Northeast Bellevue	Bellevue Youth Theater	Northup Way & 168th Ave NE
East Bellevue	Lake Hills Shopping Center	156th Ave SE & Lake Hills Blvd
Southwest Bellevue	Enatai Elementary School	104th Ave SE & SE 22nd St
Wilburton	Sammamish High School	140th Ave SE & SE 1st St
Newport Hills	Newport Hills Shopping Center	119th Ave SE & SE 58th St
Eastgate	S. Bellevue Community Center	150th Ave SE & SE Newport Way
Newcastle	Cougar Ridge Elementary School	164th Ave SE & SE 46th Way
Regional Centers	**Place**	**Address**
Downtown Seattle	International District/Chinatown Tunnel Station	International District Station
UW Medical Center	Future University Link Light Rail Station (2018)	NE Pacific St & NE Pacific Pl
Redmond	Redmond Transit Center	16160 NE 83rd St, Redmond
Kirkland	Kirkland Transit Center	3rd St & Park Ln, Kirkland
Issaquah	Issaquah Transit Center	1050 17th Ave NE, Issaquah
Renton	Renton Transit Center	257 Burnett Ave S, Renton
SeaTac Airport	Seattle-Tacoma International Airport	
Bothell	Bothell Park & Ride	10303 Woodinville Dr, Bothell
Lynnwood	Lynnwood Transit Center	20100 48th Ave W, Lynnwood
Everett	Everett Station	Smith Ave & 33rd St, Everett

RapidRide has 0.28 mile bus spacing, which is closer spaced than typical BRT service internationally, which tends to have spacing of 0.5 to 1 mile. It should be noted, however, that BRT's throughout the country do have stop spacing consistent with RapidRide, which reflects a priority of retaining access to existing customers over improving travel time.

TRANSIT/AUTO TRAVEL TIME ANALYSIS

To understand the competitiveness of transit service in comparison to the automobile, travel times of both modes were measured between Bellevue Activity Centers, Neighborhoods, and Regional Centers (see Table 6 for a list of the locations and specific inquiry points used in the analysis). All travel time measurements were taken using Google Maps. Transit travel times were then compared to the time it would take to reach the same destination at the same time of day by car. Transit and auto travel trips were measured at the times of day listed below. For the AM and PM peak, traffic congestion was factored into the auto travel times:

- AM Peak (7:00 AM)
  congested travel time is reflected
- Midday (1:00 PM)
- PM Peak (5:00 PM)
  congested travel time is reflected
- Evening (8:00 PM)

The comparison of travel time by transit to travel time by auto was calculated in the form of a ratio by dividing transit travel time by auto travel time, which is referenced in this section as the "Transit/Auto Ratio". Ratios greater than 1.0 reflect transit travel times that exceed auto travel times.

"Other than going to school, the bus routes require too many transfers and the time required to travel is prohibitive."

Max, Commute to School Transit User
Resident of Bellevue

Local vs. Regional Travel Times

Regional Routes (those between Bellevue Activity Centers and Regional Centers) were considered separately from Local Routes (those within Bellevue city limits). In general, regional trips made on transit are more favorable than local trips in terms of travel time because many more transit routes converge at Bellevue Activity Centers and Regional Centers. Inquiry points for many Bellevue Neighborhoods do not always coincide with locations served by multiple transit routes. Therefore, travel times to and from these local inquiry points often include an additional walk time at the beginning or end to reach the nearest bus route. See Figure 22 for an example of an instance when the fastest transit trip requires a long walk.

Table 7 shows average weekday Transit/Auto Ratios for the four test times of the day for both Regional Routes and Local Routes. Regional trips are most competitive during the PM peak travel time shown by a Transit/Auto Ratio of 1.6 (transit travel

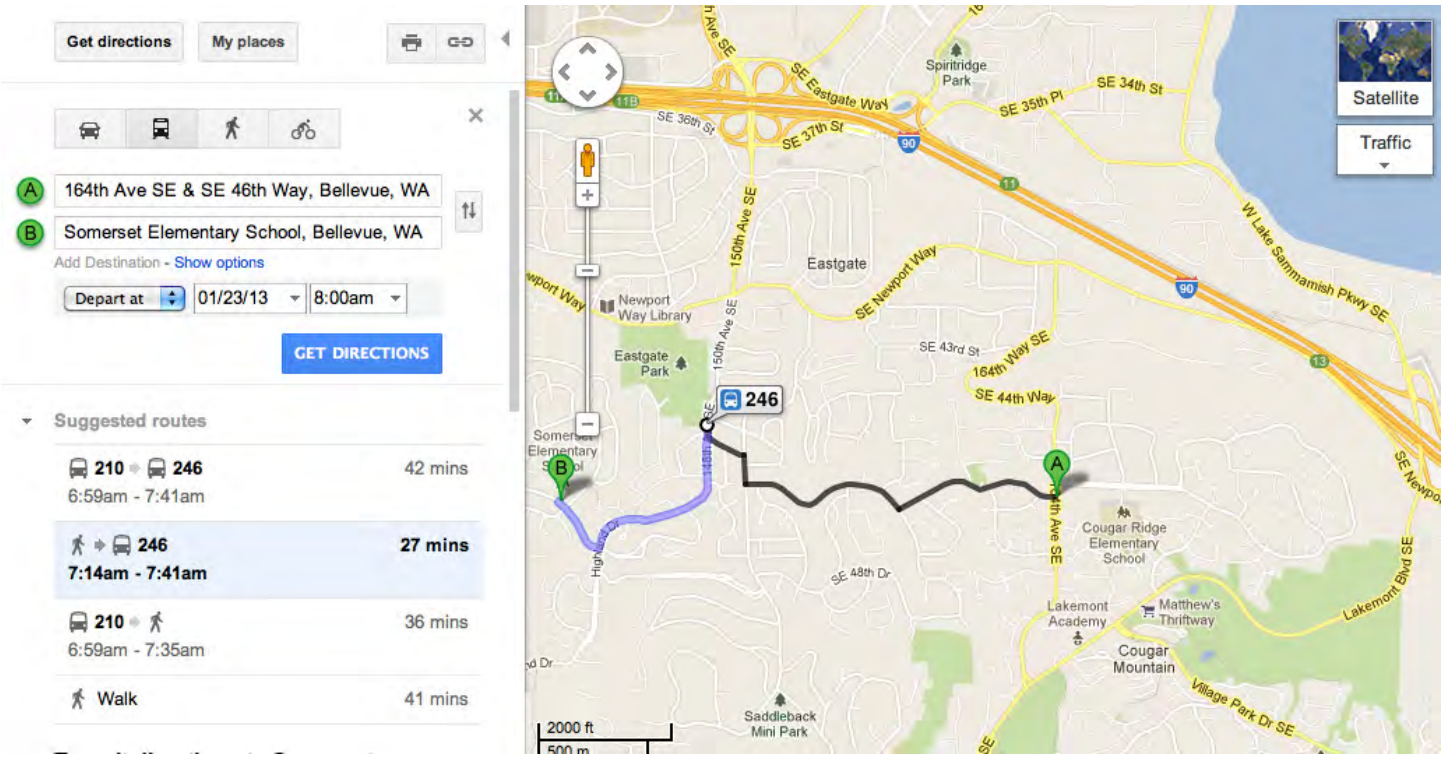


Figure 22 Transit to some Bellevue neighborhoods is not available at all times, requiring transit riders to walk to points where transit is available.

takes close to one and a half time longer than auto travel). The PM peak is more highly congested for auto travel than the AM peak, meaning that transit travel times become more competitive in the PM peak due to time saving infrastructure such as HOV lanes that regional transit can take advantage of and those who drive alone cannot. Transit travel is least competitive during the mid-day, for regional trips, when highway and arterial traffic congestion is minimal, and in the evening for local trips, when many routes directly serving neighborhoods are no longer in service.

It is not often that auto travel times exceed transit travel times. The inherent nature of transit, with the need to cue passengers and receive fares, makes travel time in general a little slower. However, this extra time is often offset in the eyes of the traveler by the higher cost to drive a car, park, and spend time looking for a parking space. Depending on factors such as the cost and availability of parking at the destination, and the length of the trip, it could be acceptable for most riders to tolerate travel times that are up to one and a half times the amount of time it would take them to drive.

Transit trips between the five Bellevue Activity Centers and regional centers take between one and three times as long as driving at all times of day, weekdays and weekends. Transit connections between Bellevue Activity Centers and the eleven neighborhoods can take much longer, sometimes reaching ten times the auto travel time when indirect service results in long walks between the nearest bus stop and origin or destination location.

The Bellevue Transit Center offers relatively efficient travel by transit to many destinations. Figure 23 on page 34 shows a map of the region with weekday PM Peak transit times, auto times, and Transit/Auto Ratios for destinations originating in Downtown Bellevue. Nine destinations can be reached by transit in the same amount of time or less time than it takes to take a car. Ten additional destinations can be

	Regional Routes	Local Routes
AM	2.2	2.3
MID	2.6	2.8
PM	1.6	2.4
EV	2.5	3.5

Table 7 Average weekday Transit/Auto Ratios for regional routes leaving Bellevue Activity Centers and local routes within Bellevue.

"Transit is faster during rush hour; no need to look for parking in Seattle."

Theodora, Shopping and Commute to Special Events Transit User Resident of Bellevue

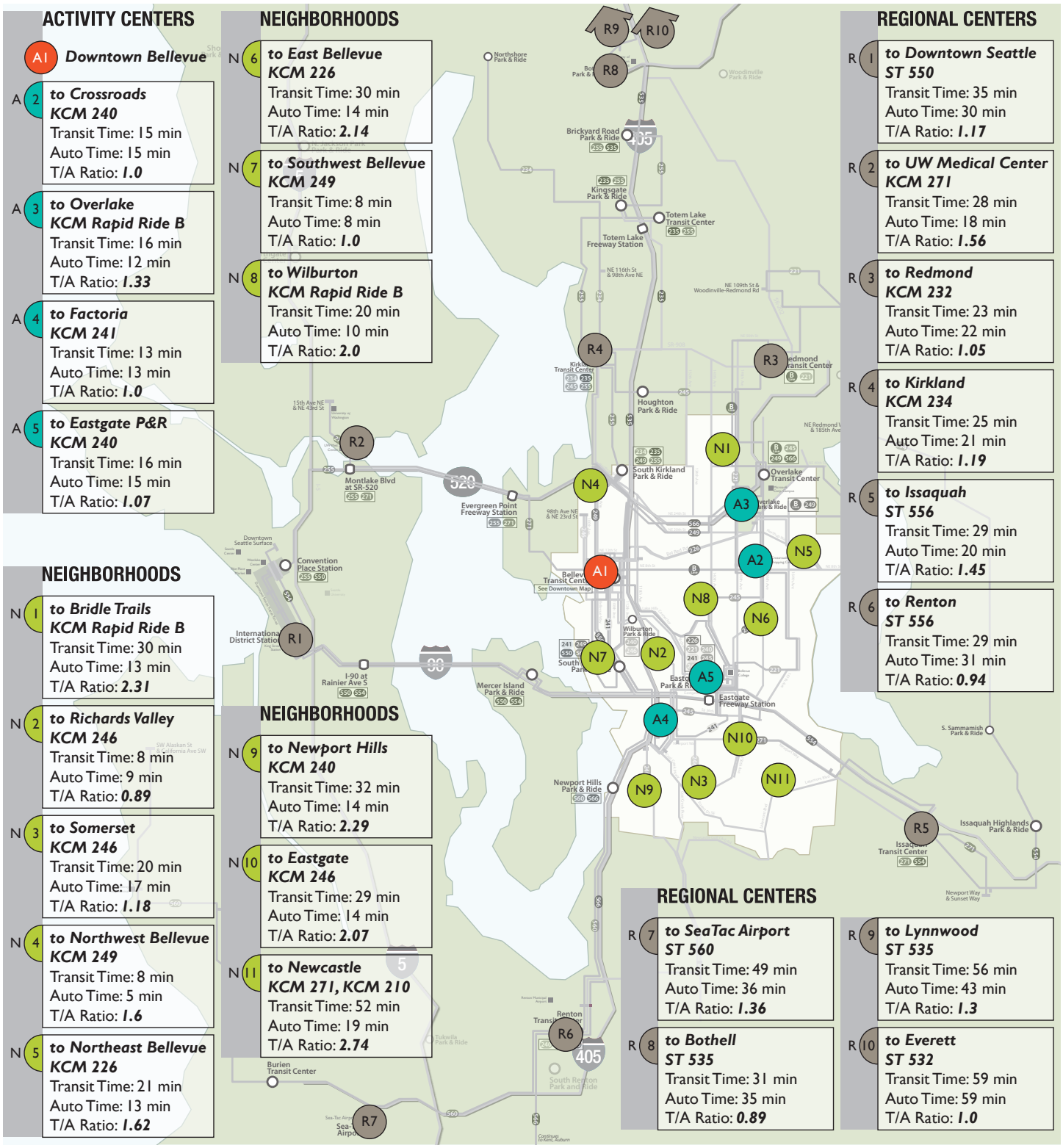


Figure 23 Transit travel time from Downtown Bellevue to local and regional destinations.

reached by transit in less than about one-and-a-half times as long as it takes to ride the bus.

This concept of fast connections from Bellevue Transit Center is further explored in Figure 24. This figure shows weekday travel times between Downtown Bellevue and regional destinations at

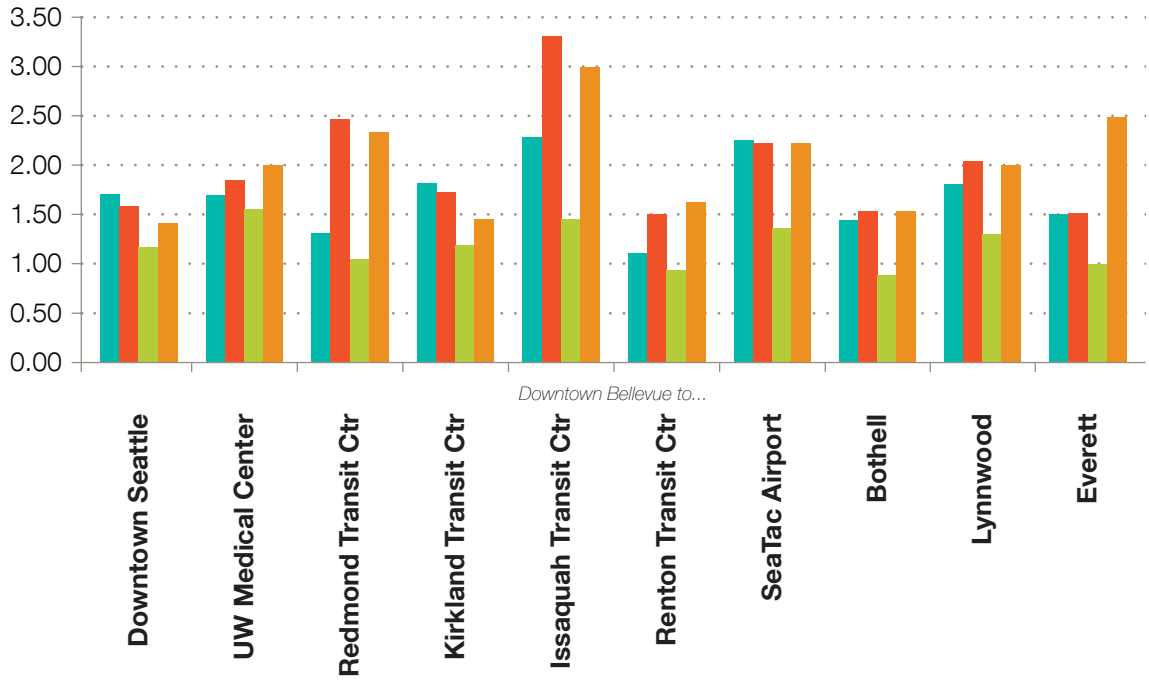


Figure 24 Comparison of Transit / Auto Ratios between Downtown Bellevue and Regional Centers at multiple times of day.

all four test times of day. Travel times on transit are competitive both to Downtown Seattle and the University District. Evening travel to Everett has a high ratio compared to travel during other times of the day, though this may be caused by infrequent service and lack of evening service on ST Route 532. Travel to Issaquah has a relatively high ratio at all times of day except the PM peak, when it drops below 1.5. It is difficult for transit to compete with fast auto times of 14 minutes, 13 minutes, 20 minutes, and 13 minutes for AM Peak, Midday, PM Peak, and Evening travel times, respectively.

Transit is faster than or equal to travel by car in the following instances:

Regional Trips:

- Along the I-405 corridor, it can be faster to travel by transit than by auto during the weekday PM peak time period when congestion levels are high. For example, weekday PM peak trips between the Bellevue Transit Center and Renton Transit Center (on ST Express Route 566) have a Transit/Auto Ratio of 0.94. PM Peak trips to the Bothell Park & Ride to the north (on ST Express Route 535) have a Transit/Auto Ratio of 0.89.

"A car trip from Redmond to Bellevue takes 15 minutes; a bus trip to the same place takes 30-45 minutes; that's not convenient."

Timothy, All-Around Transit User
Resident of Bellevue

- Also during the PM peak congested travel time, transit trips along the I-90 corridor between Eastgate Park & Ride and Issaquah Transit Center (on ST Express Route 555 / 556) take the same time as travel by auto.

Local Trips:

- Transit (Metro Route 246) and auto travel time between the Eastgate Park & Ride and South Bellevue Community Center are equal during the weekday AM peak, both taking six minutes. Transit (Metro Route 241) takes 11 minutes and is faster than driving by one minute between the Bellevue Transit Center and the Factoria Square Mall during the weekday AM peak period.
- Travel between the Factoria Square Mall and multiple locations have low Transit/Auto Ratios. For example, Newport Hills can be reached in seven minutes, the same travel time by car, on Metro Route 240.

"If T-Mobile was located in Downtown Bellevue, I would take the bus every day. The fact that we are in Factoria and I must transfer buses makes it impossible to commute to work in a timely manner."

David, Former Transit Rider
Resident of Lynnwood

Travel times by transit are longer, in general, between Bellevue Activity Centers other than downtown and Bellevue neighborhoods. Travel time increases when it is necessary to wait, transfer multiple times, or walk to an origin or destination. Figure 25 shows Transit/Auto Ratios for weekday, Saturday and Sunday travel from Bellevue Crossroads Activity Center to multiple destinations within Bellevue. The lowest Transit/Auto Ratios occur at destinations served by frequent, direct service. These include Wilburton, Downtown Bellevue and Overlake.

For most destinations, trips during non-peak service (1pm and 8pm) have a higher Transit/Auto Ratio than trips during peak service. For example, it takes almost five times as long to ride the bus during the evening on weekends (59 minutes) as it does to drive (13 minutes) from Crossroads to Richards Valley (Metro Route 245).

Travel by transit is slowest in comparison to auto travel times in the following instances:

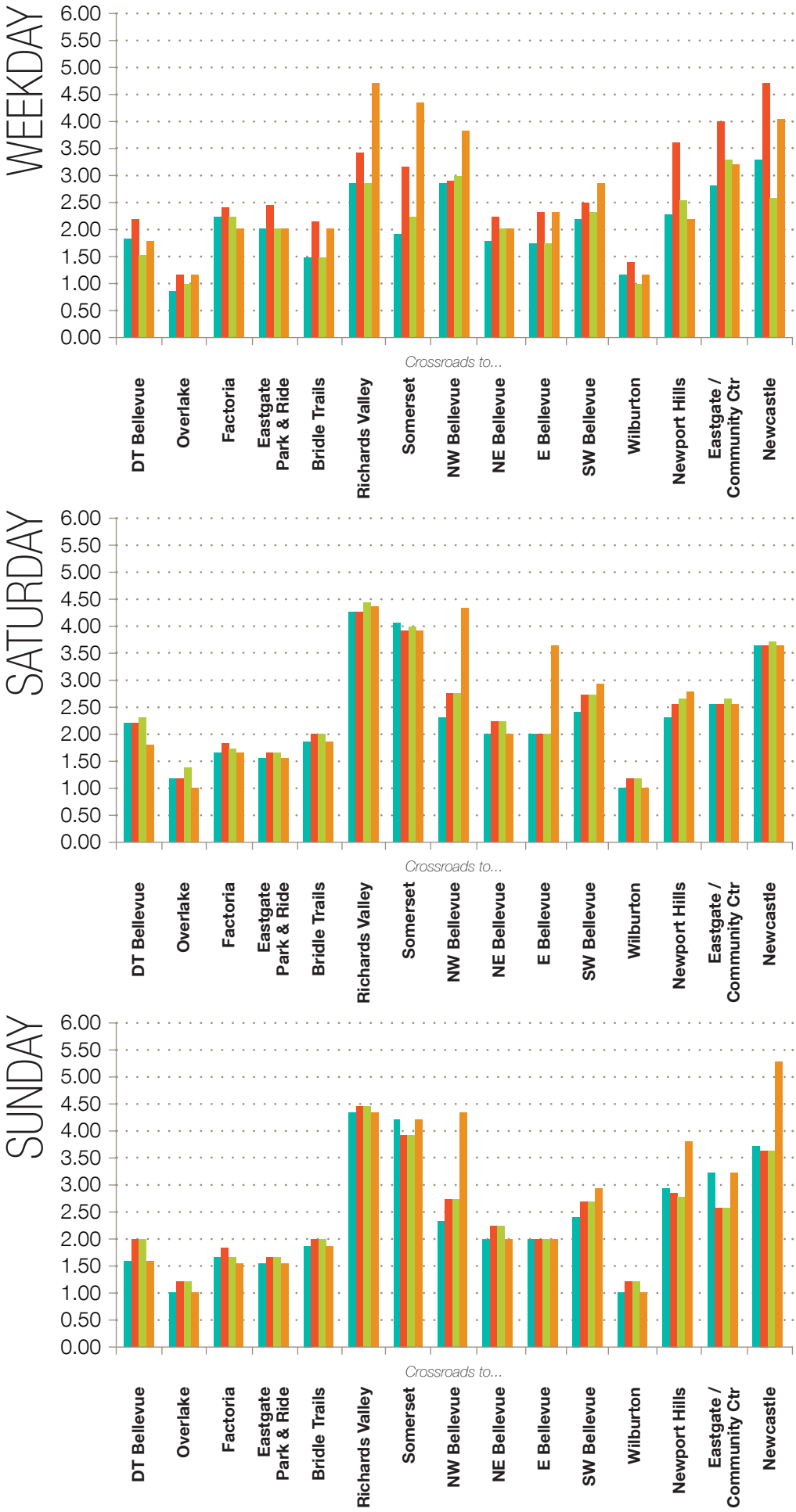


Figure 25 Comparison of Transit / Auto Ratios between Crossroads and destination within Bellevue for weekday, Saturday, and Sunday travel time.

> **"My commute is shorter by bus than if I were to drive non-HOV"**
>
> *Jason, Commute to Work and Special Events Transit User Resident of Marysville*

Regional Trips:

- Origins within Bellevue can link to the ST Express Route 560, with service to the airport taking approximately 40 minutes. When combined with connecting service and wait times, it often takes between three and four times as long to reach the airport by transit, especially at offpeak times:
  - It takes 93 minutes to reach the airport from the Crossroads Mall at midday on Metro RapidRide B Line, transferring to ST Express Route 560, as compared to a 26-minute trip by car, a Transit/Auto Ratio of 3.58.
  - It takes 81 minutes to reach the airport from the Factoria Square Mall in the evening on Metro Route 240, transferring to ST Express Route 560, as compared to a 20-minute trip by car, a Transit/Auto Ratio of 4.05. Transit/Auto Ratios for other times of the day range from 2.53 in the PM Peak to 3.25 at Midday.
- A transit trip between the University District, and the Overlake Transit Center or the Factoria Square Mall can take over three times as long as a trip by car during midday:
  - From the Overlake Transit Center, trips utilizing Metro RapidRide B Line and transferring to ST Express Route 545 take 47 minutes, compared with 14 minutes by car at midday, a Transit/Auto Ratio of 3.29.
  - From Factoria, trips transferring from Route 240 to Route 271 take 56 minutes, compared to 17 minutes by car at midday.

Local Trips

- It takes five times as long to ride transit as it does to drive between the Overlake Park & Ride and Newcastle (Cougar Ridge Elementary School) during midday. Both transit options (Metro Route 245 + Metro Route 271 or Metro B-Line + Metro Route 246) take over 80 minutes, and driving takes 16 minutes.

- Somerset and Newcastle generally have connections with the highest Transit/Auto Ratios. The Somerset Elementary School is not well served by transit in the evening. The only option to reach Cougar Ridge Elementary School in Newcastle and South Bellevue Community Center is to walk, which takes over six times as long as it takes to drive the three or six minutes to reach these destination, not to mention the safety of walking in these areas. Even during the midday, it takes five times as long to take transit to Newcastle on Metro Route 246, because the bus only makes part of the trip. Evening transit connections from Northwest Bellevue Shopping Center to Somerset also have high ratios, with the route, Metro Route 235 + Metro Route 226 + Metro Route 241 having the best travel time of 92 minutes compared with fifteen minutes by car, a Transit/Auto Ratio of 6.13.

The Transit/Auto travel time analysis provides a number of insights. The difference in transit /auto ratios between regional and local trips suggests that indirect routing, transfer delays due to infrequent service, and congestion on local streets, causes local transit routes to be less competitive with auto travel than regional routes. Several regional trips from the Bellevue Transit Center are competitive with auto travel time, especially during the PM peak when congestion increases auto travel times. In contrast, regional trips at midday from areas with less service have exceedingly high travel times when compared to auto travel times, suggesting that transit travel times are increased by out of direction travel to the Bellevue Transit Center for transfer purposes, and transfer waiting time due to infrequent service in off peak periods. Direct routing, frequent service, improved transfer options, and street-level speed enhancements for transit would all contribute to making transit a viable competitor to the automobile.

"I can't see taking an hour to stress about switching buses. If I could get a direct bus route at convenient times for me, I would take the bus for sure."

Penny, Non-Rider
Resident of Renton

TRANSIT USAGE

Transit ridership (assessed as stop-level ons/offs) is analyzed in this section to gain an appreciation of the performance of bus operations in Bellevue.

Stop-Level Transit Usage

In Fall 2011, there were approximately 40,250 average weekday ons/offs in the city of Bellevue (for King County Metro and Sound Transit only; data was not available for Community Transit operated routes). It should be noted that Spring 2012 ridership of 46,274 average daily boardings and alightings in Bellevue represents a 15% increase over Fall 2011 transit usage data. Figure 26 reflects the distribution of stop level on/off transit usage in Bellevue.

Transit Usage in Bellevue's Mobility Management Areas

As indicated in Figure 27 on page 42, two thirds (27,889) of all Fall 2011 transit usage took place in one of the following four Mobility Management Areas (MMAs) – geographic areas for which traffic is managed and concurrency standards are established to help guide land development and transportation improvement decisions.

- Downtown Bellevue – There were an estimated 15,408 ons/offs in Downtown Bellevue; this represents 38% of all ridership activity in the city of Bellevue. Bus stops throughout Downtown Bellevue (known as Mobility Management Area #3) – including those at the Downtown Bellevue Transit Center – are included in this figure.
- Crossroads – Ridership activity in the Crossroads area, in particular 156th Ave NE between NE 8th St and NE 20th St, shows that this area is a major transit origin and destination. The stops by the Crossroads Mall generate an estimated 1,533 average weekday ons/offs, or about half of

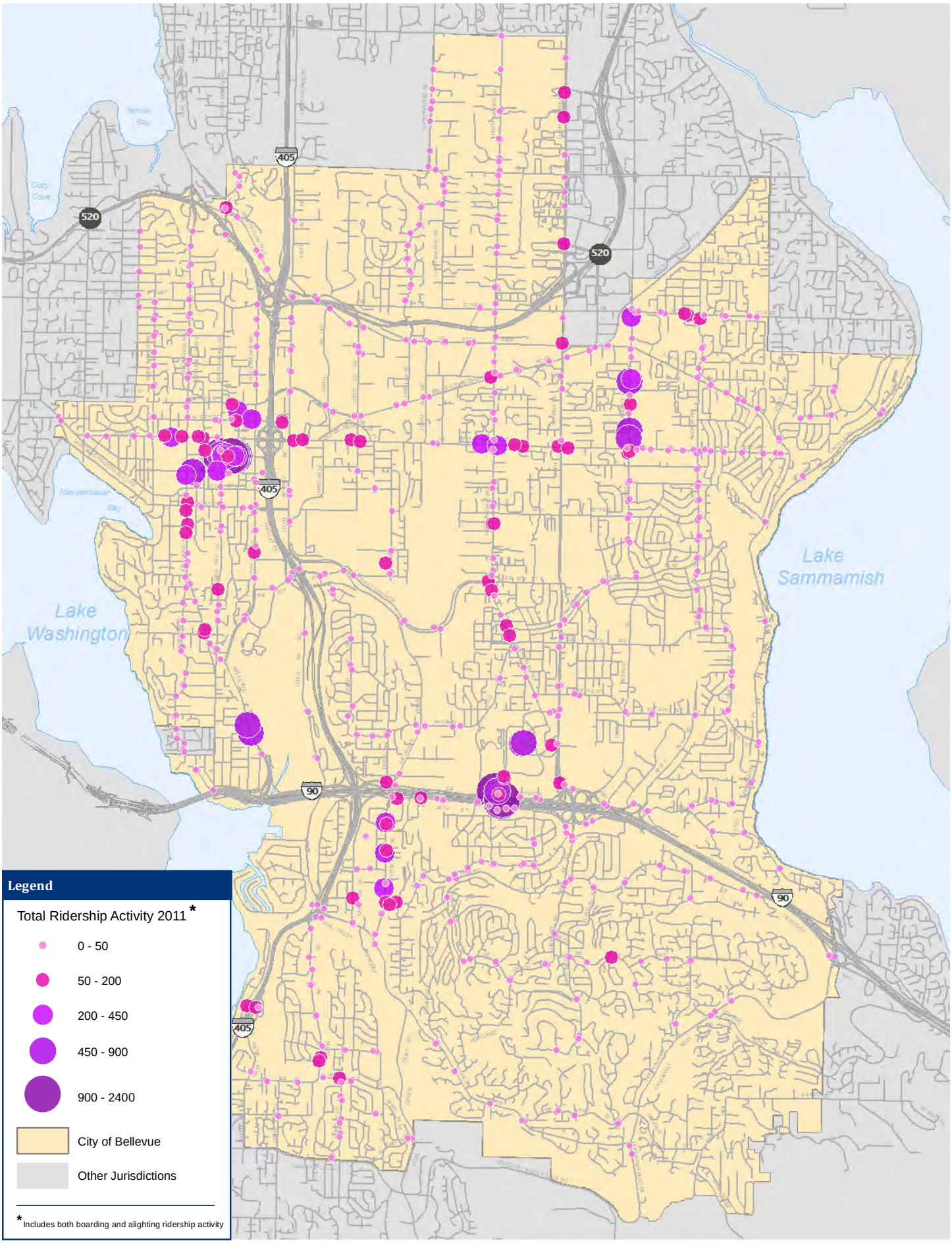
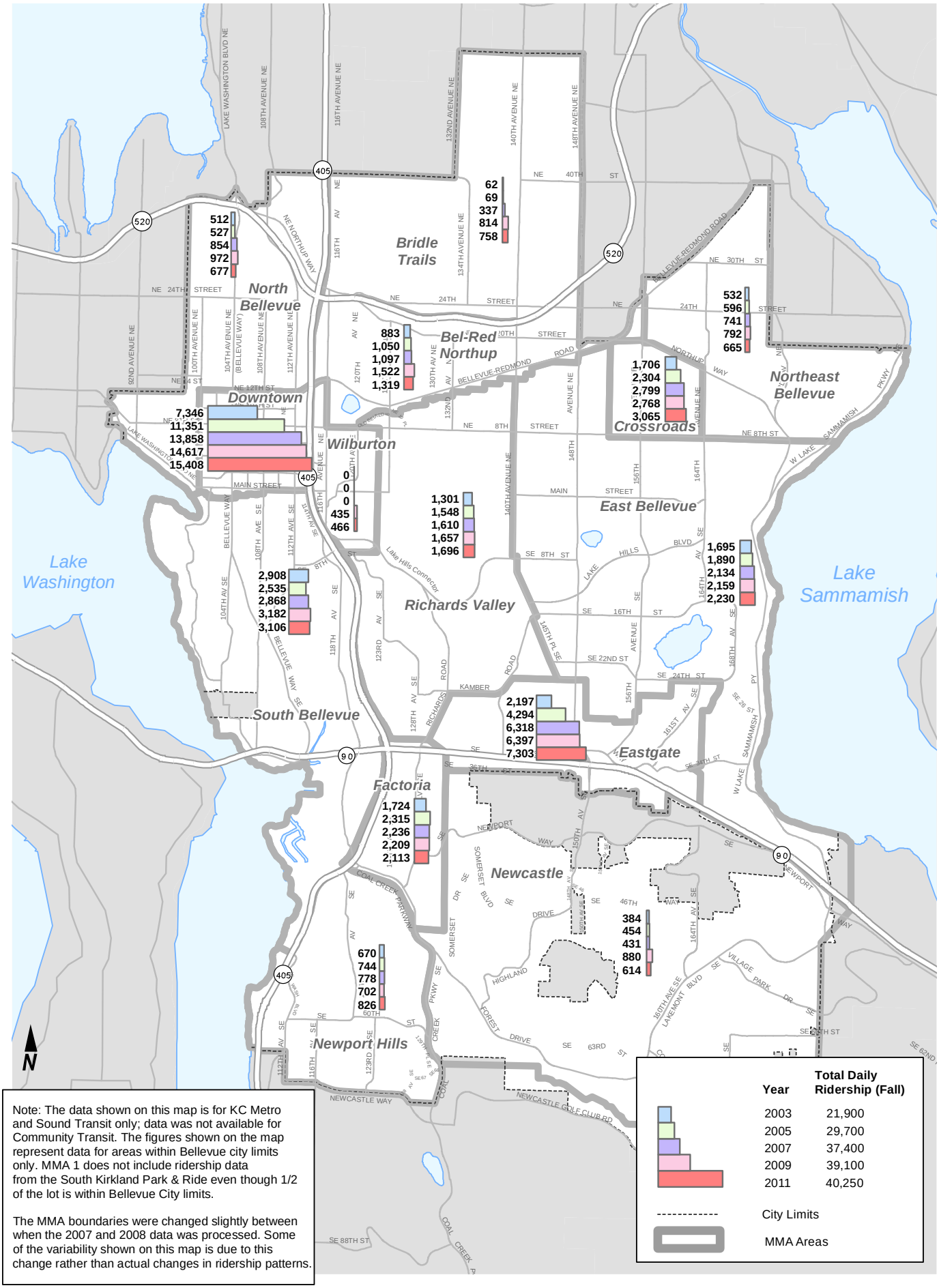


Figure 26 Average daily ridership activity by stop (Fall 2011) data.



Note: The data shown on this map is for KC Metro and Sound Transit only; data was not available for Community Transit. The figures shown on the map represent data for areas within Bellevue city limits only. MMA 1 does not include ridership data from the South Kirkland Park & Ride even though 1/2 of the lot is within Bellevue City limits.

The MMA boundaries were changed slightly between when the 2007 and 2008 data was processed. Some of the variability shown on this map is due to this change rather than actual changes in ridership patterns.

Figure 27 Transit usage by Mobility Management Area (2003 – 2011)

the 3,065 average weekday transit usage in the Crossroads MMA.

- Eastgate / Bellevue College – Ridership in the Eastgate MMA has grown to 7,303 average weekday on/offs, or 18% of all transit usage in Bellevue. A prime driver of this is the Eastgate Park & Ride and the Direct Access Ramps, which together generate 4,436 ons/offs, or 11.2% of Bellevue's citywide transit usage. Bellevue College, which is included in the Eastgate MMA, currently generates an estimated 1,486 average weekday ons/offs (3.7% of citywide transit usage), making it the largest non-Park & Ride origin/destination in the Eastgate MMA.
- Factoria – With an estimated 2,113 average weekday ons/offs, transit usage in the Factoria MMA represents approximately 5% of citywide transit usage. According to 2011 data, 944 ons/offs (about half of all Factoria MMA area transit usage) is adjacent to the Factoria Mall, which has a mix of commercial, offices, and multi-family housing.

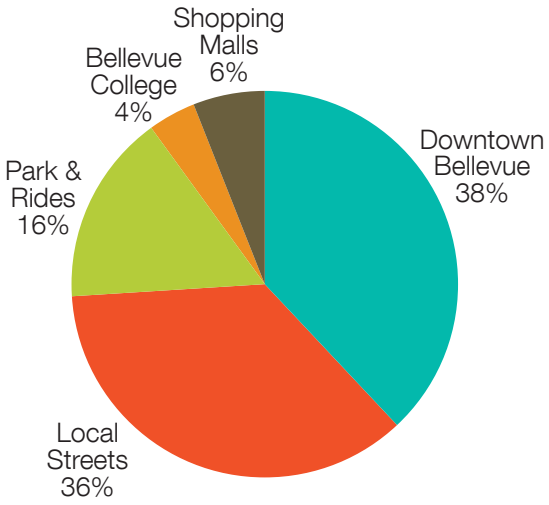
Between 2003 and 2011, transit usage in Bellevue has grown by 84% or an additional 18,350 daily ons/offs. The most significant growth during this time period took place in Downtown Bellevue (110% increase), Eastgate (232% increase), and Crossroads (80% increase).

Figure 28 provides another perspective on these transit usage patterns in Bellevue. As noted, an estimated 14,523 daily ons/offs (or 36% of the total citywide usage figure) occur on local streets outside of Downtown Bellevue (15,408); Park & Ride facilities including Eastgate (2,166), South Bellevue (1,588), Newport Hills (281), Wilburton (51), and Eastgate Direct Access Ramp (2,270); and, bus stop usage along arterials in front of Factoria (944) and Crossroads (1,533) Malls.

"I think the city can help transit by creating more trails to existing transit stops."

Bruce, All-Around Transit User
Resident of Bellevue

Figure 28 Transit usage patterns in Bellevue based on Fall 2011 on/off data.



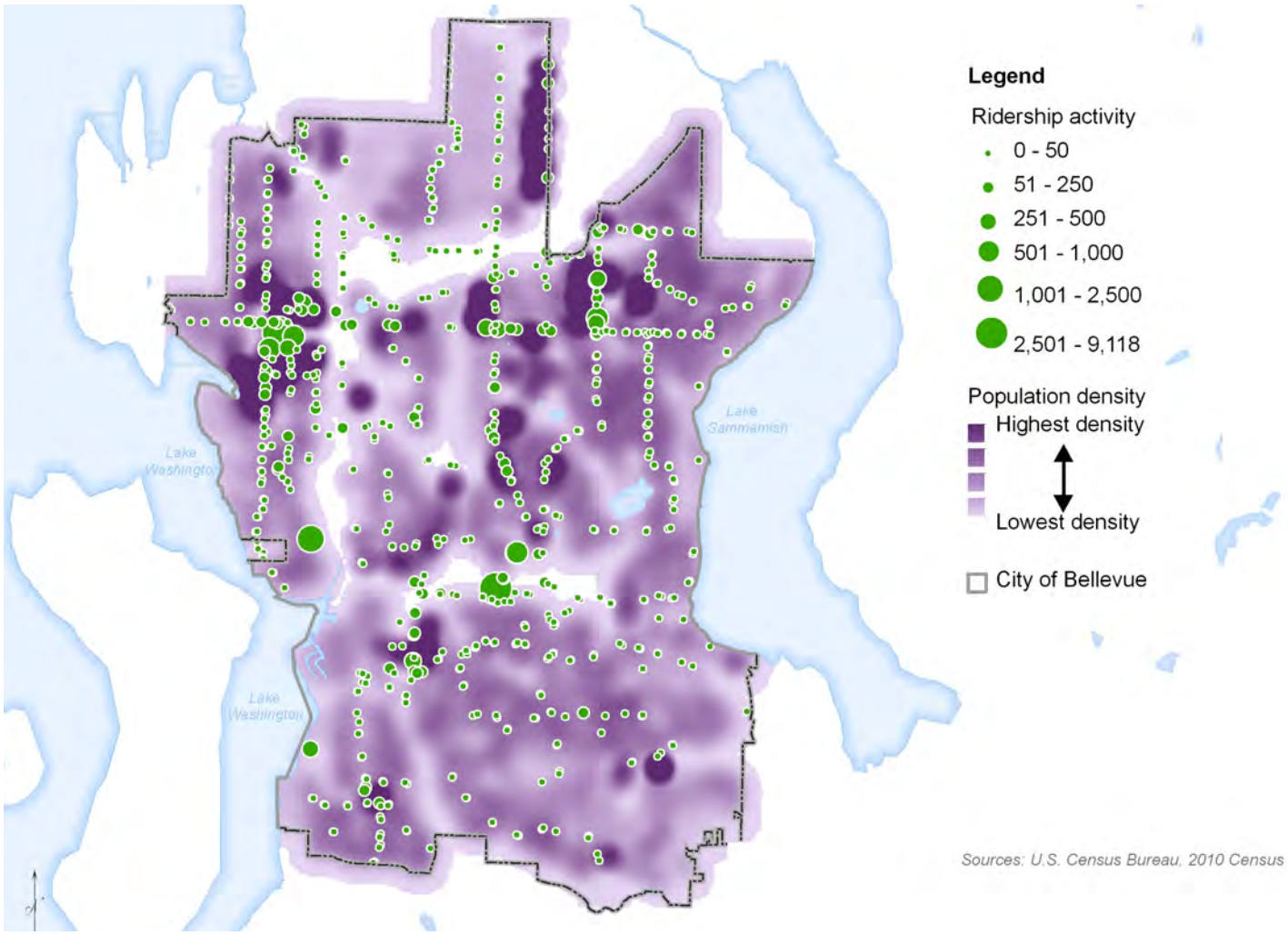
> **"For those of us who commute into Downtown Seattle, it isn't very realistic to catch the bus from our neighborhoods and transfer. So we depend upon the Park & Rides. It is therefore crucial that adequate parking spaces be provided at the Park & Rides in order for Bellevue residents to use transit for commuting."**
>
> *Sarah, Commute to Work and Special Events Transit User Resident of Bellevue*

The following represent north-south arterial corridors where ridership levels reflect high usage rates: (i) Bellevue Way, between downtown and South Bellevue Park & Ride; (ii) 140th Ave NE, between Bel-Red Road and Bellevue College; (iii) 148th Ave NE, between NE 51st St and NE 8th St; and, (iv) 156th Ave NE, between Overlake Transit Center and Crossroads. Transit usage is also concentrated on two major east-west arterial corridors and segments, including: (i) NE 8th St, between Crossroads and Downtown Bellevue; and, (ii) NE 24th St, between 148th Ave NE and 164th Ave NE.

Transit Usage and Density

In Figure 29 and Figure 30, stop-level on/off transit ridership data is mapped along with population and

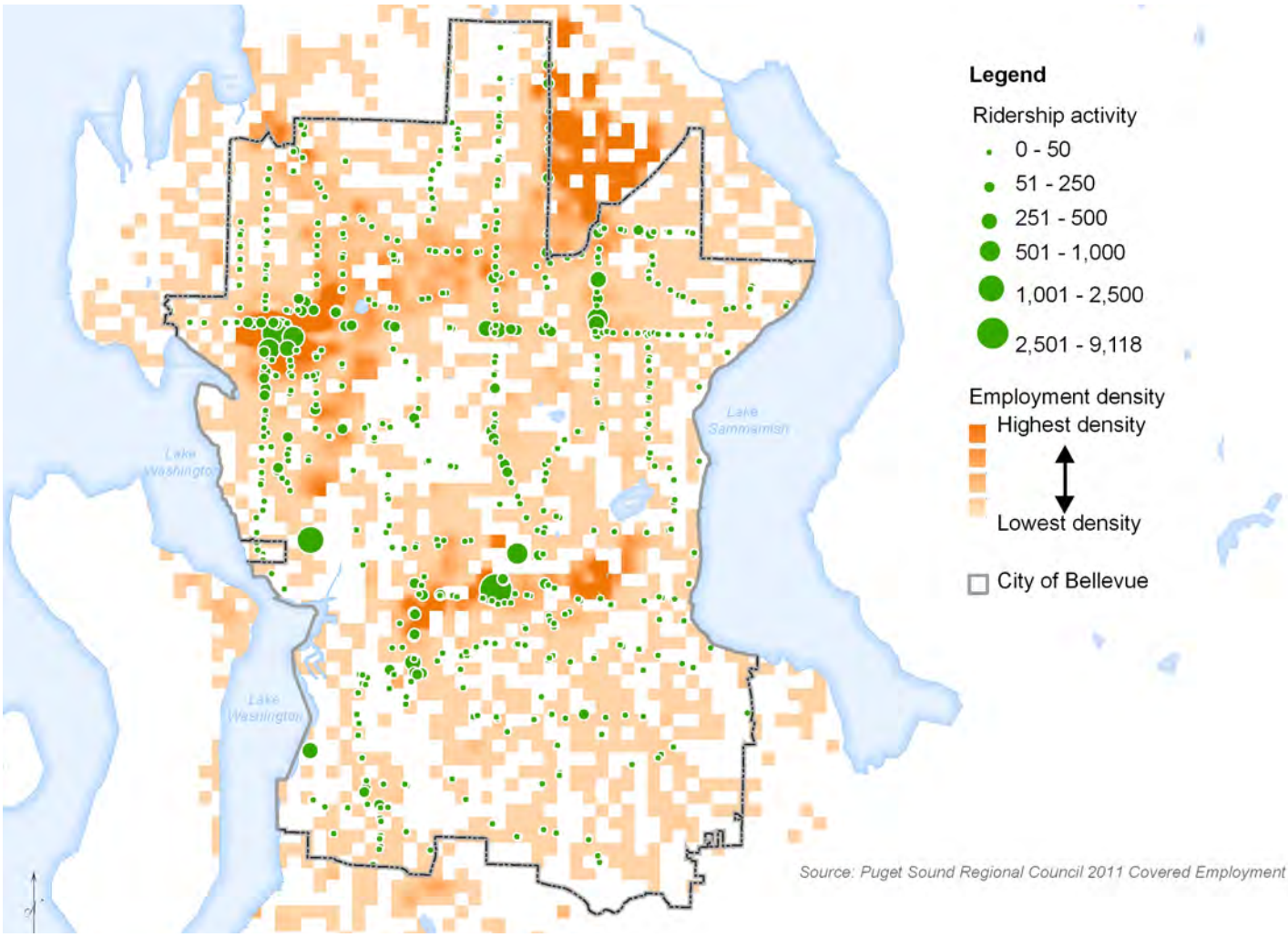
Figure 29 Transit usage and population density.



employment density to gain an appreciation of the relationship between these factors and transit usage in Bellevue.

Consistent with extensive national research on the topic, it is clear that residential density has a strong relationship to transit ridership in Bellevue. Increased transit usage is observed in areas of higher population density. The biggest concentrations of population are found in the condos and apartment buildings in Downtown Bellevue, along 148th Ave NE, north of SR 520, in front of the Microsoft Campus, along 156th Ave NE, between Overlake and Crossroads, at 140th Ave NE and NE 8th St, in Factoria, and additional pockets of density along 145th Place SE and 148th Ave SE, between Main St and SE Eastgate Way. Most areas of high population density lie along the path of RapidRide B Line.

Figure 30 Transit usage and employment density.



High ridership activity is also observed in areas of employment density concentration such as Downtown Bellevue, Overlake, Factoria, and Eastgate. Most employment destinations are clustered around freeway nodes served by express bus routes connecting Seattle with Bellevue and other places in the region with Bellevue.

> **"Allow more commercial and residential density in nodes and corridors with true pedestrian orientation between buildings and transit stops."**
>
> *Mike, Commute to Work and Special Events Transit User Resident of Kirkland*

One area where employment density does not correspond to a high ridership location is the Eastgate business park north of I-90 and east of 156th Ave NE. Because of its cul-de-sac access and egress, direct service into the I-90 Business Park via existing transit routes passing near the development is undesirable due to the travel time penalties imposed on existing through riders. The ridership potential of this area is further compromised by a lack of well-marked, hard-surfaced pedestrian trails from the business park connecting with other trails in the area and to bus stops along adjacent city roadways.

Transit Usage by Time of Day

As depicted in Figure 31, it is typical for all-day routes to exhibit higher productivity during peak hours than off-peak, with the number of rides per revenue hour declining sharply in the evening and late night for each of the three Bellevue service categories. Peaking is significantly more pronounced among regional routes than among Bellevue's community routes, and the evening peak tends to have higher productivity than the morning peak, especially among Eastside routes. Among Eastside routes, mid-day service is almost equally productive as morning peak service. Regional services tend to be between approximately 1.75 to 2 times as productive as community services, while Eastside service ranges between 1.25 and 1.5 times as productive as community service.

Figure 32 presents the variation of productivity by time of day for each all-day route that serves Bellevue. Route 550 is Bellevue's most productive

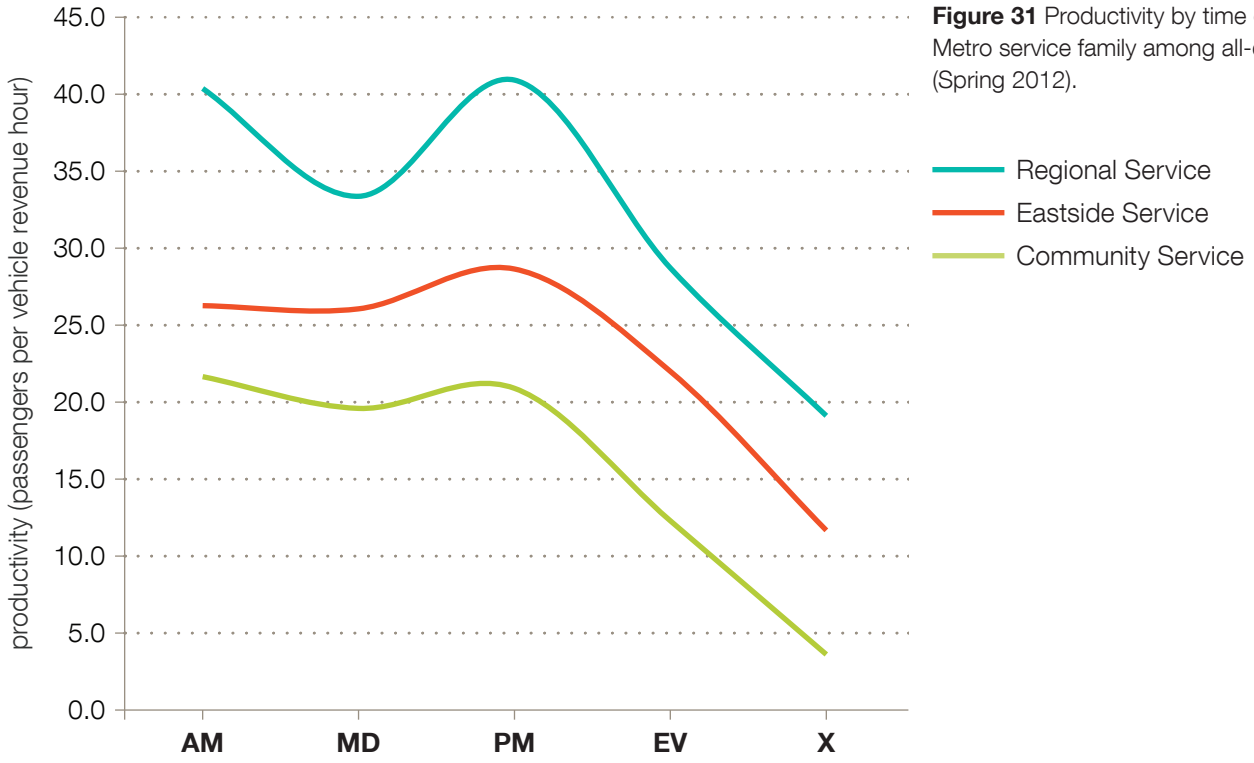


Figure 31 Productivity by time of day and Metro service family among all-day routes (Spring 2012).

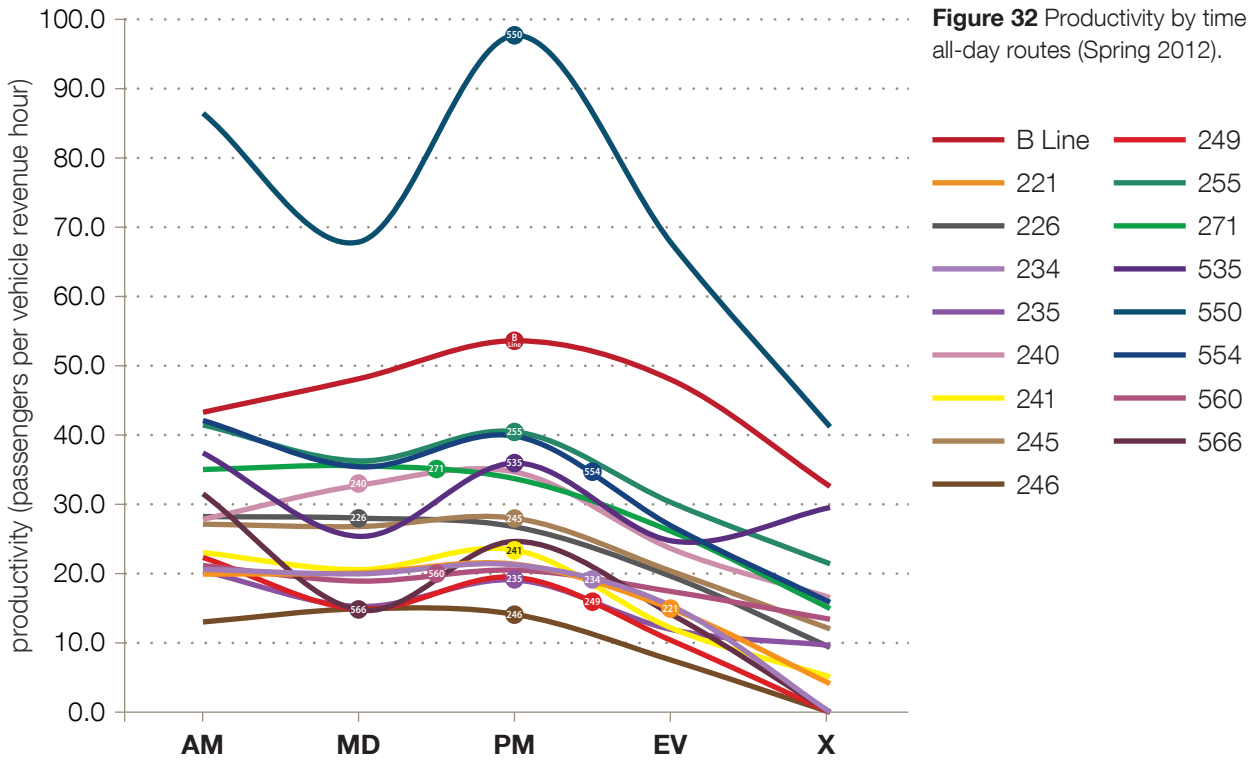


Figure 32 Productivity by time of day and all-day routes (Spring 2012).

all-day route, and it is approximately twice as productive as the second best-performing route, RapidRide B Line. Peaking is exhibited by several of the routes depicted, including Routes 550, 255, 554, 535, 566 (all regional services) Eastside Route 249, and community service Route 241. Productivity

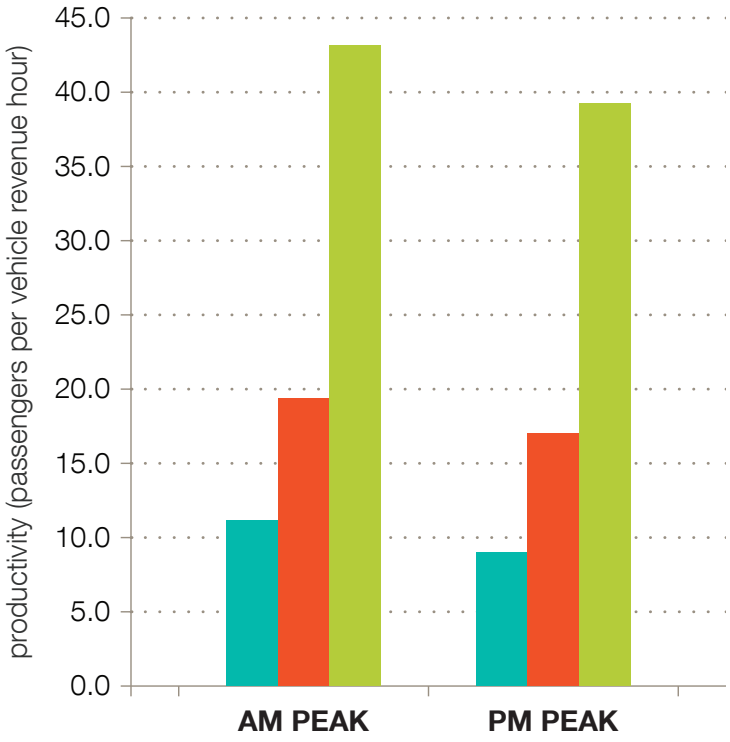


Figure 33 Productivity by time of day and Metro service family among Peak-Only routes (Spring 2012).

- community service
- eastside service
- regional service

increases consistently from morning through evening peak for the RapidRide B Line and Route 240, while Route 245 has the most consistent productivity from morning through evening peak. Route 271 is the only all-day route that is most productive mid-day.

As indicated in Figure 33, regional routes – which comprise twenty of Bellevue's 24 Peak-Only routes – are more than twice as productive as Bellevue's Eastside services, and four times more productive than community service. (Note that Route 219 was the lone Peak-Only community service in Fall 2011, prior to its deletion in Summer 2012.) Unlike All-Day services, Peak-Only service tends to be more productive during the morning peak than during the evening peak.

"Overcrowding on the 550 is getting to the point where I am considering driving."

Katie, All-Around Transit User
Resident of Bellevue

ROUTE-BY-ROUTE PERFORMANCE

Figure 34, depicts the two measures of productivity identified by Metro's Service Guidelines – rides per platform hour and passenger miles per platform mile – for all Metro routes serving Bellevue for the Spring

Figure 34 King County Metro network productivity (Spring 2011).

Bellevue Routes Serving the Seattle Core

Route	Peak		Off-Peak		Night	
	Rides/ Plat Hr	Pass Mi/ Plat Mi	Rides/ Plat Hr	Pass Mi/ Plat Mi	Rides/ Plat Hr	Pass Mi/ Plat Mi
111	20.8	12.8	—	—	—	—
114	17.8	10.4	—	—	—	—
167	22.3	16.7	—	—	—	—
210	10.7	5.0	—	—	—	—
211EX	16.9	4.8	—	—	—	—
212	36.7	15.8	—	—	—	—
215	19.7	11.1	—	—	—	—
216	21.2	13.9	—	—	—	—
217	30.4	16.0	—	—	—	—
218	37.6	20.8	—	—	—	—
225	24.5	12.4	—	—	—	—
229	27.2	14.3	—	—	—	—
243	24.2	8.9	—	—	—	—
250	9.2	4.5	—	—	—	—
255	27.0	14.7	20.5	12.1	17.5	11.8
256	17.9	9.4	—	—	—	—
261	17.2	7.2	—	—	—	—
266	13.5	7.1	—	—	—	—
271	23.3	10.0	26.7	13.6	16.9	7.9
272	14.3	6.1	—	—	—	—
280*	—	—	—	—	9.8	—
Spring 2011 Thresholds						
Top 25%	42.0	12.9	52.6	15.2	32.0	8.4
Bottom 25%	18.6	7.9	29.4	9.8	17.7	5.8

* Passenger miles data was unavailable on some routes and time periods due to a lack of APC data.

Bellevue Routes Not Serving the Seattle Core

Route	Peak		Off-Peak		Night	
	Rides/ Plat Hr	Pass Mi/ Plat Mi	Rides/ Plat Hr	Pass Mi/ Plat Mi	Rides/ Plat Hr	Pass Mi/ Plat Mi
219	4.2	0.5	—	—	—	—
221	17.0	5.0	17.8	5.7	12.5	2.7
222	15.6	3.3	16.0	4.7	8.3	2.4
230 E	36.3	8.6	25.9	9.6	26.1	6.5
230 W	28.2	7.2	21.4	7.9	11.9	4.5
232	15.5	4.8	—	—	—	—
233	23.0	5.5	22.2	6.4	13.5	3.2
234	16.2	5.7	12.7	5.6	8.8	3.3
237	13.7	5.1	—	—	—	—
240	27.9	9.9	24.5	12.6	12.9	5.5
242	16.7	9.1	—	—	—	—
245	22.4	6.2	20.2	6.0	15.7	3.7
246	9.6	1.8	8.5	2.0	—	—
247	4.8	1.3	—	—	—	—
249	15.6	4.5	14.9	5.3	5.0	1.4
253	35.2	11.3	36.4	12.5	31.5	8.9
342	14.7	4.7	—	—	—	—
925 DART	1.0	0.5	—	—	—	—
926 DART	8.4	2.2	7.4	1.9	—	—
Spring 2011 Thresholds						
Top 25%	27	7.2	27.4	9.3	20.3	6.2
Bottom 25%	9.8	2.9	12.7	3.3	8.8	2.6

Figures based on Spring 2011 performance data.

2011 service change. These measures help Metro identify which routes require modification due to notably strong or weak performance, determined by whether a route ranks among the top or bottom 25th percentile for that measure and operating period. Ranking among the bottom 25th percentile (shaded in red) indicates a potential need for service reduction, replacement, or elimination, while ranking among the top 25th percentile (shaded in green) may indicate a potential need for improved service frequency. Because routes serving the Seattle core tend to exhibit greater productivity than routes that do not, the analysis is segmented to avoid geographically inequitable restructuring practices that may otherwise result from this tendency.

Figure 35 King County Metro network productivity (Fall 2010).

Bellevue Routes Serving the Seattle Core

Route	Peak		Off-Peak		Night	
	Rides/ Plat Hr	Pass Mi/ Plat Mi	Rides/ Plat Hr	Pass Mi/ Plat Mi	Rides/ Plat Hr	Pass Mi/ Plat Mi
111	19	11.5	—	—	—	—
114	17.5	10.2	—	—	—	—
167	22.1	16.9	—	—	—	—
210	10.6	5.0	—	—	—	—
211	14.9	4.7	—	—	—	—
212	34.4	14.7	—	—	—	—
215	17.3	9.7	—	—	—	—
216	20.6	12.3	—	—	—	—
217	26.9	12.2	—	—	—	—
218	36.5	17.2	—	—	—	—
225	28.8	12.5	—	—	—	—
229	24.7	13.4	—	—	—	—
243	23.0	8.6	—	—	—	—
250	11.2	5.5	—	—	—	—
255	28.8	15.0	22.6	13.9	14.7	10.4
256	16.1	6.6	—	—	—	—
261	18.8	7.3	—	—	—	—
266	13.2	6.7	—	—	—	—
271	20.9	9.0	25.9	11.8	13.5	5.9
272	15.0	6.5	—	—	—	—
280	—	—	—	—	9.8	4.5
Fall 2010 Thresholds						
Top 25%	41.1	12.9	49.7	13.9	28.7	7.3
Bottom 25%	18.7	8.2	29.1	9.3	15.3	5

Bellevue Routes Not Serving the Seattle Core

Route	Peak		Off-Peak		Night	
	Rides/ Plat Hr	Pass Mi/ Plat Mi	Rides/ Plat Hr	Pass Mi/ Plat Mi	Rides/ Plat Hr	Pass Mi/ Plat Mi
219	4.1	0.8	—	—	—	—
221	15.8	5.6	16.5	5.9	8.6	2.3
222	16.8	3.9	14.8	5.0	7.4	1.9
230E	35.3	8.0	25.8	5.9	26.6	5.1
230W	26.2	7.1	20.6	5.3	11.3	3.5
232	14.2	4.2	—	—	—	—
233	21.4	4.9	22.6	6.8	10.5	2.4
234	15.7	6.6	13.2	5.6	6.2	2.9
237	15.2	5.7	—	—	—	—
240	29.1	7.4	25.0	8.9	13.6	3.4
242	15.5	8.1	—	—	—	—
245	19.5	5.7	21.2	5.8	11.8	2.5
246	10.3	2.2	7.5	1.1	—	—
247	6.3	1.9	—	—	—	—
249	14	3.6	12.6	4.7	5.4	2.0
253	33.4	10.1	38.2	8.6	27.7	5.6
342	13.9	6.4	—	—	—	—
925 DART	1.0	—	1.0	—	—	—
926 DART	7.3	1.9	6.9	1.8	—	—
Fall 2010 Thresholds						
Top 25%	21.1	7.0	26.3	8.6	17.4	5.1
Bottom 25%	8.4	2.2	10.4	2.4	7.8	2.2

Figures based on Fall 2010 performance data.

"Since Route 222 has been eliminated it makes it very inconvenient for students that live in South Bellevue to get to Newport High School in the morning. There are many students living in South Bellevue who attend Newport High due to [the] Spanish program that is offered [there]."

Jacob, All-Around Transit User
Resident of Bellevue

Compared with Fall 2010 performance (see Figure 35), several routes saw performance improve in Spring 2012 (see Figure 36), including Routes 215 and 256 rising out of the bottom 25% in the peak period, and Routes 216, 217, and 253 rising into the top 25% for both productivity measures during all time periods. Two routes saw performance decline relative to the rest of the network: Routes 246 and 261, both of which fell into the bottom 25% during the peak period.

In Spring 2012, Route 215 fell back into the bottom 25%, and Route 243 also fell into the bottom 25%, both during the peak among routes that serve the Seattle core. Among routes that do not serve the Seattle core, Route 221 fell into the bottom 25% at night, and Route 240 fell out of the top 25%

Figure 36 King County Metro network productivity (Spring 2012).

Bellevue Routes Serving the Seattle Core

Route	Peak		Off-Peak		Night	
	Rides/ Plat Hr	Pass Mi/ Plat Mi	Rides/ Plat Hr	Pass Mi/ Plat Mi	Rides/ Plat Hr	Pass Mi/ Plat Mi
111	24.0	15.3	—	—	—	—
114	22.3	13.1	—	—	—	—
167	25.1	19.9	—	—	—	—
210	11.0	5.0	—	—	—	—
211	12.8	3.9	—	—	—	—
212	47.7	18.9	—	—	—	—
215	19.4	11.5	—	—	—	—
216	25.9	14.4	—	—	—	—
217	28.7	16.0	—	—	—	—
218	43.1	20.7	—	—	—	—
243	25.0	9.8	—	—	—	—
250	19.3	10.0	—	—	—	—
255	29.7	14.8	26.3	12.6	20.1	10.7
265	17.3	8.8	—	—	—	—
271	25.1	10.5	28.0	12.7	19.1	8.5
280	—	—	—	—	9.8	0.0
Spring 2012 Thresholds						
Top 25%	45.4	14.8	54.3	15.5	31.5	9.0
Bottom 25%	22.8	9.8	30.6	9.9	19.1	5.8

Figures based on Spring 2012 performance data.

Bellevue Routes Not Serving the Seattle Core

Route	Peak		Off-Peak		Night	
	Rides/ Plat Hr	Pass Mi/ Plat Mi	Rides/ Plat Hr	Pass Mi/ Plat Mi	Rides/ Plat Hr	Pass Mi/ Plat Mi
B Line	39.6	11.1	33.7	10.5	29.8	8.0
219	7.0	0.9	—	—	—	—
221	16.8	5.3	14.0	4.3	8.9	2.3
226	21.9	5.6	16.4	3.9	9.4	2.3
232	14.7	5.4	—	—	—	—
234	17.9	6.4	14.8	5.9	10.9	3.7
235	17.4	5.7	12.2	4.9	8.6	3.2
237	17.7	4.3	—	—	—	—
240	19.8	6.6	22.3	8.2	14.6	5.9
241	16.6	3.3	13.2	2.7	10.1	1.5
242	18.1	9.9	—	—	—	—
244	12.3	5.0	—	—	—	—
245	20.8	6.6	18.9	6.0	13.3	4.0
246	9.6	2.3	8.2	1.8	—	—
249	16.4	4.0	9.6	2.5	7.4	2.0
269	10.6	4.5	12.5	6.0	9.1	3.9
342	19.6	9.4	—	—	—	—
Spring 2012 Thresholds						
Top 25%	21.9	6.0	22.4	6.6	17.7	5.3
Bottom 25%	12.0	2.2	10.1	1.9	9.3	2.0

during the peak in terms of rides per platform hour. Improvements were even more numerous. Among routes that serve the Seattle core, Routes 111 and 212 rose into the top 25%, and Routes 250 and 255 each rose out of the bottom 25% in terms of one service measure. Among routes that do not serve the Seattle core, Route 234 rose out of the bottom 25% for night service and into the top 25% for peak service, Routes 245 and 342 rose into the top 25% during peak hours, and while Route 240 fell out of the top 25% during the peak in terms rides per platform hour, it rose into the top 25% in terms of passenger miles per platform mile at night. RapidRide B Line ranks among the top 25% for all measures during all time periods (like Route 253, the route it most closely replaced). In general, most routes performed better

in absolute terms in Spring 2012 than they did in Spring 2011.

Figure 38 on page 54 indicates the following about Bellevue land use and route productivity on the all-day network:

- Activity nodes (schools, community centers, shopping centers, etc.) in the Crossroads, Northeast Bellevue, East Bellevue, Wilburton, Newport Hills, and Bridle Trails neighborhoods are served by all-day routes that are among the top 25% most productive operated by King County Metro.
- Conversely, activity nodes in the Northwest Bellevue, Southwest Bellevue, Somerset, Eastgate (neighborhood), and Richard's Valley neighborhoods are served by all-day routes that are among the bottom 25% least productive operated by Metro.
- Major centers of activity, like Downtown Bellevue, Eastgate / Bellevue College, and Factoria, are served by multiple routes that rank among the top and bottom 25%.

Takeaways from the peak-only network productivity map are less readily apparent than for the all-day network (see Figure 39 on page 55). Whereas the all-day network map clearly identifies destinations and individual neighborhoods whose transit services operate less productively, the peak-only network focuses more on connecting large activity centers along major corridors, and as can be seen, most of those centers and corridors are served by routes on both ends of the productivity spectrum. While there are some exceptions, such as the south I-405 corridor being served primarily by highly productive routes, and Issaquah being served more commonly by less productive routes, a more nuanced examination is required of other factors that may influence productivity.

Because Metro's productivity measures are based on platform hours, and the nature of peak-only service

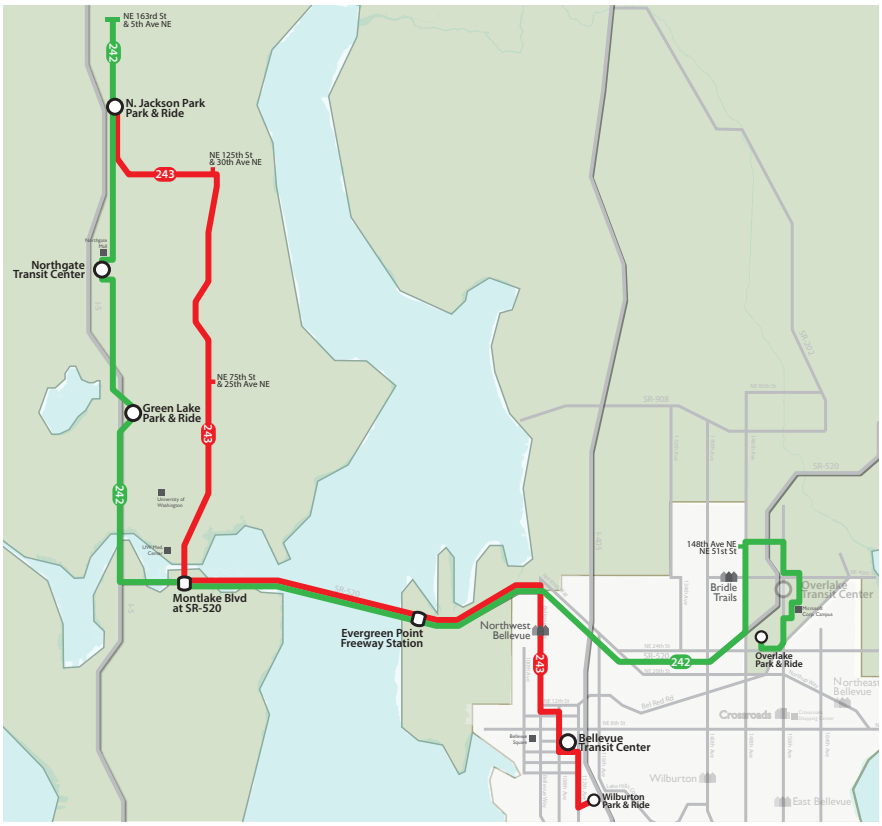


Figure 37 Service areas of Route 242 (green) and Route 243 (red).

incurs more deadhead time, operations scheduling and the allocation of platform hours to a particular peak-only route can have a significant impact on its measured productivity. Additionally, the classification of a route as one that does or does not serve the Seattle core (generally, Downtown and the University District) can have a profound impact on how its performance is assessed. For example, Routes 242 and 243 serve many of the same markets (see Figure 37). However, Route 243 provides service to Husky Stadium and the University Village en route to north Seattle and is hence considered to serve the Seattle core, whereas Route 242 operates primarily along SR-520 and I-5 except to serve Northgate, with its nearest University District stop at the Montlake Freeway Station, and hence does not serve the Seattle core. Although Route 243 serves more rides per platform hour and almost exactly as many passenger miles per platform mile as Route 242, Route 243 is among the bottom 25 percent of routes serving the Seattle core, while Route 242 is among the top 25 percent of routes that do not.

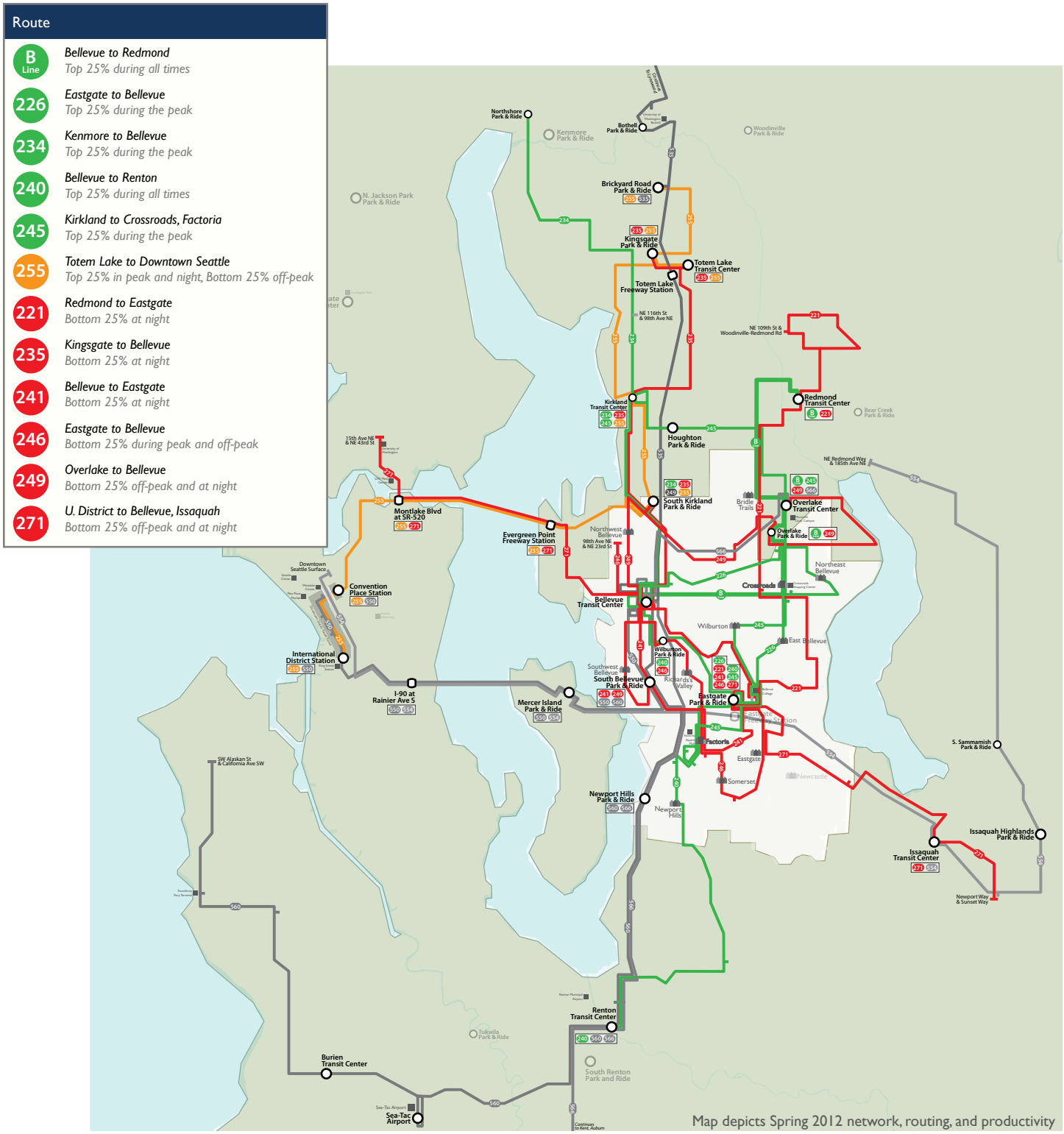


Figure 38 All-day network productivity (Spring 2012). In terms of productivity, Bellevue's all-day service network is nearly equally split between routes falling in the top and bottom 25% of King County Metro's services. Five routes are among the top 25% (shaded in green) for one or more measures and/or time periods, six are among the bottom 25% (shaded in red), and one varies between the top and bottom by time of day (shaded in orange). The only all-day routes not among the top or bottom 25% are those operated by Sound Transit and are hence not considered in the Metro route analysis.

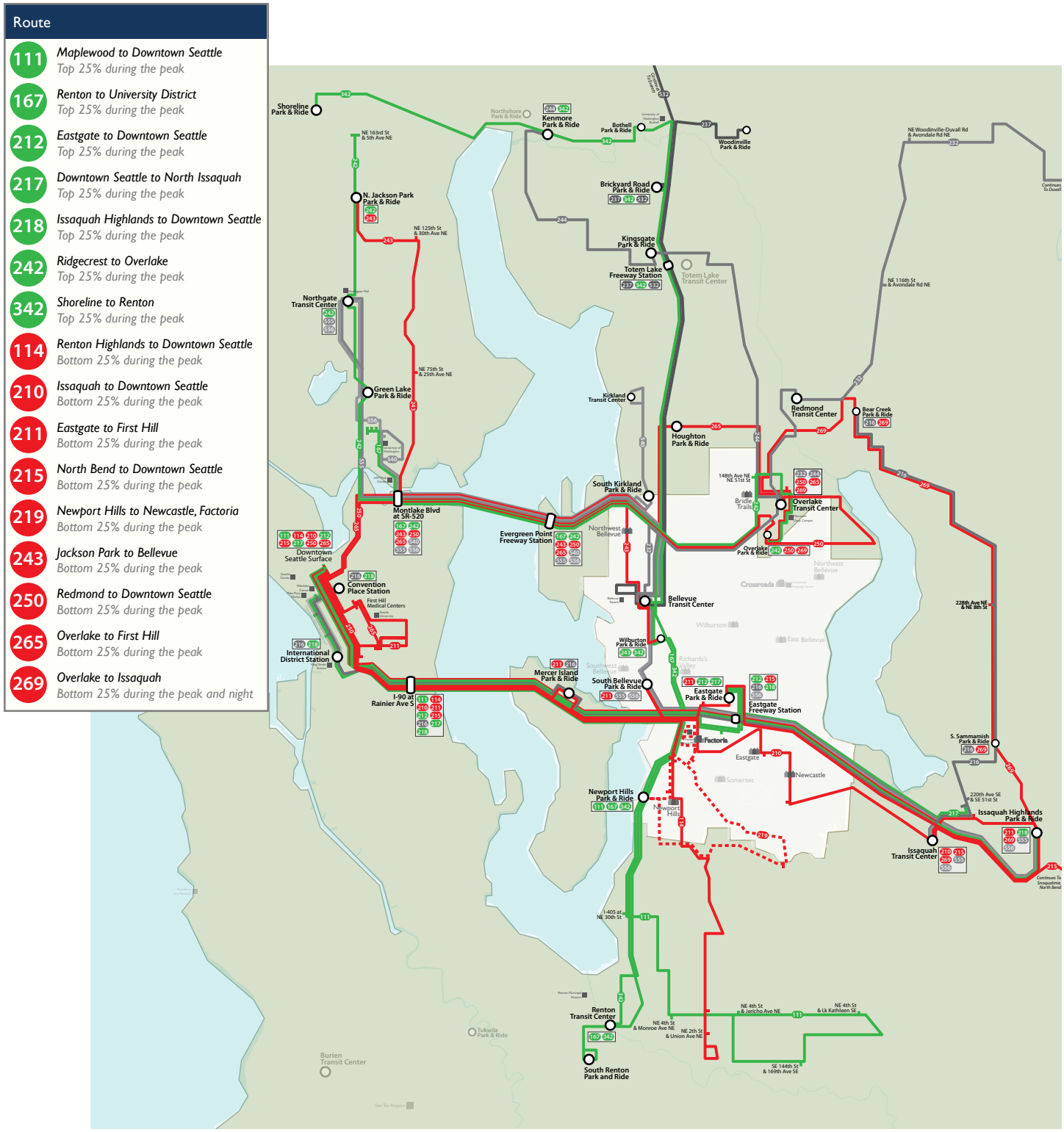


Figure 39 All-day network productivity (Spring 2012). In terms of productivity, Bellevue's all-day service network is nearly equally split between routes falling in the top and bottom 25% of King County Metro's services. Five routes are among the top 25% (shaded in green) for one or more measures and/or time periods, six are among the bottom 25% (shaded in red), and one varies between the top and bottom by time of day (shaded in orange). The only all-day routes not among the top or bottom 25% are those operated by Sound Transit and are hence not considered in the Metro route analysis.

MARKET SEGMENTATION

Consistent with City Council direction, the Bellevue Transit Master Plan aims to "engage community stakeholders in setting the priorities for transit delivery" (Transit Master Plan, *2012 Bellevue Council Principle*). The *Bellevue Transit Improvement Survey* (Spring 2012) represents a significant contributor to this effort to better understand the perspectives and ideas of Bellevue's current, former, and non-transit rider market segments.

CURRENT RIDERS

The *Bellevue Transit Improvement Survey* suggests that commuting to/from work is the most common trip purpose among transit users in Bellevue (see Figure 40). Transit riders use the system mostly for work trips that are regional in nature, with residents in Seattle commuting to Downtown Bellevue, Bellevue residents commuting to Downtown Seattle, and East King County residents commuting to both Seattle and Bellevue. Routes serving the local market (Bellevue and neighboring cities) are also providing commute trips to Bellevue's major employment destinations in downtown, Factoria/Eastgate and Overlake.

Six Sound Transit routes (550, 532, 535, 555, 554, and 556) and four Metro routes (271, B Line, 212 and 245) are among the top ten routes identified in the *Bellevue Transit Improvement Survey* as providing work trips. Eight of these provide service through Bellevue and connect with other regional activity

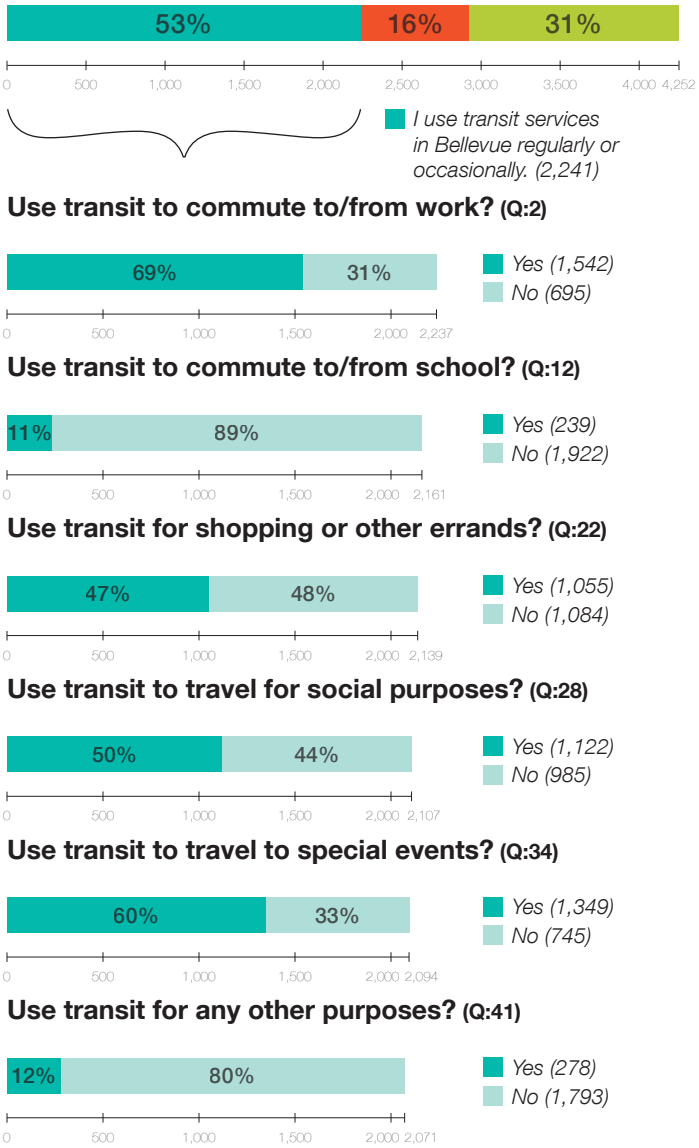


Figure 40 Trip purpose(s) of the 2,241 respondents who identified themselves as current users of transit in Bellevue. The most common purpose for using transit is work (69%) followed by special events (60%).

centers. The remaining two provide local service within Bellevue but also connections with other East King County cities (e.g. Redmond and Kirkland).

The most common way work commuters access transit is by walking to the bus stop (52%; 771/1,478), followed by driving to a Park & Ride facility (39%; 571/1,478). As evidenced in the latest Park & Ride Utilization Report, bus riders increasingly rely on commuter parking facilities to access the transit network in Bellevue (see Table 8).

Table 8 Park & Ride usage continues to increase at Bellevue lots; many facilities are presently at or exceeding capacity.

Park & Ride	Q3 2012			Q3 2011		
	Capacity	Used	Utilization	Capacity	Used	Utilization
South Bellevue	519	560	108%	519	557	107%
Eastgate	1,614	1,508	93%	1,614	1,297	80%
Wilburton	186	153	82%	186	128	69%
Newport Hills	275	199	72%	275	179	65%

College and school is a secondary transit market which is mostly dependent on local trips, and is overwhelmingly reliant on walking access with 85% of users walking to transit. The top 10 routes identified in the *Bellevue Transit Improvement Survey* as providing school trips are Sound Transit routes 554, 550, and 556 and Metro routes 271, 245, 221, 226, 240, B Line, and 249.

"It works for my family as we use it by choice. I would rather you focus on needs of people who depend on the transit systems for their daily use."

LeiMomi, Non-Commuting Transit User
Resident of Bellevue

Shopping is a tertiary transit market that also combines local and regional trips with 72% of riders walking to transit service and 22% driving to a Park & Ride. This signals the presence of a bi-directional and regional market in which Bellevue imports and exports shopping trips between Seattle and Bellevue, as well as between Bellevue and neighboring cities. Four regional routes are among the top 10 routes identified in the *Bellevue Transit Improvement Survey* as providing shopping trips (ST 550, 554, and 560, and Metro's 255); the other six routes are mostly local and Eastside service routes operated by Metro (271, B Line 245, 240, 226, and 234).

There are of course trips being made for other purposes such as social and recreation, special events and other. In general the same pattern of

regional and local/sub-regional trips is observed, in part due to the nature of the transit survey which included responses from everyone using transit in Bellevue – residents and non-residents, but also because the system is set up to serve three patterns of travel demand: local, sub-regional, and regional.

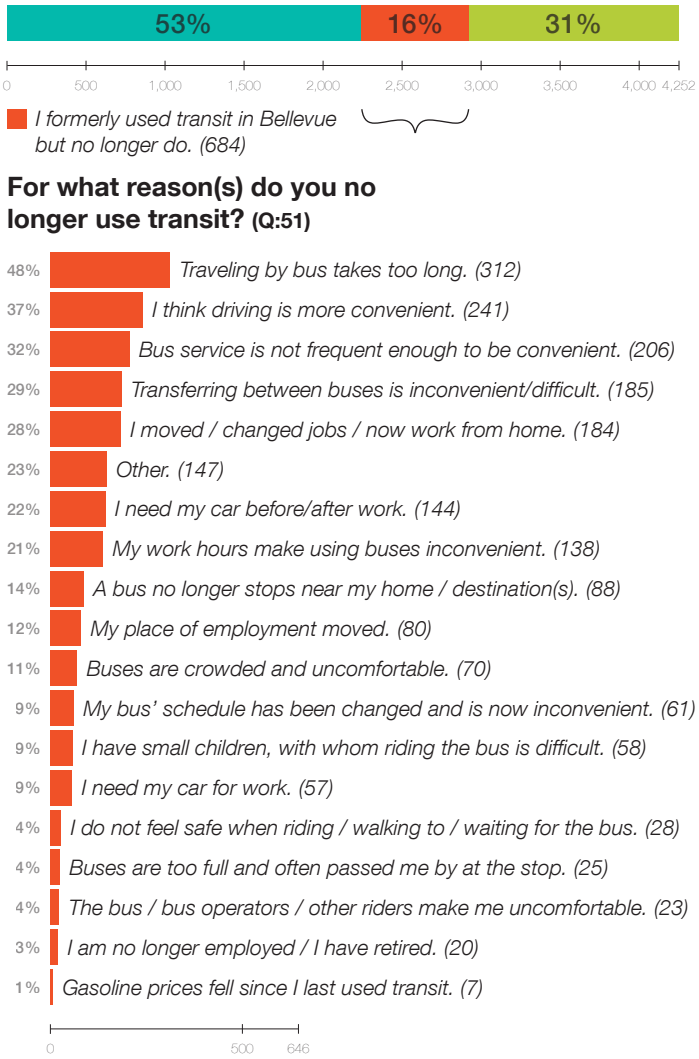
Perhaps more interesting is the fact that by and large the same group of routes ranks among the top ten routes for each trip purpose; the group of routes satisfying most transit needs in Bellevue today include Sound Transit routes providing connections between Bellevue neighborhoods and the region (such as ST 550, 555, and 556), Metro routes providing connections between East King County communities (such as 271, 245, 240 and the B Line), and Metro routes providing local connections within Bellevue (such as 221, 226, and 249). Most routes providing peak-hour freeway-based service, passing through Bellevue and providing a touch point only such as 214, 215, 216, 217, and 218, do not show up as significant routes for Bellevue residents and riders with the notable exception of routes ST 554 and KCM 212 both providing frequent all day and peak hour service, respectively, from Seattle to Eastgate.

FORMER RIDERS

Of the 684 people who said they formerly used transit services in Bellevue, 67.9% used transit for work, 10.8% for school, 16.8% for shopping or other errands, 12.7% for social purposes, 24.6% for special occasions, and 6.4% for other reasons. While the percentage of former riders who used transit for work or school is nearly identical to that of current transit users, a comparatively smaller percentage of respondents said they previously used transit for shopping, social purposes, or special events.

Figure 41 reflects the reasons given by the 646 respondents who identified why they no longer use transit in Bellevue. The most common reason for not

Figure 41 Reason(s) why former transit users no longer use transit in Bellevue.



> **"Bus stops are geared towards daily commuters only [with] limited to no service on nights and weekends in the Lake Hills area."**
>
> *Jens, Former Transit Rider*
> *Resident of Bellevue*

using transit is because transit takes too long (48%; 312/646), followed by a perception that driving is more convenient (37%; 241/646), that bus service is not frequent enough to be convenient (32%; 206/646), and that transferring between buses is inconvenient and/or difficult (29%; 185/646).

NON-RIDERS

Non-rider respondents to the *Bellevue Transit Improvement Survey* were asked for what reason they have never used transit in Bellevue. Over half of the 1,327 non-riders cited "traveling by bus takes too long" among their reasons (53.1%; 667/1,257). The second and third most common reasons were issues

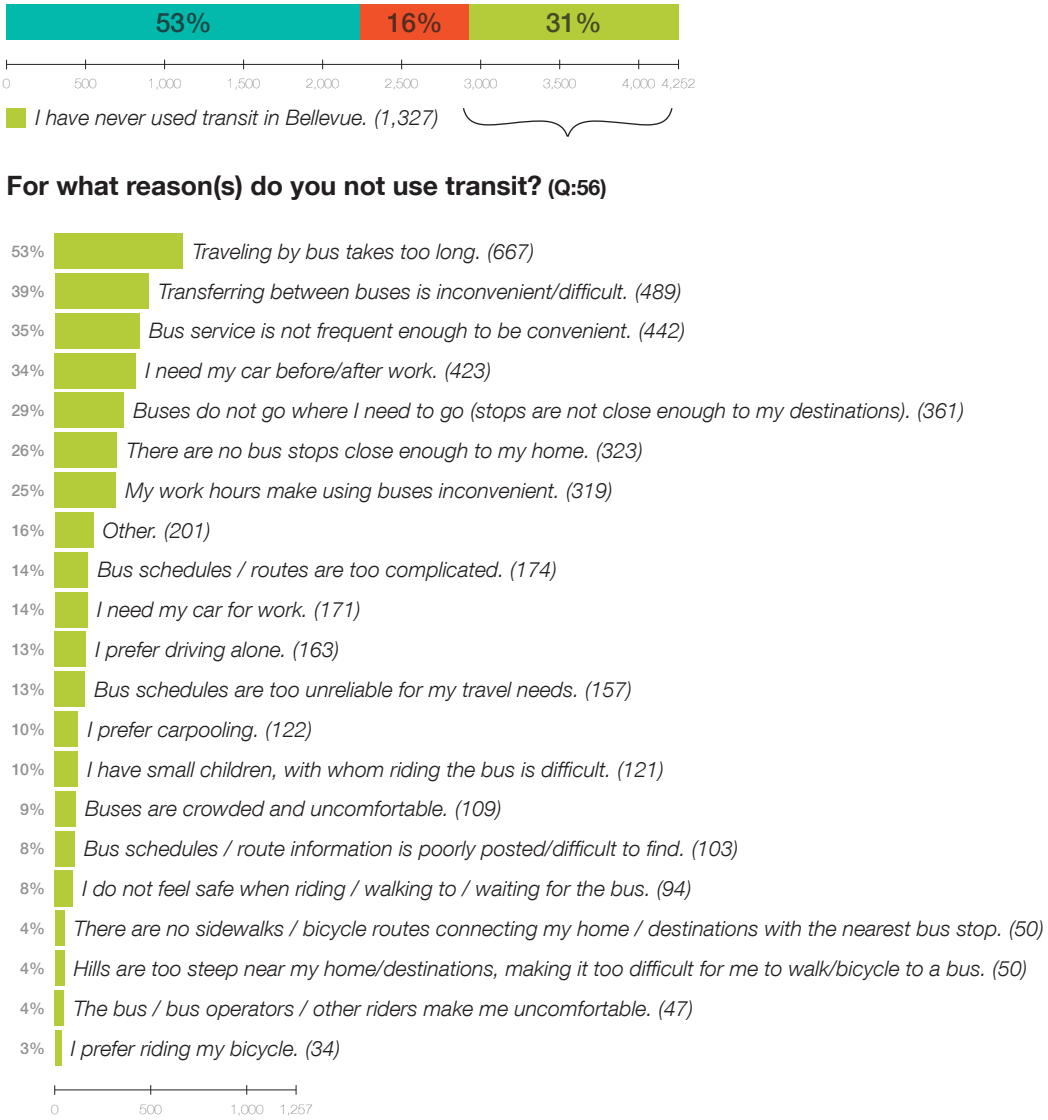


Figure 42 1,257 respondents identified why they have never used transit in Bellevue. The most common reason for not using transit is because transit takes too long (53.1%; 667/1,257 respondents), followed by transferring between buses being inconvenient/difficult (38.9%; 489/1,257), bus service not being frequent enough to be convenient (35.2%; 442/1,257), and then needing their car before or after work (33.7%; 423/1,257).

transferring between buses (38.9%) and infrequent bus service (35.2%). Issues concerning overcrowded buses (8.7%), safety (7.5%), and discomfort because of others on the bus (3.7%) were relatively scarce among non-riders (see Figure 42).

When asked why, as someone who does not use transit in Bellevue, they decided to complete the survey, 71.2% provided written responses (945/1,327). Each of the 945 open-ended responses was categorized into at least one of nineteen primary themes. Some responses included multiple reasons and were thus counted as multiple responses – 1,571 responses were provided by the 945 unique respondents. Thirteen phrases used by non-riders indicated an interest in potentially using transit. As noted in Figure 43, nearly half of non-riders who identified why they decided to complete the survey indicated an interest in potentially using transit (47.7%; 451/945).

"Even though I don't use it, mass transit is still part of my community, and it affects me."

Vincent, Non-Rider
Resident of Bellevue

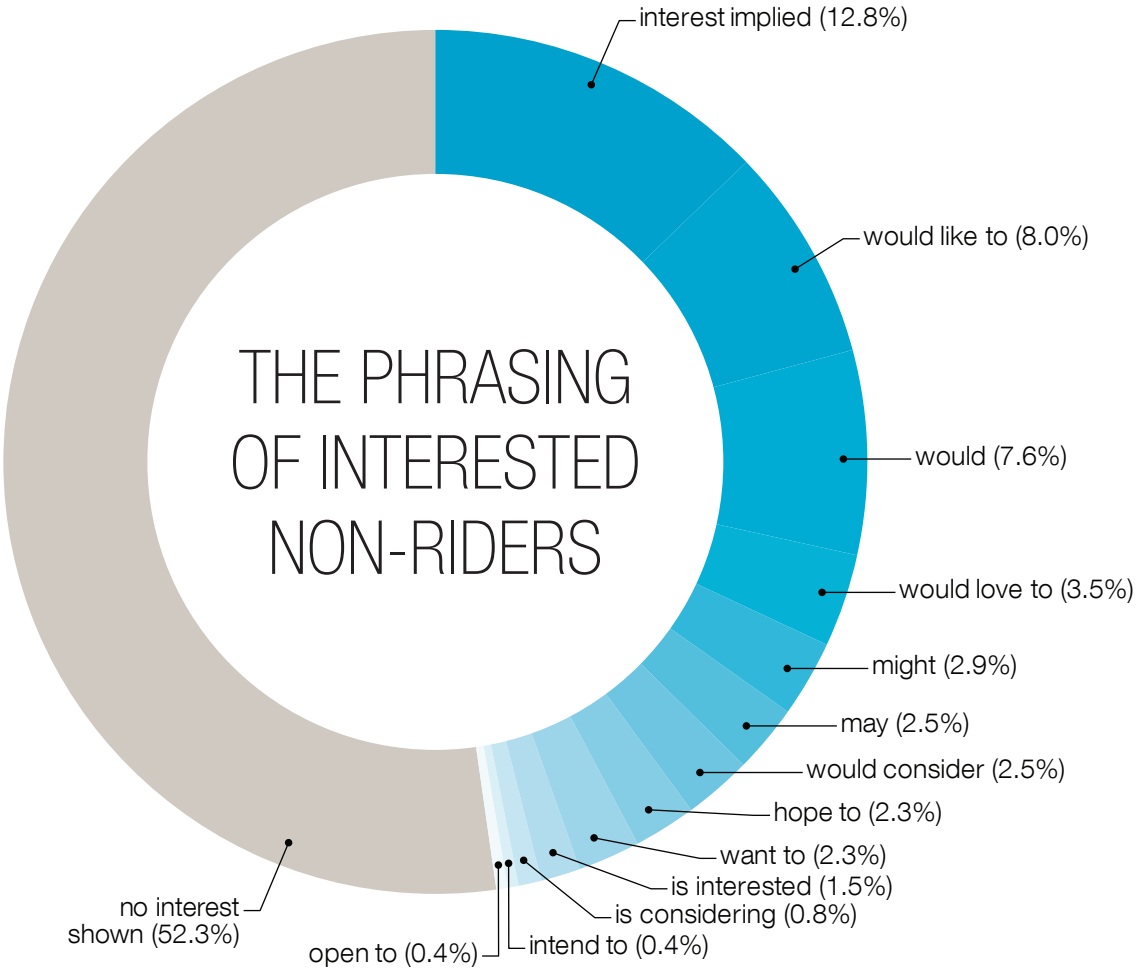


Figure 43 Thirteen phrases used by non-riders who indicated an interest in potentially using transit. Nearly half of non-riders who identified why they decided to complete the survey indicated an interest (47.7%; 451/945).

Figure 44 Bellevue Board and Commission members who participated in the Transit Master Plan Forum on September 18, 2012 agreed that "Current sources of funding won't cover everything that needs to be done; as such, the near-term focus needs to be on maximizing ridership."

"Please get us more buses during peak hours and seats. We shouldn't have to stand all the time."

Lauren, Commute to Work and Social Transit User Resident of Bellevue

TRANSIT PRIORITIES

When presented with service trade-off scenarios (e.g., peak vs. off-peak; route directness vs. service area coverage), the majority of Transit Master Plan Forum participants advocated for helping the greatest number of people get to where they need to go by preserving/ enhancing service where there is already high ridership (see Figure 44). The following reflects some of the comments from Bellevue Board and Commission members at the Forum on this topic:

- "Far and away the dominant market share of transit are the work trips." – *Vic Bishopp, Transportation Commission*
- "Given the current budget constraints, the highest priority for the fixed route buses is giving a positive experience to peak riders." – *Stuart Heath, Parks & Community Services Board*
- "Some neighborhoods will always be difficult to serve ... There is pressure on King County and Sound Transit to reduce unproductive service. To expect that service is going to grow in the short-term is unrealistic. For now we should maintain strong productivity on the transit service we have." – *Kris Liljeblad, Arts Commission*

Feedback from Board and Commission members is consistent with what Bellevue staff heard from its outreach to the broader community. When asked how the City could best leverage its influence with local transit agencies to improve service in Bellevue, respondents to the *Bellevue Transit Improvement Survey* universally selected advocacy for an increase in service frequency during peak hours (see Table 9).

Frequency of weekday service was ranked the most important and schedule reliability the second most important quality of transit service among most trip purposes. In terms of the aggregate importance assigned through ranking, reliability is the most important priority among school, social, and special

	All		Bellevue Resident	
Quality of Service	Count	Percent	Count	Percent
Increase Frequency During Peak	643	33.2%	149	22.8%
Increase Frequency to Reduce Overcrowding	249	12.9%	74	11.3%
Increase Vehicle Capacity at Park & Rides	183	9.5%	65	9.9%
Other	168	8.7%	54	8.3%
Increase Frequency During Midday	152	7.9%	58	8.9%
Revise Schedules to Improve Connections	131	6.8%	44	6.7%
Expand Service Coverage in Bellevue	114	5.9%	71	10.9%
Install Additional Shelters	60	3.1%	30	4.6%
Increase Frequency on Weekends	50	2.6%	30	4.6%
Extend Service at Night on Weekends	48	2.5%	20	3.1%
Increase Frequency During Late Night	47	2.4%	22	3.4%
Expand ORCA Sales Locations in Bellevue	41	2.1%	18	2.8%
Extend Service at Night on Weekdays	32	1.7%	13	2.0%
Increase Bicycle Capacity at Park & Rides	18	0.9%	6	0.9%
respondents	**1,936**		**654**	

Table 9 Advocacy priorities of respondents overall and Bellevue residents who currently use transit in Bellevue.

event transit users. Support for this measure is especially strong among Seattle residents (47.2%) and those between 25-34 years of age (38.6%). Bellevue residents are the origin-based group that indicated the least support for increasing peak frequency (22.8%), instead expressing above average support for expanding service coverage in un-served parts of Bellevue (10.9% versus 5.9% overall) and slightly above average support for increasing service frequency and span during all other times of the day and days of the week.

The second most commonly selected priority for municipal advocacy is an increase in frequency at any time that reduces overcrowding on existing services, selected by 12.9% of respondents overall. However, this preference is not as universal as the top priority: those whose destinations include Crossroads, Eastgate, Factoria, and South Bellevue and those under 24 years of age expressed a stronger preference for increasing service frequency midday, while those who use Park & Rides to access transit and those 65 years of age and older prefer advocacy to increase vehicle capacity at Park & Ride facilities.

An increase in vehicle capacity at Park & Ride facilities is the third most common priority for municipal advocacy overall (9.5%), but there is considerable

> **"If the bus route came closer to where I live I wouldn't need to drive to the Park & Ride. So either the city should have a lot more Park & Ride spaces of have more bus routes in unserved parts of Bellevue."**
>
> *Pat, Shopping and Social Transit User*
> *Resident of Bellevue*

variation in the measure indicated as the third priority among various respondent groups. Those whose destinations include Downtown Bellevue and/or Downtown Seattle indicated this as their third highest priority, but those whose destinations include nearly all other areas, including Crossroads, Eastgate, Factoria, other east King County communities, and south King County, among others, indicated a stronger preference for advocacy to revise schedules to improve connections. Bellevue residents indicated that an expansion of service coverage to un-served parts of Bellevue is their third highest priority for municipal advocacy (10.9%). Support for increasing vehicle capacity at Park & Ride facilities also varies with income – those with annual household incomes below $50,000 indicated less support than others for this measure, instead indicating that an increase in midday service frequency (among those with annual household income of $25-50,000 and those without access to an automobile) or an increase in service frequency on weekends (among those with annual incomes of less than $25,000) would be preferred.

FUTURE TRAVEL MARKETS

Consistent with City Council direction, the Bellevue Transit Master Plan aims to "determine where and how transit investments can deliver the greatest degree of mobility and access possible for all populations" (Transit Master Plan, *2012 Bellevue Council Principle*). To that end, the Transit Master Plan looks to the future and strives to be compatible with Bellevue's land use and transportation plans and the challenges and opportunities of changing demographics, land use characteristics, and travel patterns (see Figure 45). The following reflects some of the comments from Bellevue Board and Commission members at the Forum on this topic:

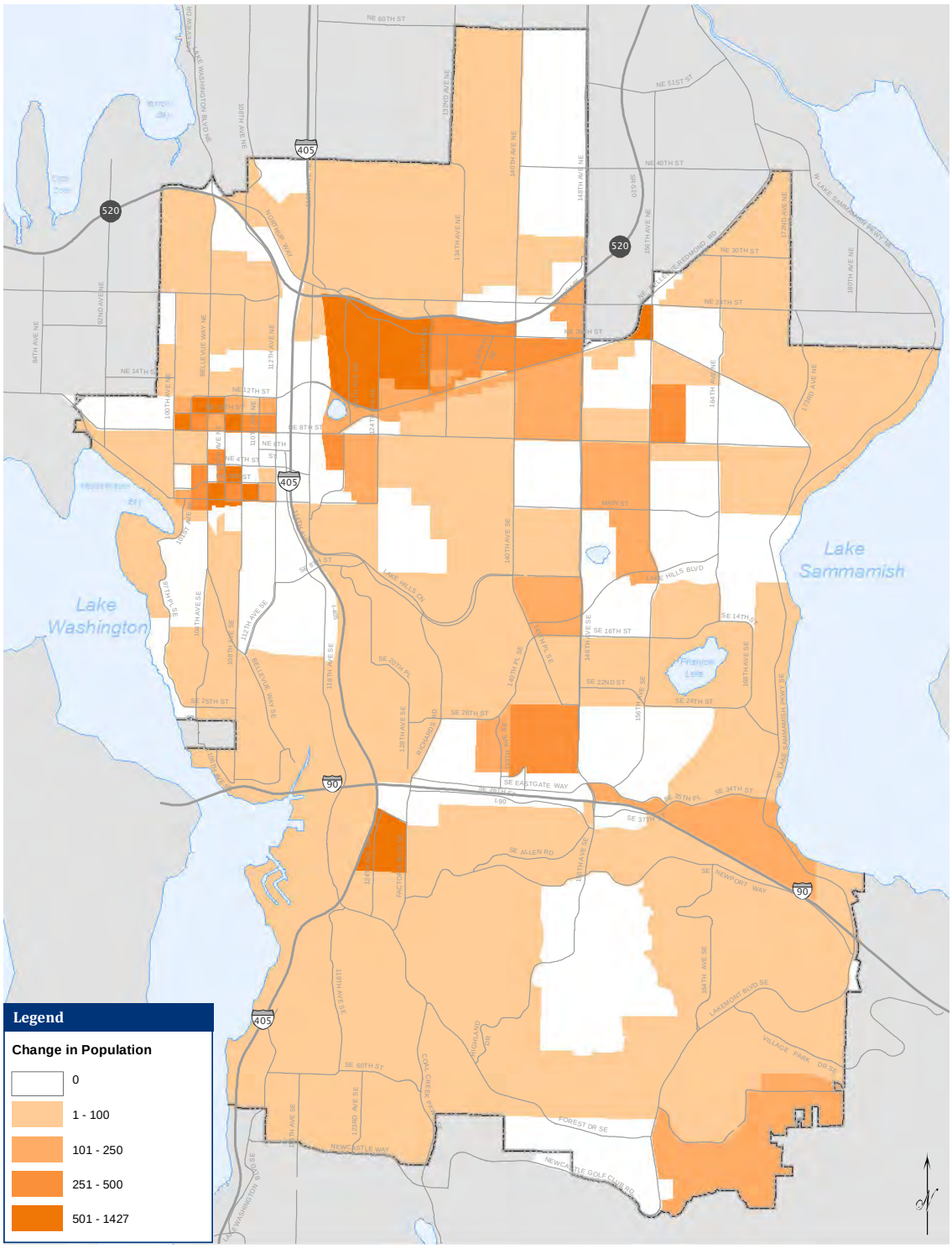
- "An important benefit of transit is that whenever a transit trip replaces a single auto trip it eases the congestion that hurts all businesses and all commuters. Bellevue could not reach its projected growth without transit. We can't just build roads to meet our growth." – *Tom Tanaka, Transportation Commission*
- "Transit draws businesses to Bellevue; for instance, the B-Line has created ease of movement from Microsoft's Main Campus to downtown. The B-Line is better than the Shuttle. It runs more often and is bigger." – *Mark Van Hollebeke, Parks & Community Services Board*
- "For some people transit is the only source or option for transportation." – *John Bruels, Human Services Commission*

Figure 45 Bellevue Board and Commission members who participated in the Transit Master Plan Forum on September 18, 2012 agreed that "Transit is an essential component of the City's mobility strategy and an increasingly important tool for addressing Bellevue's anticipated growth in travel."

POPULATION AND EMPLOYMENT GROWTH

Between 2010 and 2030 the city of Bellevue as a whole is expected to increase in population by over 28,000. Downtown Bellevue is expected to double in size reaching 19,000 by 2030 comprising about 45% of the city's projected population growth over

Figure 46 Population growth in Bellevue – 2010 to 2030.



the next 20 years (see Figure 46 on page 66). Bel-Red is expected to accommodate about 7,500 in population, almost another third of projected growth, and other mixed use areas about 16%. The remaining 7% of Bellevue's projected population growth is expected to be spread throughout residential areas in the city as development occurs on remaining vacant and underdeveloped land.

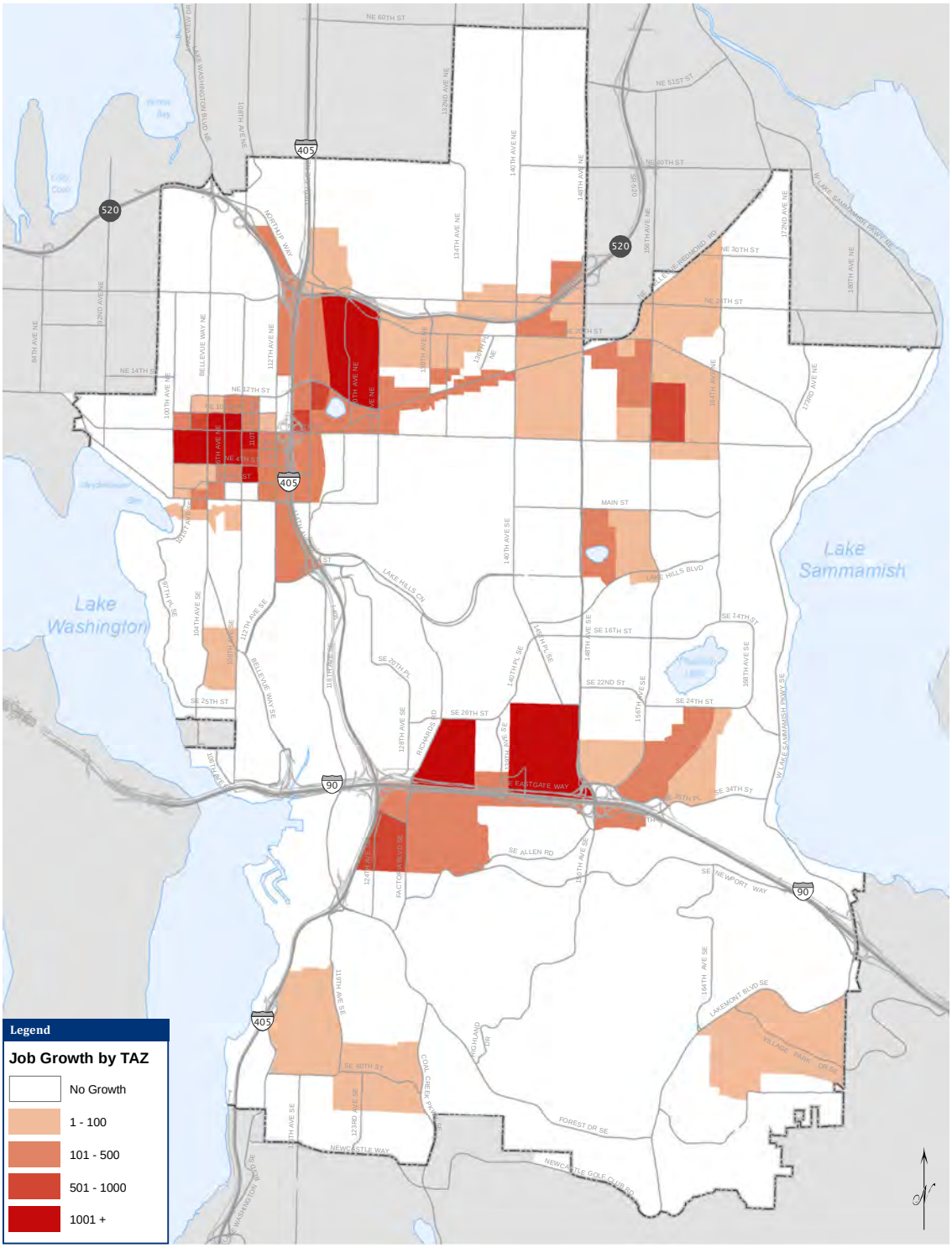


Figure 47 Employment growth in Bellevue – 2010 to 2030.

The number of jobs within the city of Bellevue is expected to increase by over 54,000 between 2010 and 2030 (see Figure 47 on page 67). Downtown Bellevue is projected to capture over half of these jobs and Bel-Red about 18%. Eastgate would capture almost 14% and SR-520 nearly 5%. Other commercial and industrial lands in the city would capture the remaining 12% of projected job growth.

To support this growth it will be critical to integrate the provision of enhanced transit supply with a supportive land use mix together with enhanced transit passenger and walking amenities, as well as transit supportive infrastructure. There are a number

Figure 48 Transit reinforces the Downtown Bellevue 2030 Vision, Bel-Red Subarea Plan, South Kirkland P&R Transit Oriented Development Project, and Eastgate/I-90 Transit Oriented Development concept.

Downtown Bellevue 2030 Vision

S. Kirkland P&R Transit Oriented Development Project

Bel-Red Subarea Plan

Eastgate Transit Oriented Development Concept

of promising trends that suggest the continued improvement of transit as a viable mobility option for Bellevue residents (see Figure 48).

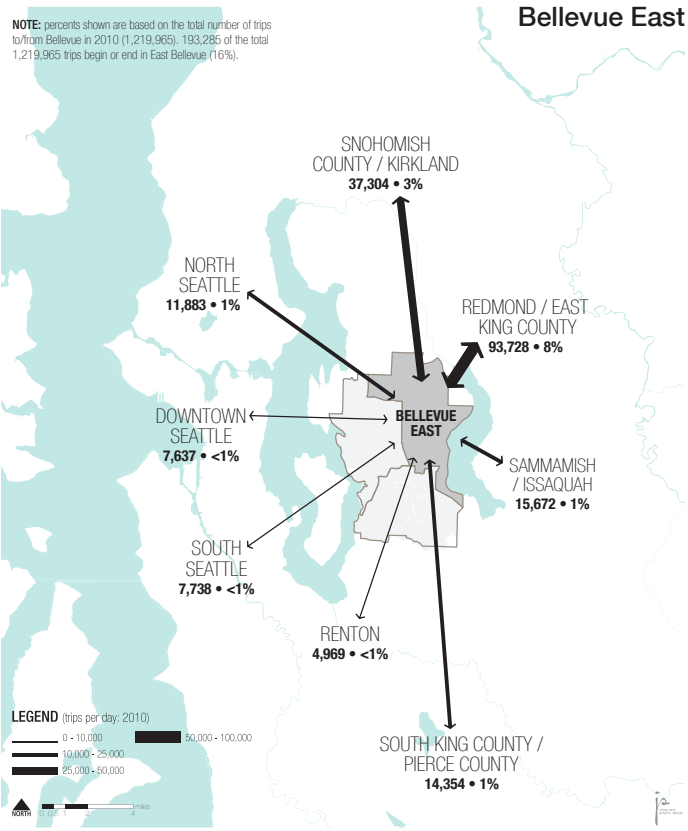
One of the objectives of Bellevue's growth strategy is to strategically allocate population and employment in locations that are or are intended to be rich in public amenities, including public transit. While many areas of Bellevue are expected to see some growth, those growing the fastest are concentrated in select areas. The biggest clusters of growth are in Downtown Bellevue, along the proposed alignment of East Link through the Bel-Red Corridor, in Factoria, and in the vicinity of Bellevue College. These are all areas where transit can effectively serve a large population. Future transit service increases, whether through new routes or frequency improvements, should be successful when concentrated in these areas.

TRAVEL GROWTH

A major factor in assessing possible transit service improvements in Bellevue is the pattern and volumes of total travel demand. It is recognized that future total travel does not necessarily translate into transit travel demand. However, many trips will be candidates for transit. The examination of total travel serves as a starting point for examining what may be potentially feasible transit markets.

The City's Bellevue-Kirkland-Redmond (BKR) travel demand model (EMME version MP0r12.1) was utilized to examine existing (2010) and future (2030) travel patterns. While version MP30r6.2 of the BKR model assumes planned and programmed transportation system improvements in Bellevue and the region, Bellevue, Kirkland, Redmond, local land use and PSRC regional forecasted land use assumptions, and transit improvements programmed by Metro and Sound Transit, it does not assume the potential for I-90 tolling that is presently under

Figure 49 The BKR travel demand model estimates 1,219,965 daily person trips to/from or internal to Bellevue in 2010.

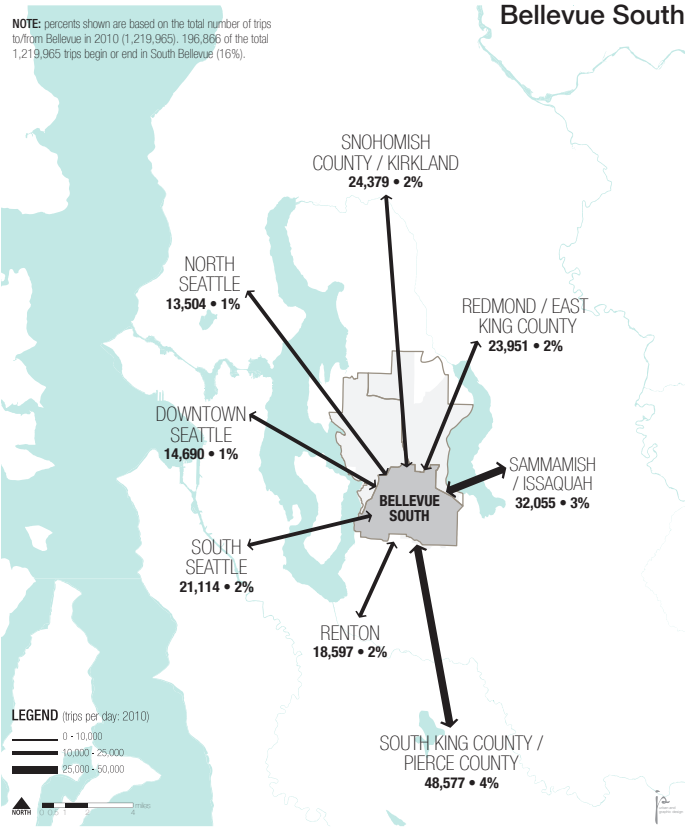


193,285 of the total 1,219,965 trips start and/or end in the Bellevue East area (16%).

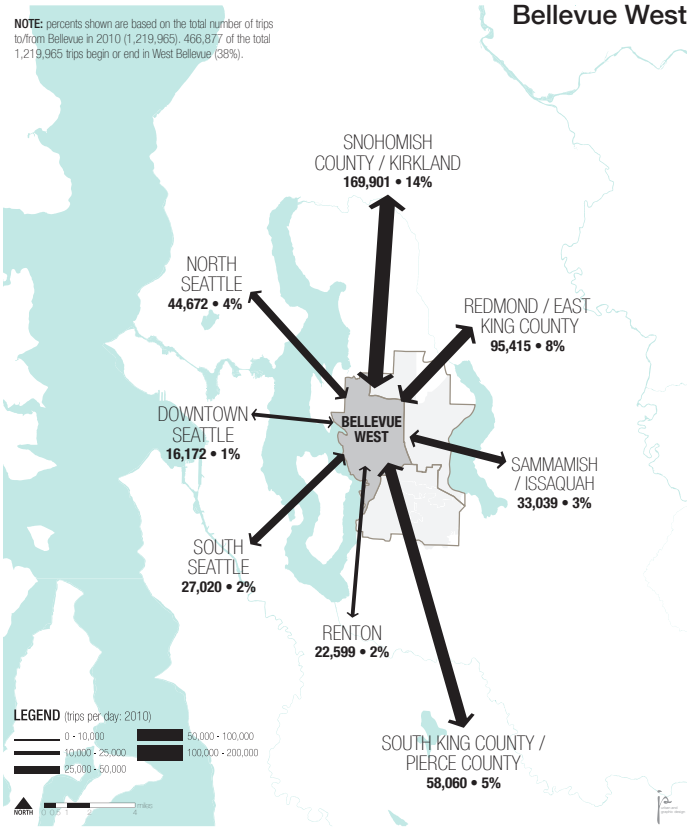
consideration in WSDOT's I-90 Tolling Environmental Assessment process.

Figure 49 through Figure 52 on page 72 reflect flow diagrams for existing and future total daily weekday person trips (including all modes of travel for home-based work, home-based other, and non-home-based trips) between three districts within Bellevue (Bellevue South, Bellevue East, and Bellevue West) and other Eastside and regional destinations. The Bellevue, Eastside, and Regional areas are aggregations of the traffic analysis zones (TAZ's) that make up the area covered by the BKR model.

The review of productions (trips originating in a particular area) and attractions (trips attracted to a particular area) indicates that the "Bellevue West" area, which includes Downtown Bellevue, is the largest production/attraction market for trips to/from Bellevue (see Figure 49). The largest flows are from Snohomish County/Kirkland (the I-405 North Corridor), Redmond/East King County (the SR 520



196,866 of the total 1,219,965 trips start and/or end in the Bellevue South area (16%).



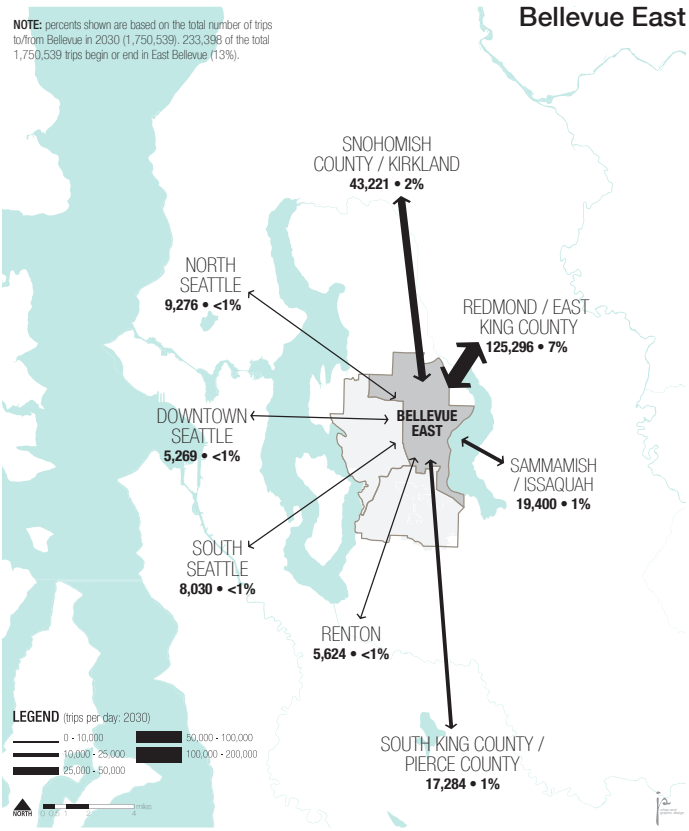
466,877 of the total 1,219,965 trips start and/or end in the Bellevue West area (38%).

corridor to Redmond), and the South King County/Pierce County (I-405 South/SR 167 corridor) markets. Interestingly, the Seattle market is smaller than the close in suburban markets in terms of total trips, but due to the overall more transit supportive land uses in Seattle, the transit trip market between Bellevue and Seattle is bigger than any other regional market.

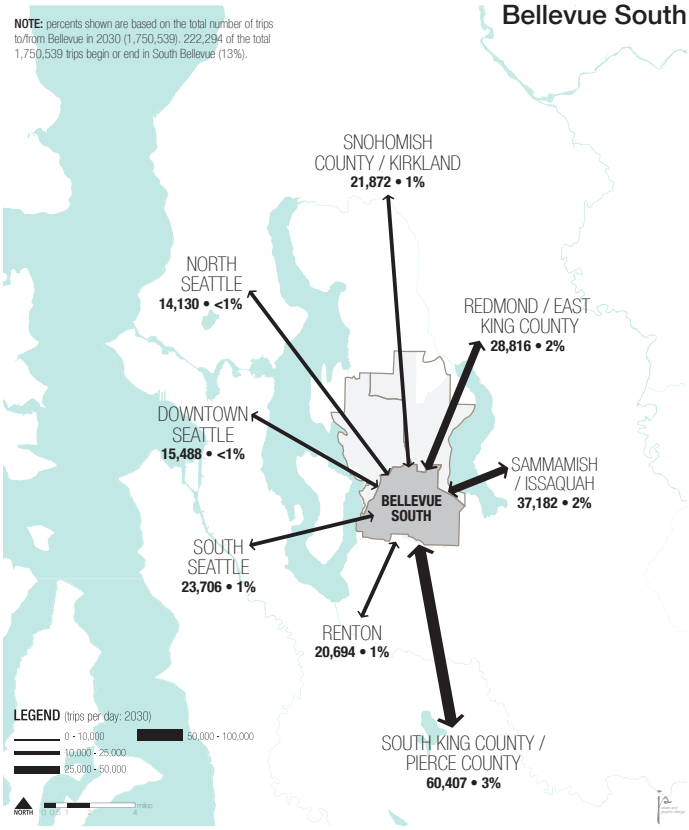
This baseline pattern is similarly evident in 2030 forecasts, with Snohomish County/Kirkland, Redmond/East King County, and South King County/Pierce County all still representing the most significant production/attraction markets (see Figure 50). The strongest market growth is projected to come between the Bellevue West area and Snohomish County/Kirkland (80,000 new trips), South King County/Pierce County (43,000 new trips), Redmond/East King County (26,000 new trips), and Sammamish/Issaquah (25,000 new trips).

Existing regional transit service is already serving these markets. Particularly in the suburban to

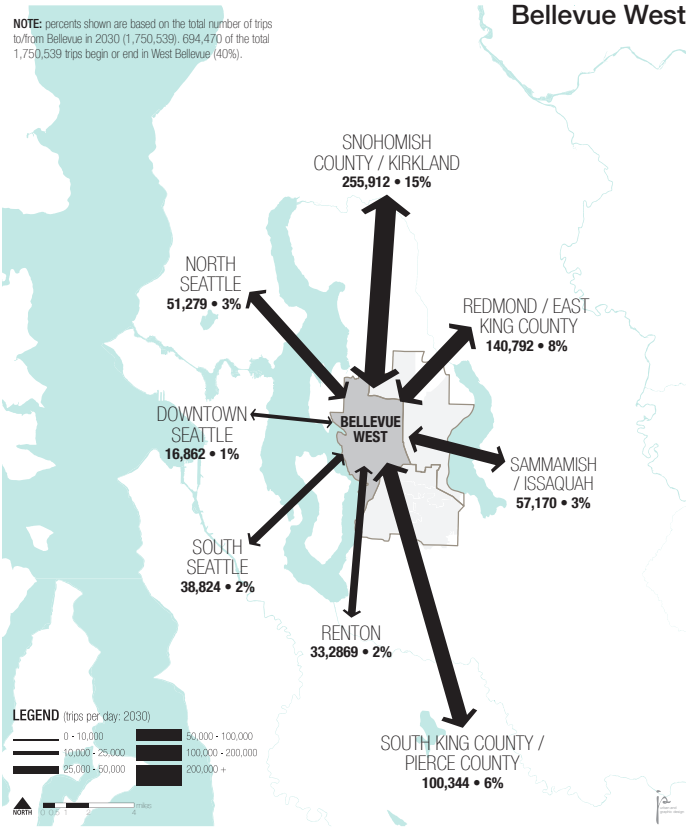
Figure 50 The BKR travel demand model estimates 1,750,539 daily person trips to/from or internal to Bellevue in 2030.



233,398 of the total 1,750,539 trips start and/or end in the Bellevue East area (13%).



222,294 of the total 1,750,539 trips start and/or end in the Bellevue South area (13%).



694,470 of the total 1,750,539 trips start and/or end in the Bellevue West area (40%).

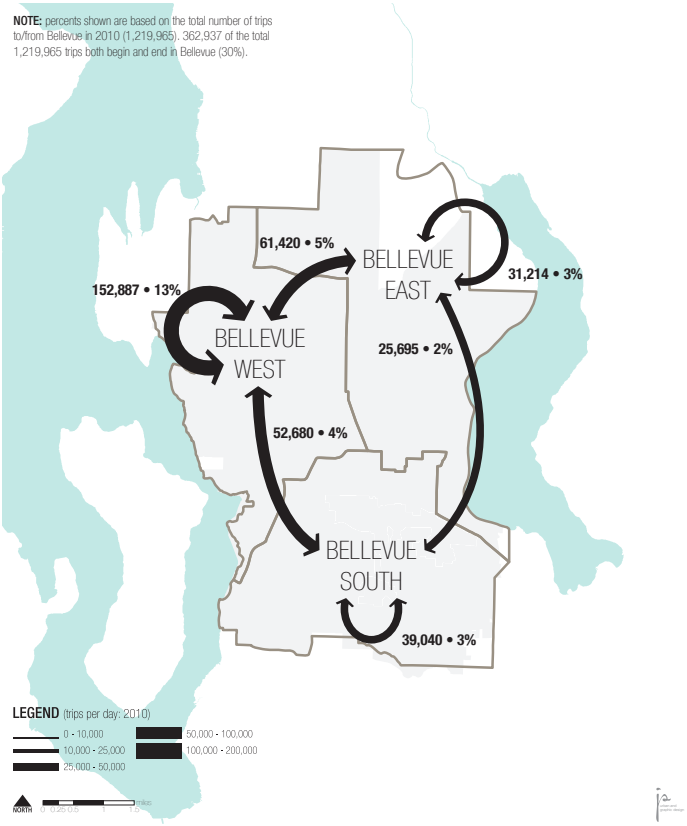


Figure 51 The BKR travel demand model estimates that 362,937 daily person trips begin/end within Bellevue in 2010; 30% of the 1,219,965 daily person trips to/from or internal to Bellevue.

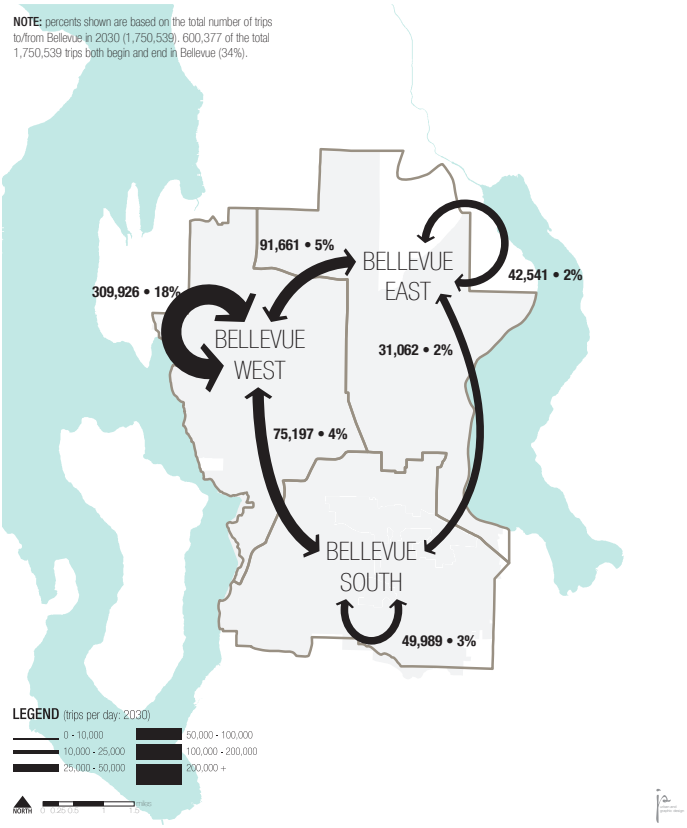


Figure 52 The BKR travel demand model estimates that 600,377 daily person trips begin/end within Bellevue in 2030; 30% of the 1,750,539 daily person trips to/from or internal to Bellevue.

Downtown Bellevue market, the growth projections suggest an additional need for suburban Park & Ride capacity and express bus capacity in the I-405 and I-90 corridors.

Within Bellevue, the 2010 flow map shows that there is a strong production/attraction market between the Bellevue West area and both the Bellevue East and South areas (see Figure 51). Travel is projected to grow by 2030, with the most significant growth taking place within the Bellevue West area itself, where an estimated 157,000 new trips will occur (see Figure 52). The number of internal trips in the Bellevue West area is projected to more than double between 2010 and 2030. The growth of internal trips in the circulation market in Bellevue West is an "all-day market" rather than a work-oriented market.

Close to 500,000 new daily trips are projected to occur to/from or within the city of Bellevue between 2010 and 2030. Based on projected increases in trips, the number of trips with a production/attraction outside of the city of Bellevue will increase by over 260,000 trips. Most of that growth (over 200,000 trips) will be to the Bellevue West area including Downtown Bellevue. More than one third of those new trips will be from the I-405 North Corridor.

Over 230,000 new daily weekday trips are projected to have a production/attraction within Bellevue. The majority of these trips (157,000) are within West Bellevue, centered on Downtown Bellevue, and most of these trips are non-work trips. The projected growth within West Bellevue, which includes Downtown Bellevue, is the single biggest growing trip market for either "regional" or "local" trips – it is almost twice has high as the next biggest market (Kirkland/Snohomish County to Bellevue).

The Bellevue West internal market represents the City's best opportunity to gain transit mode share, as the City can influence service levels, capital enhancements, and priority transit at both the trip origin and destination.

FUTURE TRANSIT USAGE

Approved by Puget Sound-area voters in 2008 the Sound Transit East Link Project will bring light rail transit (LRT) to Bellevue with service starting in 2023 (see Figure 53). LRT is expected to address the most significant transit ridership market for Bellevue; in 2012, four of the top ten highest-ridership bus routes (212, 255, 554, and 550) operating in Bellevue had a terminus in Downtown Seattle. By providing the cross-lake market with high capacity transit services, implementation of East Link represents a transformational opportunity to rethink the current bus network in Bellevue.

The East Link Bus/Rail Integration Plan, created by Sound Transit and King County Metro staff in 2007, and then updated in 2010, serves as a "best guess" prediction of how the bus network will be operating in

Figure 53 East Link will give riders a fast, frequent and reliable connection from the Eastside's biggest population and employment centers to Downtown Seattle. Ten stations will serve Seattle, Mercer Island, Bellevue, Bel-Red and Overlake in Redmond.

the future with East Link LRT. The primary emphasis of this future network will be to reduce/eliminate bus routes (e.g. route 550) whose service will be replaced by East Link and to shift resources into routes that strengthen bus connectivity with the six LRT stations in Bellevue (South Bellevue, East Main, Bellevue Transit Center, Hospital Station, 120th Station, and 130th Station). The City's BKR travel demand model platform (MP30r6.2) accounts for the transit routing and headway assumptions found in the 2010 East Link Bus/Rail Integration Plan.

The bus network will continue to provide coverage for the broader reaches when East Link begins service. The BKR travel demand model estimates that 136,000 average weekday boardings and alightings will take place on transit in Bellevue in 2030 (see Figure 54). Of these, an estimated 28,000 average weekday boardings and alightings will take place at the six LRT stations in Bellevue. The majority of transit usage in 2030, 108,000 average weekday boardings and alightings, is projected to take place on Bellevue's bus network. This represents a 133% increase over Spring 2012 bus usage in Bellevue (see Figure 55 on page 76).

Transit riders in the future will access LRT stations in Bellevue on foot, by bicycle, in buses or shuttles, and in carpools and single occupant vehicles. BKR travel demand model estimates that by 2030 approximately 20% of light rail patronage (5,400 daily boardings and alightings) at East Link stations in Bellevue arises from bus transfers. Some of these Bellevue stations are projected to have significant bus/LRT interaction; for example, 52% of the projected boardings and alightings at the South Bellevue station are related to bus transfers (note: South Bellevue is one of only two Bellevue LRT stations with auto parking). To make the most out of both transit modes, effective intermodal integration must be present at East Link stations to avoid unnecessary transfer time and have reliable connections.

"When the [East] Link Light Rail is completeld, sync bus schedule arrivals with train arrivals / departures so people can get off the bus and not have to wait any more than 5-10 minutes for the train and vice versa."

Timothy, All-Around Transit User
Resident of Bellevue

As indicated in the service availability section of this report, many areas of Bellevue presently lack 15 minute bus frequencies throughout most parts of the weekday. If not addressed, this situation could result in poorly timed bus/rail connections at LRT stations in Bellevue. In 2030, East Link light

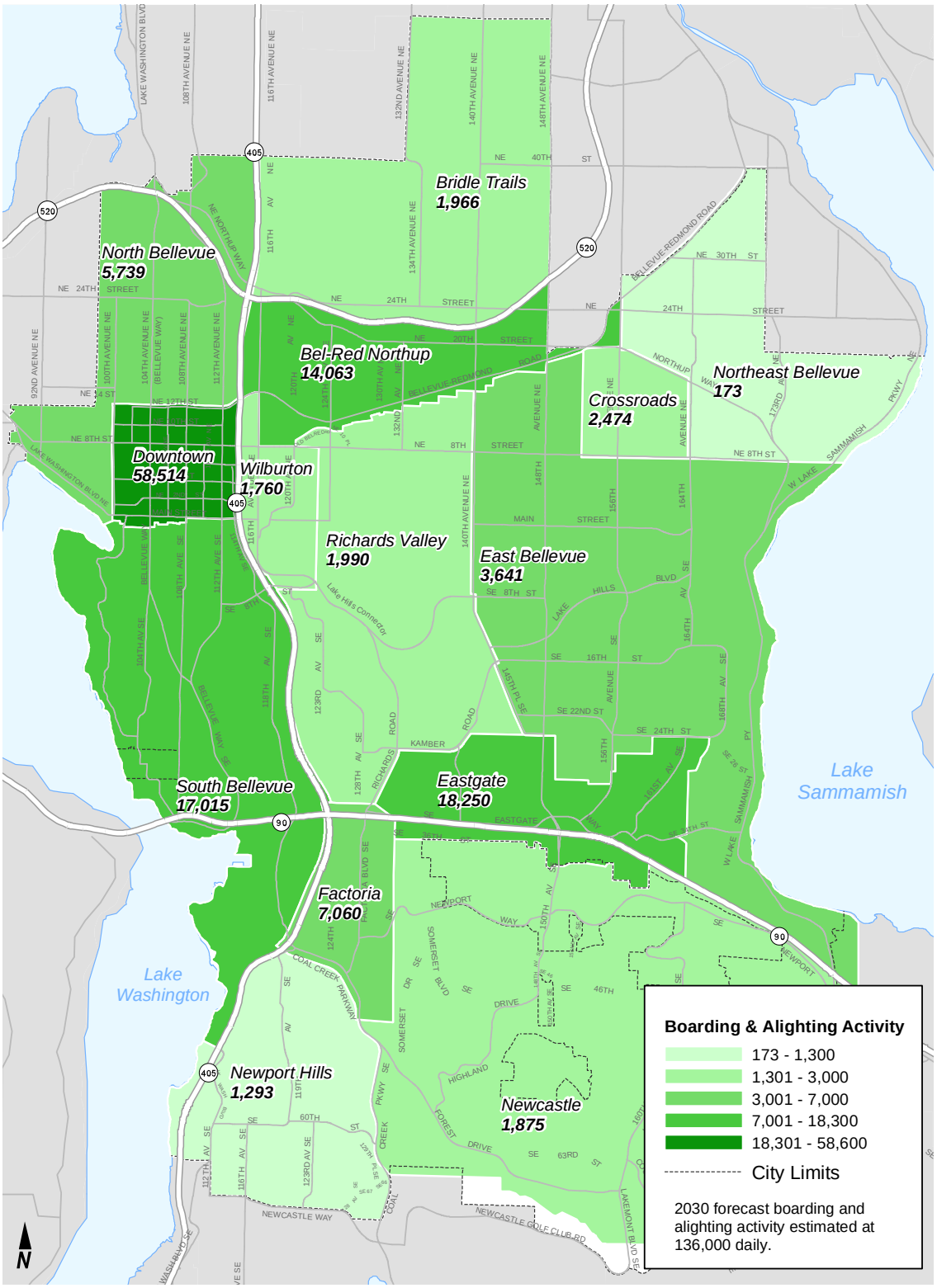
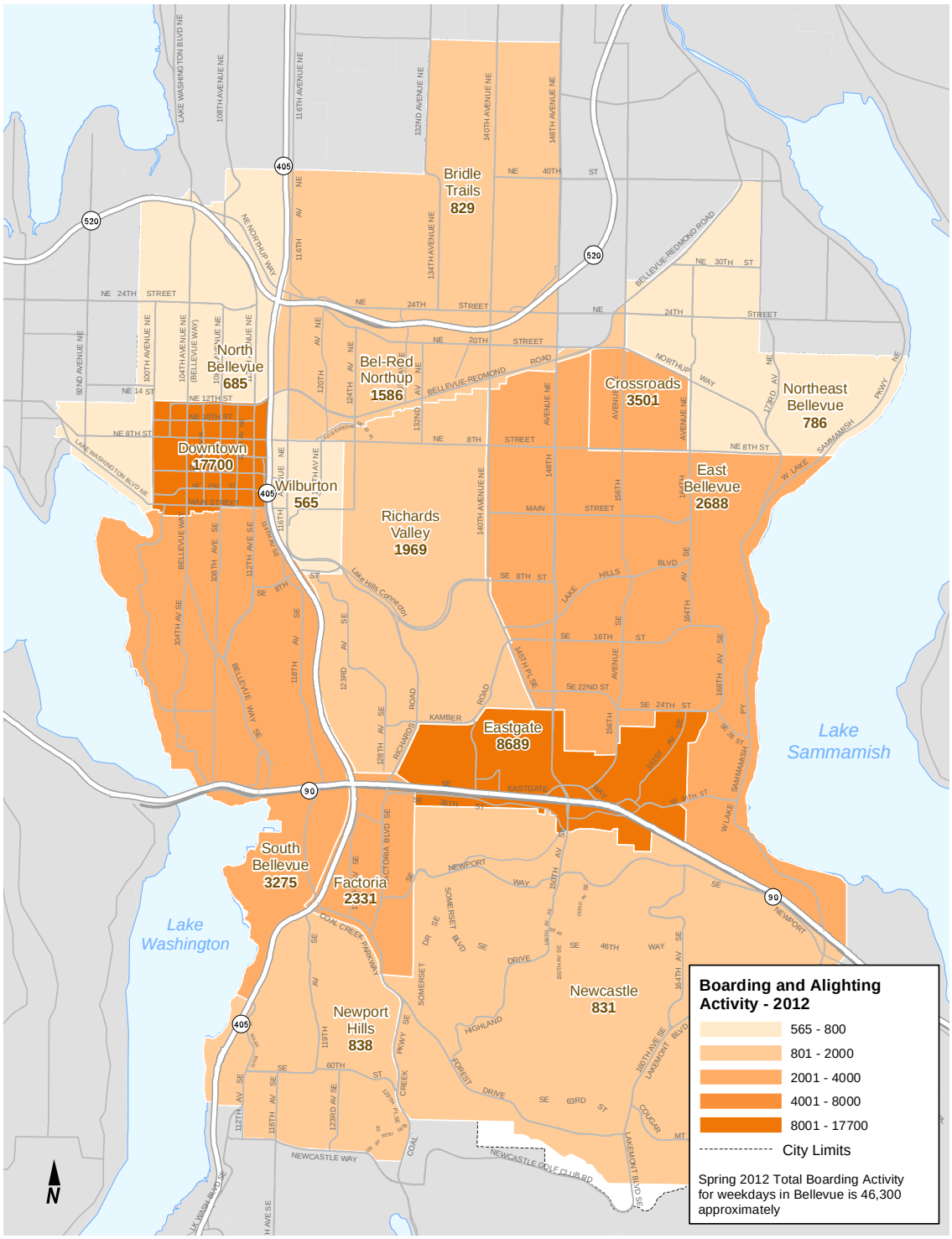


Figure 54 Transit usage by Mobility Management Area (2030 forecast) is derived from BKR model platform MP30r6.2 with transit routes defined in the 2010 East Link Bus/Rail Integration Plan.

Note: Transit usage projections for Bellevue MMAs that border other jurisdictions may have modest irregularities; boardings/alightings may either be attributed to the adjacent jurisdiction (when they should be attributed to Bellevue stops) or captured in Bellevue (when they should be attributed to stops in the adjacent jurisdiction). For example, the transit usage statistic is expected to be higher in the Northesast Bellevue MMA; stops within the MMA are likely attributed to Redmond. Similarly, the transit usage statistic in the North Bellevue MMA is likely lower than what is reflected in the 2030 projection map because South Kirkland Park & Ride boardings/ alightings are captured in this statistic. Although a portions of the South Kirkland Park & Ride is within Bellevue; in previous MMA transit usage maps boardings/alightings at this site have been attributed to Kirkland. In the final analysis, these modest differences in transit usage attribution are not material relative total transit usage projections].

rail lines are expected to operate at between seven and fifteen minute frequencies on weekdays. If bus service frequencies in Bellevue are not improved to match these East Link frequencies it could leave passengers transferring between LRT and bus with lengthy wait times. Given the importance of out-of-vehicle times on travel choices, service frequency connectivity between the bus and rail system at

Figure 55 Transit usage by Mobility Management Area (Spring 2012).



East Link stations is a factor in overall transportation network effectiveness.

Service span coordination would also facilitate bus/rail connections at LRT stations in Bellevue. By 2030, East Link is projected to operate from 5:00 AM till 1:00 AM. Today, ten routes (B Line, 235, 240, 245, 255, 271, 550, 554, and 560) in Bellevue offer night service (22:00 – 1:00); however, only three of these routes (B Line 271, and 550) operate every 30 minutes, the rest operate every 60 minutes. A best practice for consideration is offered by the Toronto Transit Commission which operates all bus routes on the same service span as the subway. In Toronto, as long as you board a subway train then you are guaranteed you will be able to take a bus to your final destination. As East Link construction proceeds, increased coordination on a more detailed bus/rail integration strategy should take place between agencies providing the service.

Transit agencies nationwide recognize that bus service connectivity (both frequency and span of operations) with new rail lines is critical to effective network operations. In Minnesota, the Metro Transit is presently involved in a significant restructuring of its bus network to better "feed" its light rail service (the Green Line) when it opens in 2014. The primary emphasis of the *Central Corridor Transit Service Study* is to reduce service on bus routes whose service will be replaced by METRO Green Line trains and to shift those resources into improved coverage, frequency and hours of service on bus routes connecting with rail. Improving the frequency of service will improve the reliability of the routes and connections between routes. Agencies in Minnesota are working together to ensure that bus frequencies are compatible with those of the METRO Green Line to provide reliable and consistent connections.

While enhancing bus service frequencies and span of service to facilitate bus/LRT integration can open up new opportunities for ridership, the decision to

"Infrequent service means a 30 minute wait time if you miss your connection from Seattle."

David, Commute to Work Transit User
Resident of Bellevue

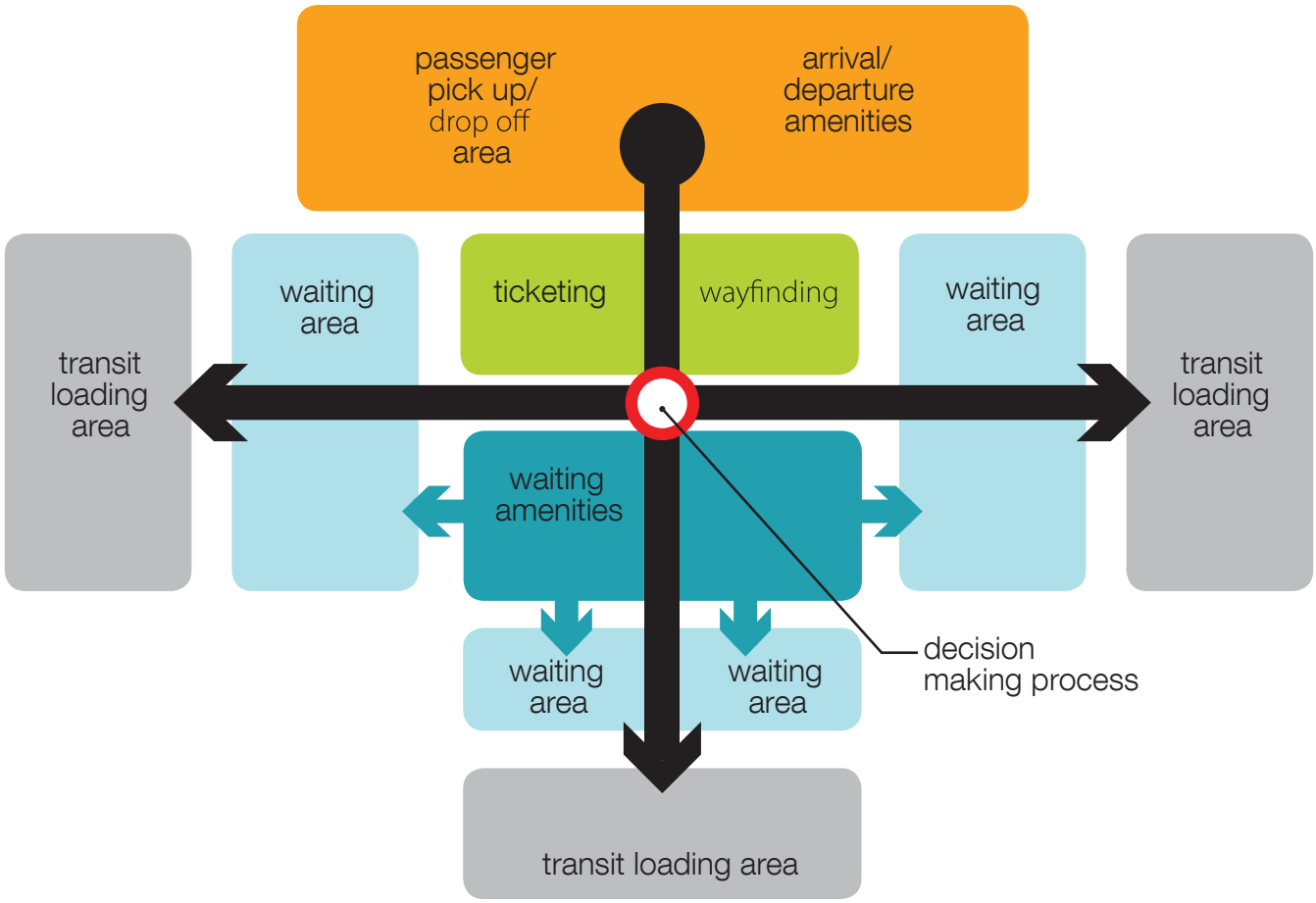
Table 10 Daily transit usage percentages on Bellevue's arterials in 2010 and 2030 for each of the transit passenger per day arterial categories evaluated.

Category (Pax/Day)	Corridor Characteristics	
	2010	2030
1 – 2,000	71%	45%
2,000 – 6,999	24%	33%
7,000 – 14,999	5%	15%
15,000 or more	0%	7%

provide improved bus service to areas where ridership may be low must be weighed against the cost of providing transit service elsewhere in the network. Figure 57 and Figure 58 on page 80 reflect daily transit usage patterns on Bellevue's arterials, for both 2010 and 2030 conditions respectively. Table 10 summarizes the information in these figures showing the percentage increase anticipated in each of the transit passenger per day arterial categories evaluated. To minimize the cost of creating timed-transfers between bus and LRT, it is essential that bus service enhancements be carefully phased so that they do not draw resources away from more profitable routes.

The design and quality of bus/rail connections at East Link stations will also have a significant influence on overall transit use in Bellevue. To gain maximum efficiency, transfers must be seamless and coordinated (see Figure 56). Convenient transfers from light rail stations to the bus network can

Figure 56 A rational progression of facilities with clear and direct routes that take passengers from their arrival point to their mode of transit with few decision-making points will help people to find their way around the station quickly and easily.



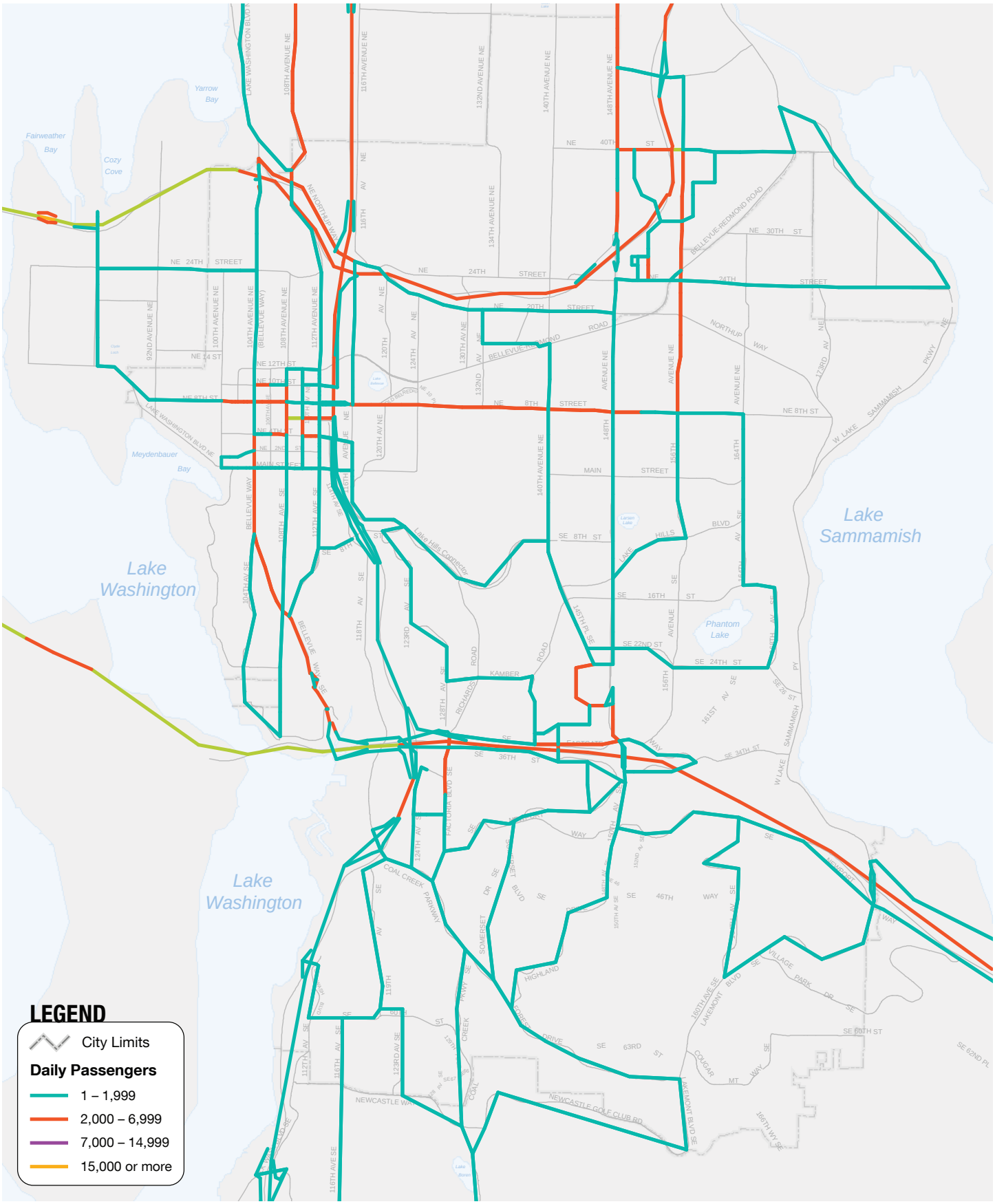


Figure 57 Daily transit usage patterns on Bellevue's arterials in 2010 by transit passenger per day arterial categories.

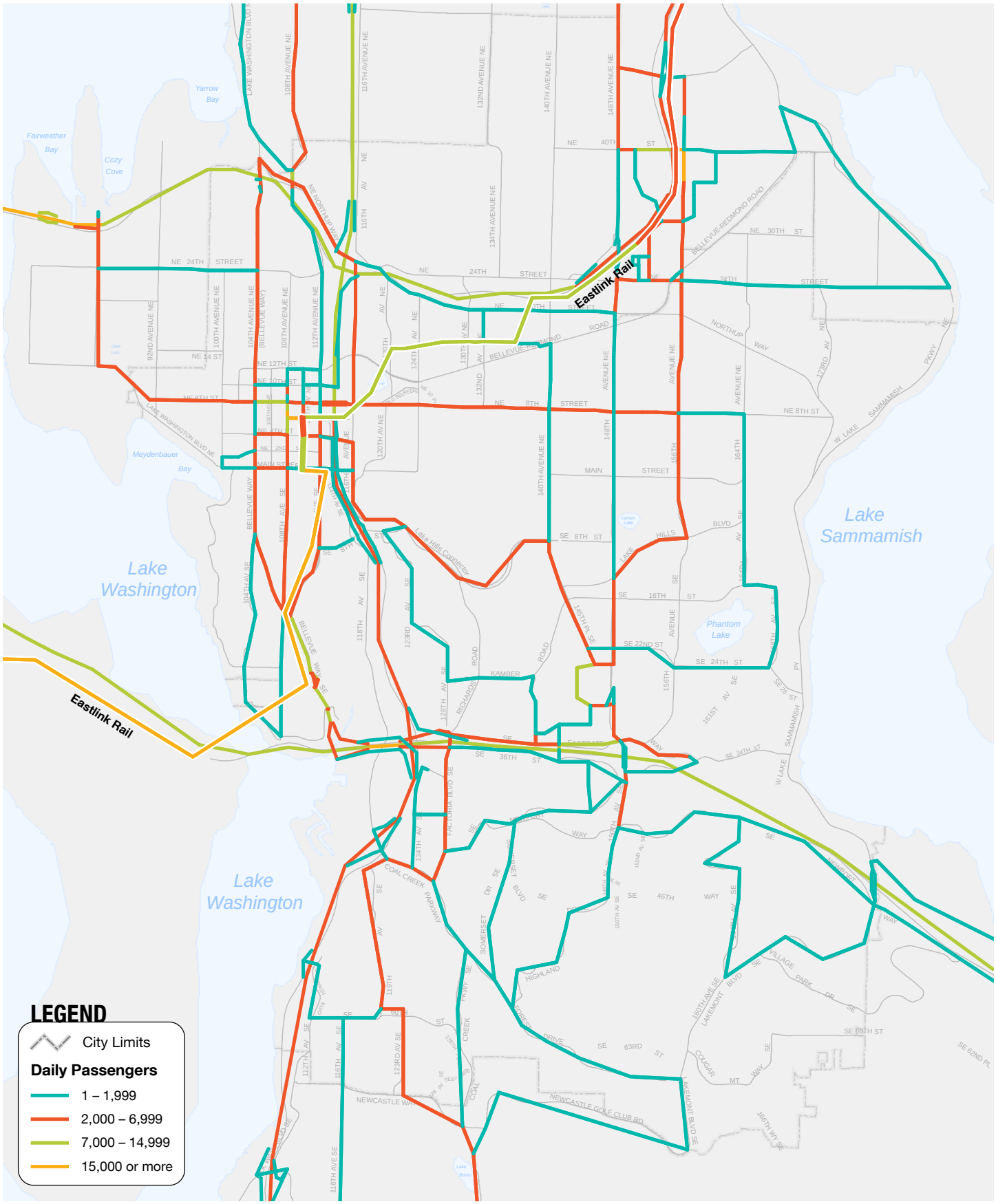


Figure 58 Daily transit usage patterns on Bellevue's arterials in 2030 by transit passenger per day arterial categories (derived from BKR model platform MP30r6.2 with transit routes defined in the 2010 East Link Bus/Rail Integration Plan).

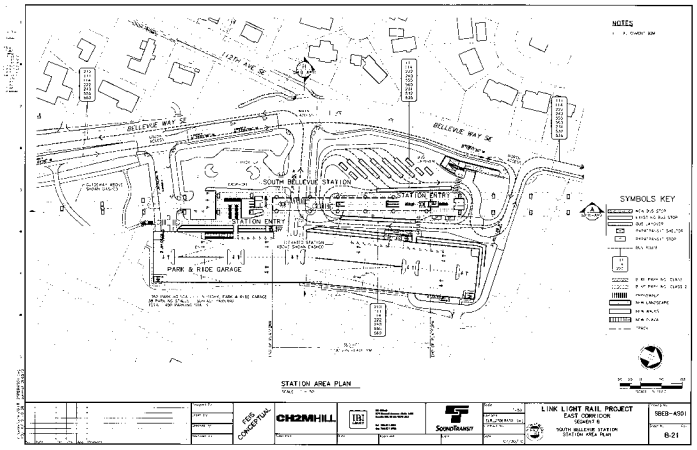
effectively extend the reach of the regional transit system by providing the crucial "last mile" connection to the ultimate destination (see Figure 59).

In anticipation of East Link, the Bellevue City Council established a Light Rail Best Practices Committee in 2007 to review "best practices" for implementing light rail in other North American cities and apply those "lessons learned" to Bellevue. The outcomes of this effort is the *Light Rail Best Practices Project (Final Committee Report)* which articulates the City's standards and expectations for the design, construction, and operation of light rail within the city of Bellevue.

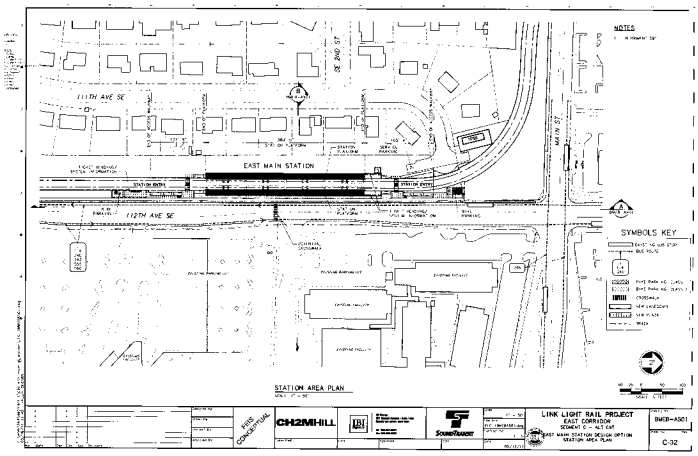
The Light Rail Best Practices Report acknowledges that a "complementary bus transit system that delivers riders to the light rail system provides a backup to service interruptions, can reduce parking need at light rail stations, and can introduce more activity to stations." In recognition of these access considerations, the Bellevue City Council adopted the following Comprehensive Plan policy language: "Provide reliable access to the system for Bellevue residents in cooperation with local and regional transit providers, by ensuring that adequate existing and new park and ride lot capacity, neighborhood bus connections and local and regional express bus services are available." (Policy TR-75.27)

Figure 60 on page 82 reflects bus/rail integration assumptions at Bellevue's stations. Table 11 on page 83 documents the assumed number of bus stops, bays, and layover spaces; para-transit stops and layover spaces; and, passenger drop-off zones. All of these assumptions will be considered in the Transit Service Vision Report which will assess the sufficiency of service routing and scheduling assumptions and planned bus accommodations at East Link stations and identify opportunities to enhance service delivery and the rider experience when transferring between the local and regional transit network at East Link stations in Bellevue.

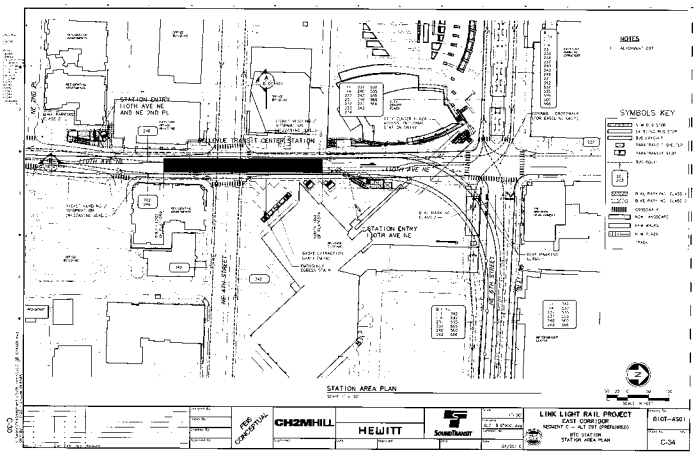
Figure 59 Bus stops in close proximity to light rail stations with short, direct pedestrian crossings make transit and pedestrian connections safe and convenient.



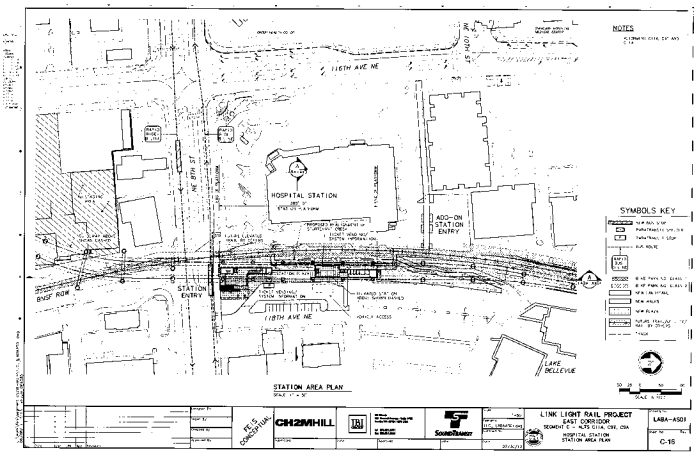
SOUTH BELLEVUE PARK & RIDE



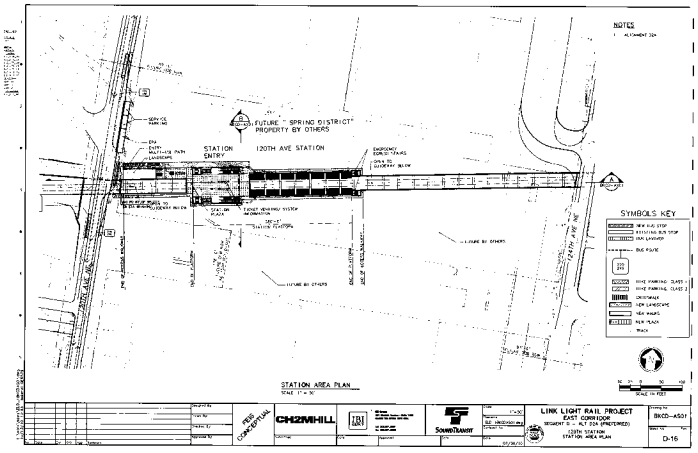
EAST MAIN STATION



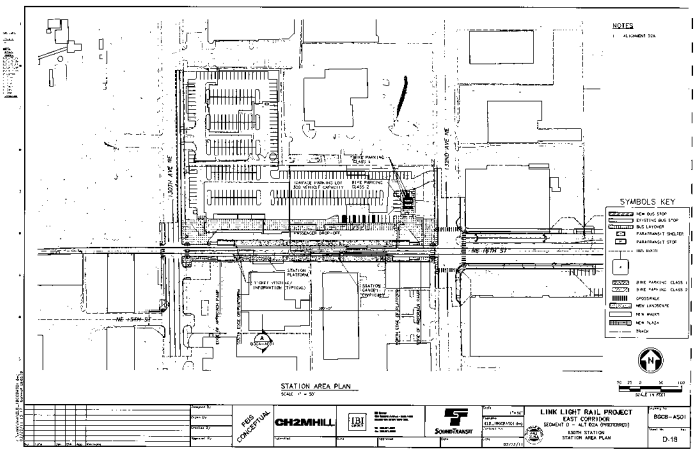
BELLEVUE TRANSIT CENTER



HOSPITAL STATION



120TH STATION



130TH STATION

Figure 60 Bus/rail integration assumptions at Bellevue's stations.

Table 11 Assumed number of bus stops, bays, and layover spaces; para-transit stops and layover spaces; and, passenger drop-off zones.

Station	Page #	Bus		Paratransit		Passenger Drop-off	Notes
		Bus Stops or Bays	*Layover Spaces*	*Stop*	*Layover Spaces*		
South Bellevue (Park & Ride)	B-21	2 x 180' spaces for bus stops/bays.	5	2	5	Yes – designated off street "kiss and ride" parking spaces.	Number of bus bays has not been specified at this stage.
East Main	C-32	3 – southbound on 112th Ave SE, northbound on 112th Ave NE, north of Main St; westbound on Main St, west of 112th Ave. Eastbound stop on Main St east of 112th shown on plan has been eliminated due to Route #246 reroute.	None	None – paratransit accommodated at South Bellevue and Bellevue Transit Center.	None	Yes – not shown but expected to have northbound and southbound pullouts on 112th Ave SE adjacent to station.	Location of pullouts for passenger drop off will be decided during final design.
Bellevue Transit Center	C-34	12 bus bays (including 2 on-street at 110th Ave NE/NE 6th St) – same as existing layout. Total includes 1 paratransit bay that currently is also used as a drop-off point for incoming routes.	None shown – currently some layover at bays during off-peak hours.	None shown – existing transit center has 1 paratransit stop.	None	None	C9T station plan shown as outlined in City/Sound Transit MOU – an optimized version of this layout and an alternative with platforms outside of tunnel adjacent to NE 6th St are being evaluated.
Hospital	C-16	2 (on-street) RapidRide – westbound adjacent to station plaza. Eastbound RapidRide stop on south side of NE 8th St.	None	1	None	Yes – off-street vehicle access area to accommodate passenger drop off needs.	Future BNSF regional trail to include a grade separated crossing of NE 8th St adjacent to station that will improve access to eastbound RapidRide stop.
120th Ave NE	D-16	2 (on-street) – northbound stop shown with pull out. No existing bus service on 120th Ave NE.	None	None – paratransit accommodated at Hospital Station and Overlake Transit Center.	None	None shown – early concept by developer (Wright Runstad) had a drop off area along new NE 15th St south of light rail platforms.	Final station design is subject to an agreement between Sound Transit and the Spring District developer.
130th Ave NE (Park & Ride)	D-18	None – no existing bus serves station site, no new service anticipated.	None	None – paratransit accommodated at Hospital Station and Overlake Transit Center.	None	Potential drop-off area on street. Located to be determined during final design.	City's long term plan is to construct NE 16th St so that the station is in the median.

FUTURE ROADWAY INVESTMENT

As Bellevue's population is projected to grow by approximately 28,000 residents and 54,000 jobs by 2030, the increased demand from growth could outpace available transportation capacity. Bellevue is responding to planned employment and residential growth with a number of transportation strategies including the NE 4th Street extension and 120th Avenue NE widening projects which will improve mobility between Downtown Bellevue, the Bel-Red corridor, and the Overlake area. Together with the NE 6th Street extension project (funded for conceptual design), these projects will balance circulation throughout the existing downtown grid by drawing traffic away from NE 8th Street and other roadways accessing/crossing I-405 (see Figure 61).

Infrastructure investments, like the NE 4th Street extension and 120th Avenue NE widening projects, that improve the average speed of coaches on city streets, will result in improved provision of cost efficient and effective bus transit service and potential

Figure 61 Visualization of NE 4th extension project looking Northeast from 116th Avenue NE.

for increased ridership. Nine Metro routes (230, 233, 234, 249, 253, 261, 271, 272, and 921) providing more than 420 daily trips crossing I-405 between Downtown Bellevue and points east will also benefit from the project. The arterials with improved rates of travel include NE 8th Street (5 routes), NE 12th Street (2 routes), Main Street (1 route) and the existing portion of NE 4th Street (1 route).

The NE 4th Street extension and 120th Avenue NE widening projects, and other capacity projects detailed in the City's 2013-2024 Transportation Facilities Plan (TFP) are part of a balanced strategy to address congestion, operate existing roadways efficiently, manage demand, and add capacity strategically. The city's TFP is a 12-year, or intermediate-range, transportation planning document that includes recommended roadway project improvements that have the potential to improve the average speed of coaches on future roadways in Bellevue (see Figure 62 on page 86). A table describing each of these projects is found in Appendix A on page 103. Items shown in red in Figure 62 on page 86 are capacity improvements anticipated to be open for use by the end of 2024 (links in pink are capacity improvements to be completed beyond 2024; links in blue are non-capacity projects). It should be noted that the TFP update is presently underway and will not be adopted by the City Council until June 2013.

The following is a sampling of TFP projects that could improve bus operations on Bellevue's streets.

- TFP-242: Bellevue Way HOV lane/ 112th Ave SE "Y" to I-90 and multiuse path/ SE 8th Street to I-90. Originally considered in the 2003 Bellevue Transit Plan (see *page IX-29*) this concept is revisited in the joint City of Bellevue and Sound Transit publication of the *September 2012 Cost Savings Work Plan Findings* (see Figure 63 on page 87 for project visualizations).
- TFP-252: Snoqualmie River Rd/ Kelsey Creek Rd to the Bellevue College southwest entrance (also

"Increase HOV lanes for buses to use to get around rush [hour] traffic, [and] prioritize signals to allow buses to move through congested areas faster."

Daryl, All-Around Transit User
Resident of Bellevue

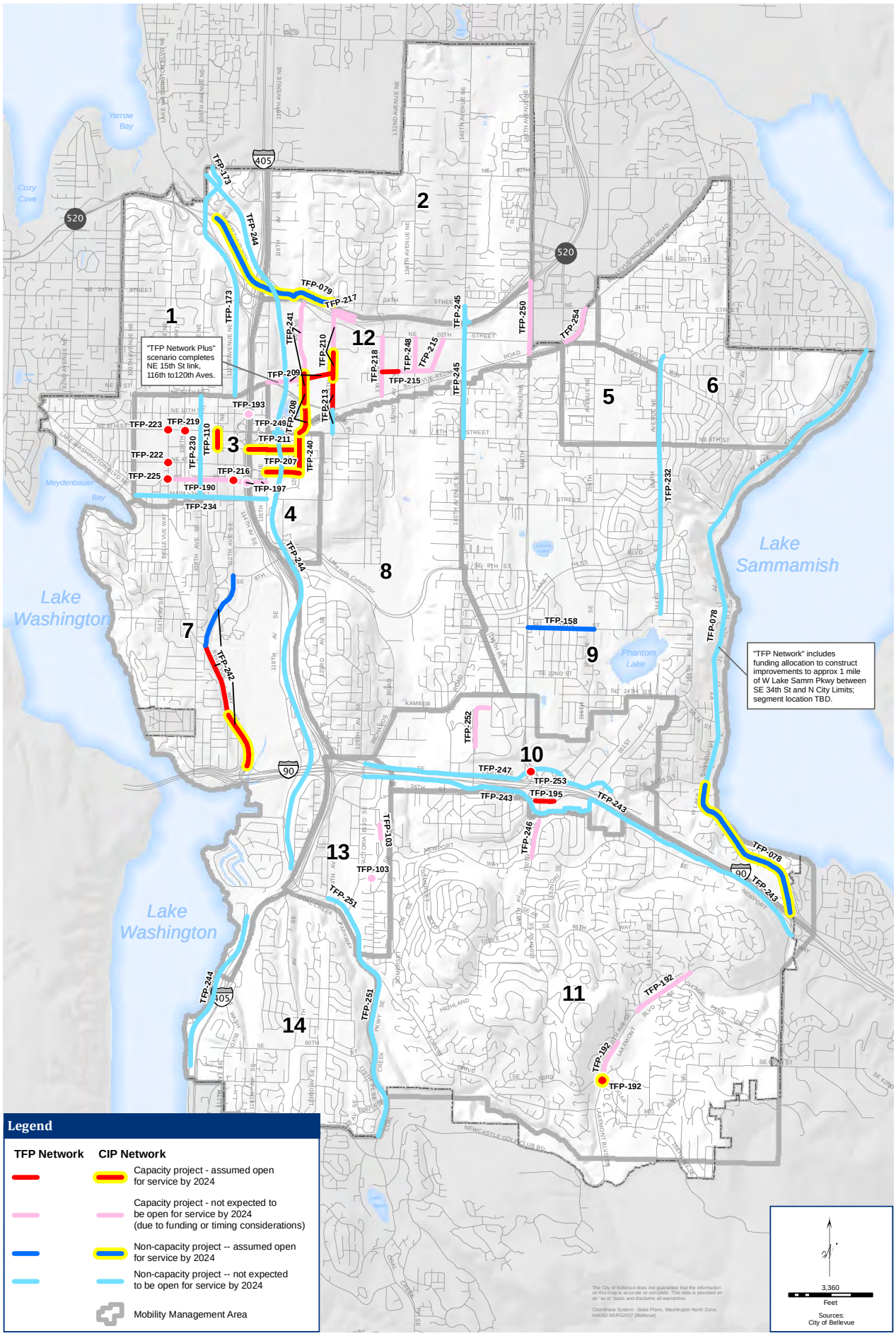


Figure 62 2013-2024 Transportation Facilities Plan EIS Network Alternatives.

described on pages 29-33 of the Eastgate/I-90 *Transportation Strategies Report*). The redesign of the 142nd Place SE bridge structure and Snoqualmie River Road on the west side of the Bellevue College campus will create a transit emphasis corridor that provides convenient pedestrian and bicycle connections to the Mountains-to- Sound Greenway Trail south of I-90, the Eastgate Park & Ride on the north side of I-90, and Bellevue College. A revised transit network concept would leverage this corridor improvement directing increased levels of bus service to the Eastgate transit-oriented development, an all-day destination (see Figure 64 for 142nd Place SE bridge structure project visualization).

- TFP-211: NE 6th Street Extension. This project will extend NE 6th Street from the I-405 HOV interchange to 120th Ave NE. The facility will be designed to accommodate multiple uses, including HOV, transit, general purpose and non-motorized. Conceptual design alternatives have been completed to coordinate with WSDOT's

Figure 63 Bellevue Way HOV lane/ 112th Ave SE "Y" to I-90 (TFP-242) looking south.

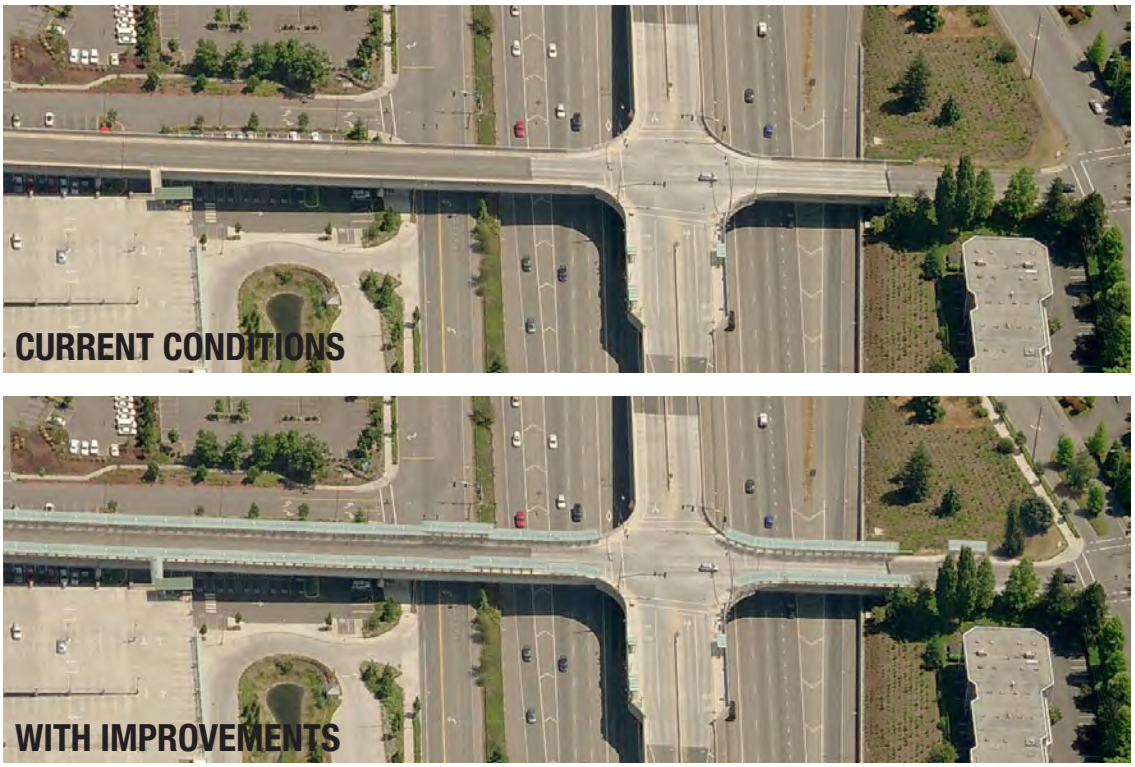


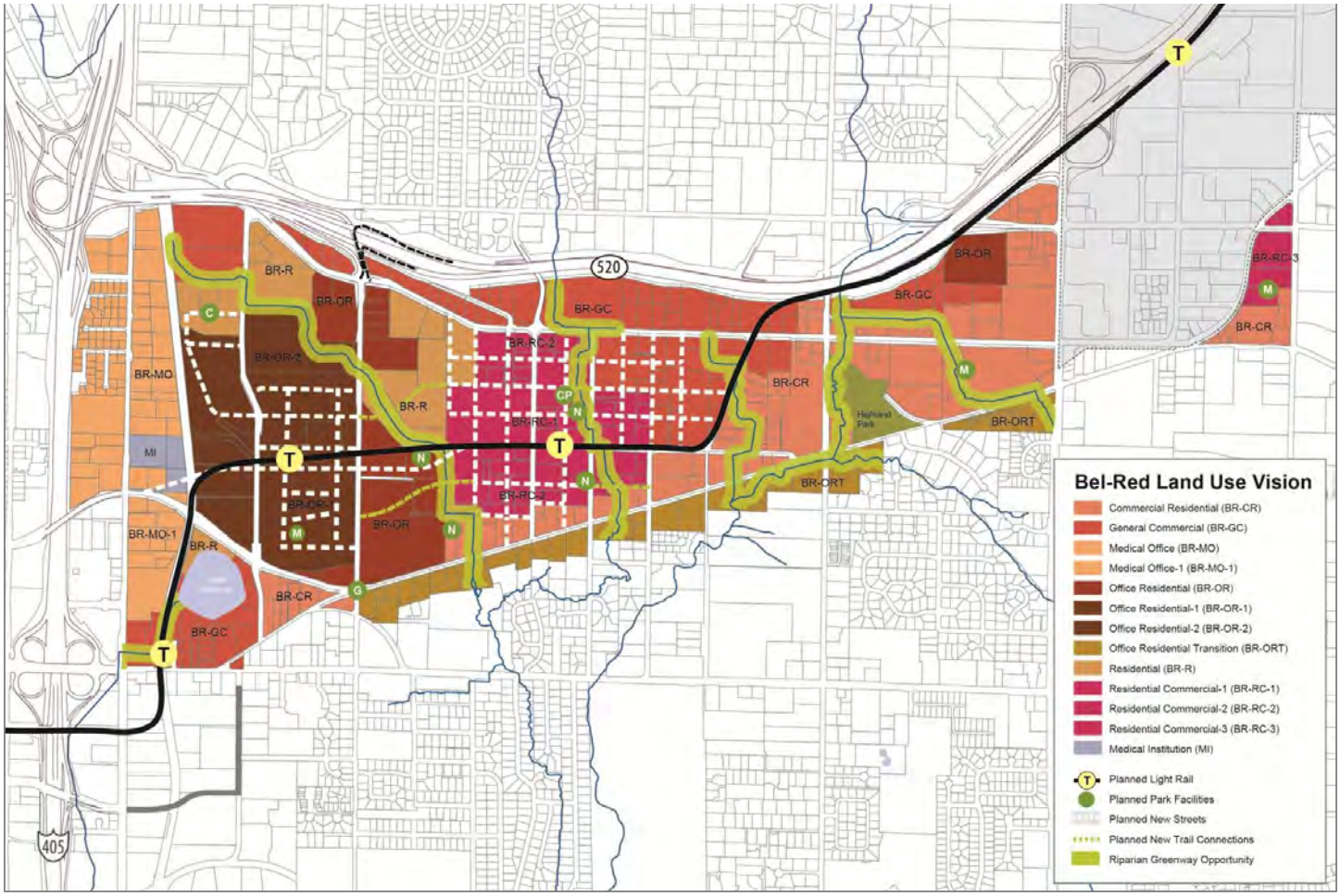
Figure 64 A visualization of the proposed 142nd Place SE Bridge improvement; a component of the transit emphasis corridor concept supporting the Eastgate TOD vision.

I-405 improvements and Sound Transit's East Link route. Additional information: *http://www.ci.bellevue.wa.us/ne-sixth-street-extension.htm*.

- Bel-Red Corridor Projects. There are numerous TFP projects (TFP-208, TFP-209, TFP-218, TFP-210, TFP-213, TFP-215, TFP-218, TFP-241, TFP-244, TFP-248) associated with the *Bel-Red Area Transformation* which will accommodate about 7,500 in population and 9,700 new jobs by 2030. Higher density, compact development will be the focus of new neighborhoods, organized around transit stations and connected by East Link that spans the corridor (see Figure 65 for Bel-Red Corridor Projects).

All of these future roadway projects will be considered in the Transit Service Vision Report which will identify how best to leverage these investments to enhance service delivery and the rider experience.

Figure 65 Reflects Bel-Red Land Use with local street system grid.



FUTURE TRANSIT INVESTMENT

Transit usage in Bellevue is projected to increase threefold by 2030. The demand modeling underpinning this statistic is based on service increases outlined in the 2010 East Link Bus/Rail Integration Plan; as presently configured, the current bus network is not equipped to support this anticipated demand. For example, more frequent bus service is needed to support population and employment growth in rapidly developing areas like Downtown Bellevue and the Eastgate/I-90 corridor; areas of redevelopment in the Bel-Red corridor will require the introduction of completely new services; and, the implementation of the East Link light rail line requires that nearby bus services be adjusted. A challenge for Sound Transit and King County Metro is how to provide the long-range certainty that Bellevue, and other jurisdictions in the region need, in an uncertain financial environment.

The Bellevue Transit Master Plan (TMP) is timely in the current environment where King County Metro's financial outlook is uncertain, and service cuts and fare hikes are a real possibility. By approving a temporary $20 vehicle license fee in 2011 to supplement declining revenues, the King County Council avoided an estimated 600,000 annual bus service hour reduction over 2011-12, or 17% of the entire system – the rough equivalent of eliminating all rush hour bus service for commuters, or all weekend service in King County.

The $20 temporary "Congestion Reduction Charge" funding measure does not fully address longer term financial challenges. Metro's heavy reliance on sales tax, which accounts for 62% of its operating revenue, means that it continues to be vulnerable to poor economic conditions after the 2012-2013 biennium. Stable long-term funding is necessary to enable Metro to maintain service and meet the public transportation needs of the region's

"Protecting frequency and reliable route coverage [is] necessary if a transit system is to move forward. Cutting schedules and routes weakens ridership potential for years to come. If it isn't convenient, people will either keep using their cars or go back to using them. So, tax away if necessary."

Anonymous All-Around Transit User
Resident of Bellevue

growing population. At this time, the Washington Governor, Legislature, and other regional leaders are considering funding options for transportation needs throughout the state, including transit.

Figure 66 shows three potential future scenarios for transit service hour delivery in King County. It should be noted that: (1) the transit service needs are only conceptual and relate to the change in total system hours; (2) King County has not attempted to distribute these hours into any sub county geography; (3) the rate of change for any area may differ dramatically from the growth rate for the county as a whole; (4) current guidance for service growth comes from the King County Metro Strategic Plan and Guidelines; (5) the 2011 Service Guidelines Report identifies underserved corridors and existing service quality needs; and, (6) additional guidance about how Metro would allocate future resources is a topic of discussion that will be addressed, at least in part, in the 2013 Strategic Plan and Service Guidelines update.

Figure 66 King County transit service scenarios.

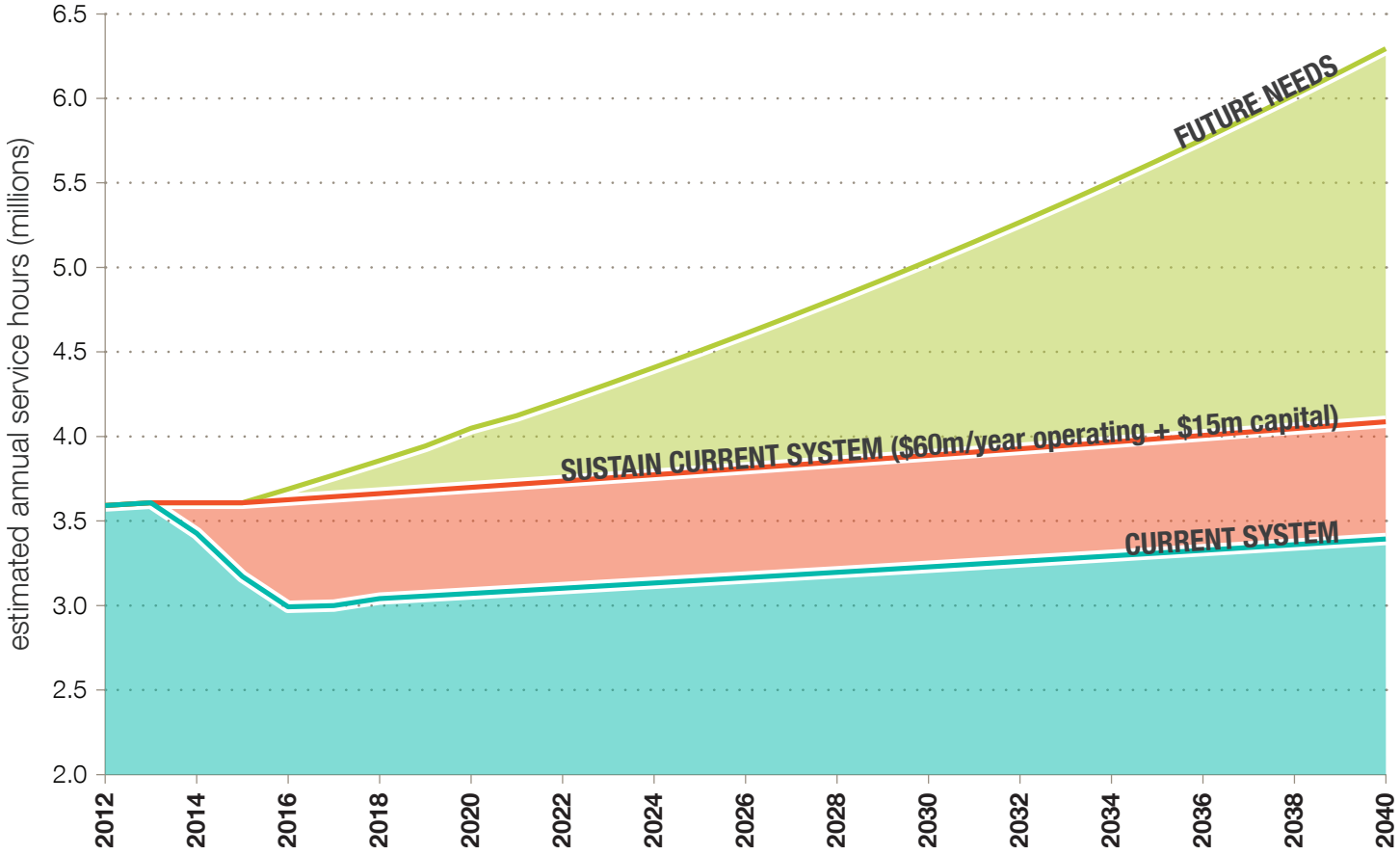


Table 12 reflects the various growth rates associated with the service scenarios depicted in Figure 66. The reduction scenario begins growing in 2016 after being reduced to approximately 3 million hours. The stable and growth scenarios are assumed to begin growing in 2015.

Scenario	Growth Rate	Est. 2013 Hours	Est. 2020 Hours	Est. 2030 Hours	Est. 2040 Hours
Reduction	0.5%	3,610,000	3,070,000	3,230,000	3,390,000
Stable	0.5%	3,610,000	3,700,000	3,890,000	4,090,000
Growth	2.25%	3,610,000	4,030,000	5,040,000	6,290,000

Table 12 King County transit service scenarios.

It is hard to predict the future of transit funding, but one thing is certain – there are real and significant challenges ahead, not only to expand service, but also to maintain current service levels and quality. Achieving the 20-year plan for transit set forth in the Bellevue TMP will be challenging in this funding context.

Bellevue's Commitment

Bellevue's Comprehensive Plan acknowledges that responding to anticipated growth in travel necessitates a multi-modal transportation solution that offers the public real choices about how they travel within, to, and through Bellevue. Comprehensive Plan Policy TR-50 directs the Transportation Department to "work with transit providers to implement the Bellevue Transit Plan as an attractive travel option for local residents, employees, students, visitors, businesses and other users of regional facilities." This policy, along with others in the City's Comprehensive Plan, highlights Bellevue's recognition that enabling people to substitute single occupancy vehicle trips for transit trips has the potential to convey multiple public benefits such as: increased transportation options; improved safety for all road users; reduced growth of traffic congestion; decreased air, water, and noise pollution; support for climate change emission reduction goals; and stimulation of the local economy (see Figure 67 on page 92).

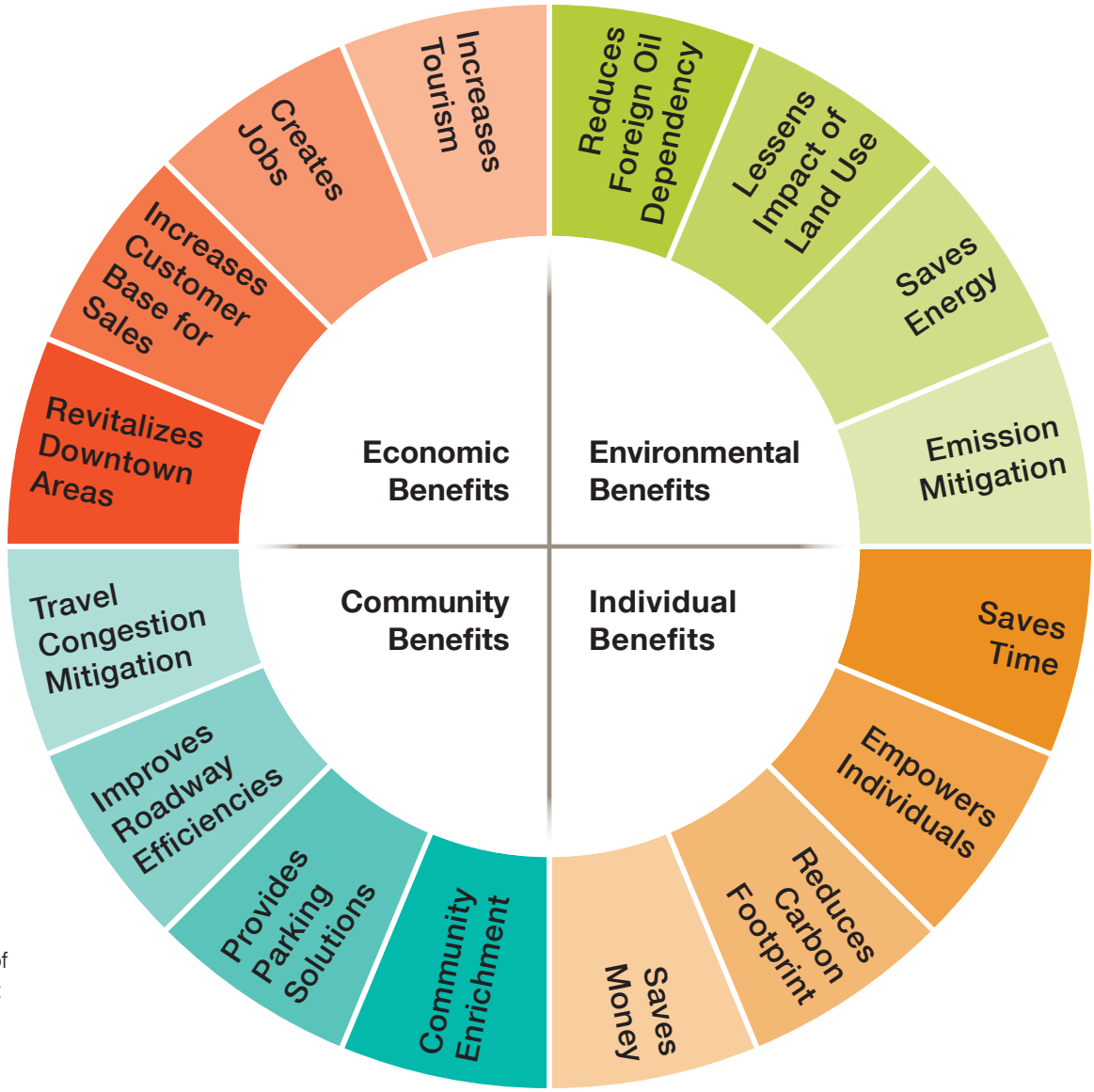


Figure 67 Considering the range of ways that transit engages with some of the most pressing challenges of our time, support for transit is likely to increase in the future.

The City of Bellevue's transit supportive policy framework is responsive to the City's 2012 Budget Survey finding that 83% of Bellevue residents agree that the City should "work with regional agencies to improve local and regional public transportation serving Bellevue." In the 2012 Budget Survey, and all previous City budget survey efforts, public support for transit consistently ranks the highest across an array of transportation strategies on how to handle traffic and congestion in Bellevue. It is in this context that the City of Bellevue has a long tradition of partnering with Metro and Sound Transit to realize transportation improvements (both service and capital) that improve the operation and success of transit in Bellevue.

Service Partnerships

For the level and quality of public transport services to continue to improve in Bellevue, there will need to be real improvements in reliability, speed of travel, service frequency, and ease of use. Pursuit of future service partnerships is consistent with past practices as outlined below.

- **Metro/Bellevue Incentive Service Agreement** – Established as a pilot program in 1981, this transit service incentive agreement with King County Metro allowed Bellevue to earn 10,000 additional bus hours during a two year period by reducing parking ratios and increasing employment densities in its downtown area. To reduce parking ratios, Bellevue adopted a new zoning code that set a maximum of three parking spaces per 1,000 square feet of new office space, compared with the previous ordinance which required a minimum of 3.3 spaces per 1,000 square feet. Additionally, Bellevue increased employment density by 3.7 employees per acre at the end of the second year. This landmark agreement was the recipient of the International Downtown Association's achievement award in recognition of its success at "linking transit service to land use, the key in determining transit productivity."
- **Speed and Reliability Partnership Agreement** – Established in 2008, this agreement with King County Metro and the City of Redmond supported the 2011 implementation of the RapidRide B line that links Downtown Bellevue with Crossroads, Overlake, and Downtown Redmond. The partnership encouraged the cities of Bellevue and Redmond to enhance transit speeds by 10% (through the delivery of transit signal priority and capital improvements) for routes operating in the RapidRide corridor. In exchange for implementing such improvements,

"Eliminate free parking and have parking rates based upon time of day demand. Eliminate codes that tell developers how many spaces are required. Toll all of SR-520 and I-405 and I-90."

Jim, All-Around Transit User
Resident of Bellevue

Metro agreed to add up to 5,000 annual service hours for each core route in the partner's jurisdiction. There were two core routes, the 230 and 253, on the Bellevue-Redmond Rapid Ride route, making the cities eligible for up to 10,000 award hours.

- **Direct Financial Partnership Agreement** – Authorized by the Bellevue City Council in 2008, the downtown circulator service agreement with King County Metro details the transit service, supportive actions, and cost sharing to be undertaken in an on-going effort to enhance transit options in Downtown Bellevue. Under the terms of the agreement, the City is required to contribute one-third of the cost ($3,656,000) of a downtown circulator service for at least five years; King County pays the other two-thirds. Due to financial considerations and slowed downtown growth, both the City of Bellevue and King County Metro have deferred implementation of this direct financial partnership agreement.

Capital Partnerships

Since the adoption of the 2003 Bellevue Transit Plan, hundreds of millions of dollars in HOV access ramps, transit centers, Park & Ride lots, and speed and reliability projects were completed in Bellevue in support of transit. Figure 68 reflects the array of transit capital projects completed since 2003 including:

- Bellevue Transit Center – In 2003, Sound Transit expanded the Bellevue Transit Center to include ten bus bays, shelter improvements and rider amenities. Additional bus stops and roadway improvements on 108th Avenue NE, 106th Avenue NE and east of the transit center on Northeast Sixth Street have improved transit and traffic flow in Downtown Bellevue and enable more than 100 buses during peak periods to move efficiently through the transit center. *Total*

Eastgate Park & Ride Expansion

I-90 Two-Way Transit HOV

Eastgate Direct Access Ramp

Bellevue Transit Center

RapidRide B Line

Access Downtown

Figure 68 Looking to the future, these capital projects in support of transit will be dwarfed by the upcoming investment in the East Link light rail extension from Seattle to Bellevue.

funding: $16 million.

- Eastgate Park & Ride – In 2004, King County expanded the Eastgate Park & Ride from a 696 stall facility to a structured complex that can accommodate 1,646 vehicles. In spite of the large number of parking spaces, the Eastgate Park and Ride is already at capacity with a utilization ratio of 97% (Second Quarter 2012). *Total funding: $27 million.*
- Bellevue HOV Access Project (Access Downtown) – Completed in 2005, the Bellevue Access HOV project makes it easier to travel in an out of Downtown Bellevue from the freeway. The project provides a new interchange on I-405 at Northeast Sixth Street for buses and carpools, giving buses direct access to the expanded Bellevue Transit Center. It improves freeway interchanges at NE 4, NE 8, and SE 8 streets including improvements to nearby city street intersections. *Total funding: $144 million.*
- Eastgate Transit Access Ramps – WSDOT and Sound Transit partnered in 2006 to complete the Eastgate Transit Access to connect the existing

"Increase parking fees at all lots and street parking in Downtown Bellevue substantially. Use the money to fund transit while also inspiring people to shift to transit."

Alan, Commute to Work Transit User
Resident of Bellevue

142nd Place SE bridge to the I-90 HOV lanes. The addition of two ramps (one on the east and one on the west side of I-90) allows a direct connection for bus and HOV users to 142nd Place SE and the Eastgate Park and Ride without having to cross the general lanes to exit the highway. *Total funding: $19 million.*

- I-90 Two-Way Transit & HOV Operations – WSDOT and Sound Transit are working together to improve on-time reliability and access for transit and HOV on I-90. The project will provide full-time HOV lanes for eastbound and westbound traffic on the outer I-90 roadways and will retain the existing reversible lane operations in the center roadway until East Link light rail construction is ready to begin. HOV direct access on- and off-ramps will enable buses and carpools to access the HOV lanes without crossing other lanes of traffic. The project is being implemented in three stages; stages 1 and 2 were completed in 2008 and 2012 respectively. The third and final stage is in design; 2015 is the expected completion date on construction. *Total funding: $188 million.*

"Create revenue by selling more advertising on buses and stops/stations."

Bart, All-Around Transit User
Resident of Bellevue

- RapidRide B – King County Metro's RapidRide B Line started running between the Downtown Bellevue and Redmond Transit Centers via Crossroads and Overlake in 2011. Customers enjoy enhanced frequencies (service at least every 10 minutes during the busiest morning and evening travel hours and 15 minute service during off-peak periods), real time bus arrival signs, well-lit shelters, and speed and reliability enhancements offered by transit signal priority (TSP) improvements that helps synchronize traffic signals with an approaching RapidRide bus. *Total funding for roadway improvements, communication network, stations and stops and associated amenities: $10 million.*

Future Opportunities

The Bellevue TMP builds on the successes of the City's 2003 Transit Plan by helping the City preserve and enhance the existing bus system and leverage partnerships with regional transit agencies. The TMP aims to maximize the return on investment on existing and anticipated public transportation projects by coordinating with local and regional transit efforts to identify the types of service and capital features required to meet Bellevue's needs today and through 2030.

Success in the future will require new funding sources, stronger partnerships with public transportation providers, and increased involvement of private sector partners to fund and expand Bellevue's transit service offerings. To secure additional funding, the City may also want to: (i) renew and seek new local funding sources to implement TMP capital and service priorities; (ii) work with partners to lobby for new transit funding mechanisms such as tax increment financing, dedication of tolling revenues, and other locally- or regionally-based transit funding sources; (iii) create partnerships and leverage private investment to help fund priority capital investments; and, (iv) continue to aggressively seek federal and state grants, in coordination with other transit agencies, to maintain, improve, and expand Bellevue's transit service and facilities.

"Region-wide tolling with some supplement to transit."

Ryan, Commute to Special Events Transit User Resident of Bellevue

MARKET DRIVEN STRATEGIES

Encouraging long-term ridership growth involves building capacity to meet future demand for transit service by: (i) providing service where there is anticipated to be high ridership, typically where there is some mix of: higher residential or commercial density; major activity centers; and, measures that discourage driving, such as limited parking; (ii) building and supporting Park & Ride facilities that help people access the transit system; (iii) improving the way people make transit connections so they can reach more destinations in less time; and, (iv) investing in speed and reliability enhancements such as transit priority measures and BRT. Transit Master Plan Forum participants (see Figure 69) spoke of the need to make the following types of strategic investments to grow ridership:

- "If you look at the demand for Downtown Bellevue, there's a much greater flow North-South, not East-West. We need Bus Rapid Transit on I-405." – *Scott Lampe, Transportation Commission*
- "I favor setting up high-ridership corridors for transit that serve high density areas." – *Dallas Evans, Parks & Community Services Board*
- "Until 2030, we'll just keep getting denser around East Link nodes…. If parking is free, people will use it…. If you don't build the parking, and if you have good transit, people will use it." – *Hal Ferris, Planning Commission*

"Streamline Metro routes such that there are minimal redundancies, like [the] RapidRide B Line has done. However, when reducing redundancies, please provide more frequent trips for the buses that run the route."

Jason, Commute to School and Social Transit User Resident of Bellevue

Figure 69 Bellevue Board and Commission members who participated in the Transit Master Plan Forum on September 18, 2012 agreed that "We need to make strategic investments to support future development and growth in ridership."

> **"The RapidRide B Line is impossibly slow once it gets close to downtown. That bus should have the right of way and traffic signal priority downtown because without it, cars cut it off in rush hour and it is much faster to walk."**
>
> *Kristen, Non-Commute Transit User*
> *Resident of Bellevue*

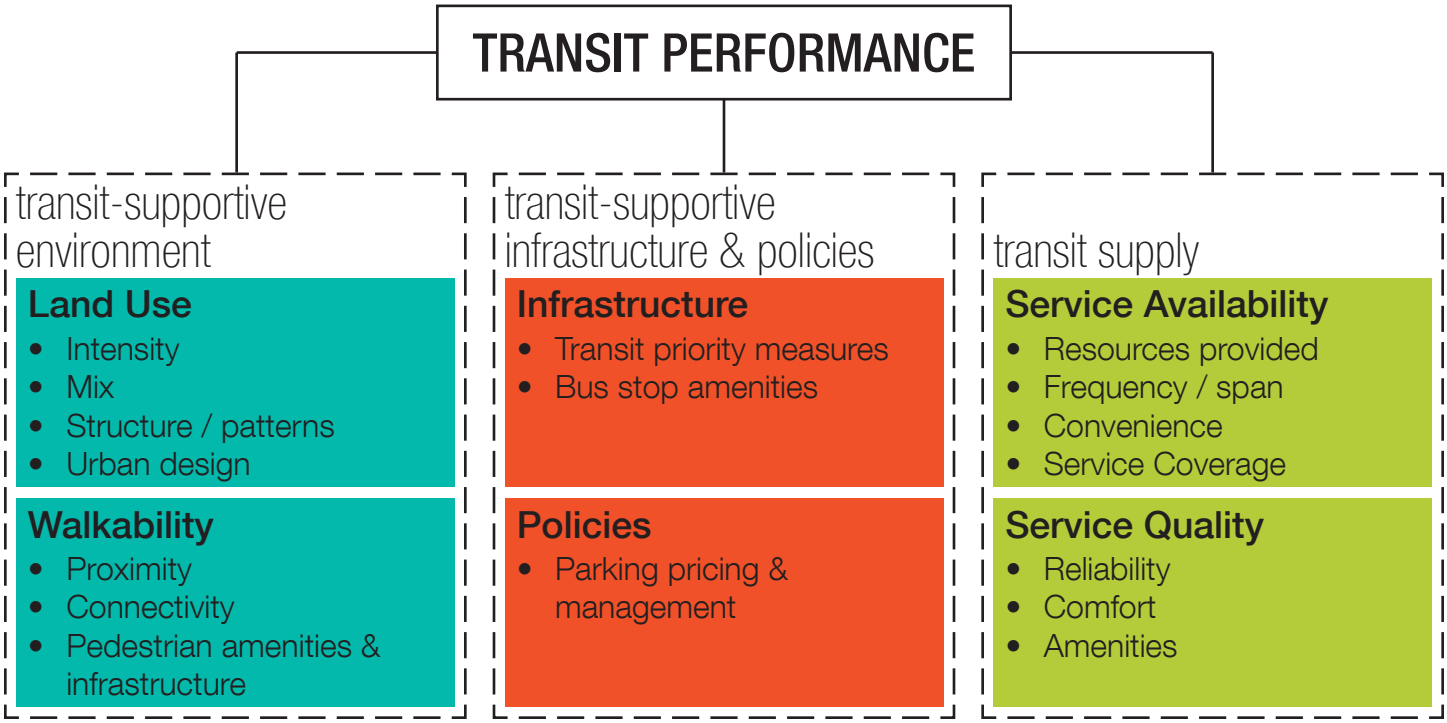
- "RapidRide is a success. Maybe look at doing one along Bellevue Way." – *Aaron Laing, Planning Commission*

Given Metro's focus on creating a more efficient and productive transit system, the Bellevue Transit Master Plan will need to develop strategies that align the City's interests and priorities with Metro's Strategic Plan and associated Service Guidelines. In this context, it is important to develop a transit service vision for Bellevue that makes better use of the region's limited resources as efficiently and effectively as possible.

To enhance transit performance in Bellevue it will be critical to integrate the provision of enhanced transit supply with a supportive land use environment and land use mix together with enhanced transit passenger and walking amenities, as well as transit supportive infrastructure (see Figure 70). These can be thought of as demand factors for transit and they are closely related to one another and can mutually reinforce each other.

On the transit supply side, the overall vision is for transit service to increase over time to have a larger portion of Bellevue's population and jobs located

Figure 70 Factors affecting transit performance.



within walking distance of the network as well as for its frequency and quality of service to increase as demand increases. The result would be more origins and destinations being able to be accessed on the network and more of Bellevue's population, jobs, and activity areas being served by the network.

The findings presented in this Existing and Future Conditions Report will inform the development of short- and long-term policies, programs, and projects that help foster a high-quality transit system that is easier, more effective, and more enjoyable for residents, employees, and visitors in Bellevue. The specifics of these market driven strategies will be detailed in the Transit Service Vision Report.

APPENDIX A:
TFP PROJECT LIST

	2013-2024 TFP Project #	MMA	Project Name, Location, & Limits	Project Description	Project type	Project Element(s) Proposed for 2013-2024 TFP	Proposed TFP Funding Allocation ($000)	Cumulative Cost ($000)	X = Capacity Project	IF = Include in Impact Fee Project List	Impact Fee Project Cost ($000)
1	TFP-207	4	NE 4th Street Extension / 116th Avenue NE to 120th Avenue NE	Construct a new 4/5 lane arterial with two vehicle lanes in each direction and center turn lane where necessary, bike lanes, and sidewalks on both sides. Project will be designed not to preclude potential future uses of the BNSF RR corridor. Neighborhood traffic mitigation will be evaluated to discourage cut through traffic on NE 5th Street east of 120th. This project will be coordinated with potential private development in the immediate vicinity.	Roadway & Ped-Bike	Full implementation	31,100	31,100	X	IF	31,100
2	TFP-240	4	120th Avenue NE improvements (stage 1)/ south of NE 4th to south of NE 8th Street	Widen to five lanes, including two travel lanes in each direction, with center turn lane, turn pockets and medians. Bike lanes, curb, gutter and sidewalk both sides. Install signal at NE 6th St.	Roadway & Ped-Bike	Full implementation	7,500	38,600	X	IF	7,500
3	TFP-208	4, 12	120th Avenue NE (stage 2/ south of NE 8th Street to NE 12th Street	Stage 2 will extend, realign and widen 120th Ave NE from south of NE 8th St to NE 12th St. Includes all intersection improvements at NE 8th St, Old Bel-Red Rd and NE 12th St. The roadway cross section for stage 2 will consist of five lanes, with two travel lanes in each direction and center turn lane or turn pockets; bike lanes, curb, gutter and sidewalk both sides. Project will transition between Wilburton and Bel-Red urban design standards.	Roadway & Ped-Bike	Full implementation	32,200	70,800	X	IF	32,200
4	TFP-241	12	120th Avenue NE (stages 3 and 4)/ NE 12th Street to 18th Street and to Northup Way	Stage 3 will widen 120th Avenue NE from NE 12th St to NE 16th St alignment and reprofile roadway in conjuction with Sound Transit East Link. The roadway cross section for stage 3 will consist of five lanes, with two travel lanes in each direction and center turn lane or turn pockets; bike lanes, curb, gutter and sidewalk both sides. Stage 4, from NE 16th to Northup Way will widen the roadway and transition from a 5 lane section to a 4-lane section in proximity of NE 18th St. Stage 4 north of NE 18th St will consist of two NB through lanes, a center turn lane and one SB lane with sidewalks both sides and separated bike path on west site. Includes a stream crossing of West Tributary. Project will follow Bel-Red urban design standards. Funding allocation will implement Stage 3 and fund design phase of Stage 4.	Roadway & Ped-Bike	Design NE 12th St to Northup Way; implementation for segment NE 12th to NE 16th St.	16,700	87,500	X	IF	16,200
5	TFP-079	1,2	Northup Way/NE 33rd Pl to NE 24th Street and NE 24th St to the SR520 Regional Trail	Complete sidewalks and bike lanes on both sides of Northup Way (will not widen existing culvert at Yarrow Creek). Improvements to be designed to facilitate potential future widening for center turn lane. Additional elements include mid-block pedestrian crossings, a pedestrian bridge at the BNSF crossing and a multiuse pathway along the south side of NE 24th Street to connect to the existing terminus of the SR520 Trail. Partial funding from WSDOT. Project will link to improvements to the west to be built by WSDOT, from NE 33rd Place to Bellevue Way. Component of priority bicycle corridor EW-1: 520 Trail.	Ped-Bike	Full implementation	8,500	96,000			
6	TFP-209	12	NE 15th Street/116th Avenue NE to 124th Avenue NE	Construct multimodal corridor from 116th Ave NE to 124th Avenue NE. Project will be phased, with segments from 116th Ave NE to 120th Ave NE and from 120th Ave NE to 124th Ave NE. New signalized intersections at NE 12th St/NE 15th St, 120th Ave, 121st Ave, 123rd Ave and 124th Ave NE and signal modifications at 116th Ave NE. The roadway cross-section includes four lanes, sidewalks both sides and mulituse pathway on north side; pathway between 120th and 124th Avenues to be coordinated with future private development.	Roadway & Ped-Bike	Design and partial right-of-way acquisition 116th Ave NE to 124th Ave NE; implementation for segment 120th Ave to 124th Ave.	41,800	137,800	X	IF	21,300

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	2013-2024 TFP Project #	MMA	Project Name, Location, & Limits	Project Description	Project type	Project Element(s) Proposed for 2013-2024 TFP	Proposed TFP Funding Allocation ($000)	Cumulative Cost ($000)	X = Capacity Project	IF = Include in Impact Fee Project List	Impact Fee Project Cost ($000)
7	TFP-215	12	NE 16th Street/130th Avenue NE to 136th Place NE and 136th Place NE/NE 16th to 20th Streets	Construct multimodal corridor from 130th Avenue NE to 132nd Ave NE. Design as needed for coordination with East Link for segment 132nd Ave NE to 136th Place and 136th Pl to NE 20th St. Coordinate with East Link, which will bifurcate the eastbound and westbound travel lanes. Project will provide one travel lane in each direction, buffered bike lanes, landscape strip and sidewalk on both sides.	Roadway & Ped-Bike	Design as needed for coordination with East Link; implementation 130th - 132nd Aves.	17,700	155,500	X	IF	17,600
8	TFP-210	12	124th Avenue NE/ Planned NE 14th Street to Northup Way	Widen to five lanes and reprofile roadway for segment from NE 14th St to NE 18th St in conjuction with Sound Transit East Link project; curb, gutter and sidewalks consistent with Bel-Red subarea plan and street corridor and urban design standards. Segment NE 18th to Northup includes stream crossing of West Tributary and planned trail. Key intersections at NE 15th Street multimodal corridor/ST East Link and Northup Way. (Intersection improvements at NE 15th St included in NE 15th St project.) Open space trail connections for segment NE 15th St to NE 18th St to be evaluated.	Roadway & Ped-Bike	Design NE 14th to Northup Way; implementation of segment NE 14th to NE 18th St.	8,800	164,300	X	IF	8,400
9	TFP-242	7	Bellevue Way HOV lane/ 112th Ave SE "Y" to I-90 and multiuse path/ SE 8th Street to I-90	Widen Bellevue Way SE to add a southbound, inside HOV lane and an outside shoulder. The potential for landscaping treatments will be evaluated during the project design phase. Project likely to be implemented in segments. North segment from the Bellevue Way/112th Ave SE "Y" to the main entrance to the South Bellevue Park and Ride at 112th Ave SE. South segment from the main Park and Ride entrance to the I-90 on ramps. The south segment will likely be implemented by Sound Transit in conjunction with the East Link project, and as a partner, the City may choose to collaborate with Sound Transit to advance overall project implementation. Coordinate with East Link design process to develop a 10-14 foot-wide multiuse pedestrian and bicycle path on the east side of 112th Avenue SE and Bellevue Way SE from SE 8th Street to 113th Avenue SE (I-90 trail).	Roadway & Ped-Bike	Full implementation	24,500	188,800	X	IF	24,500
10	TFP-243	10, 11, 13	Mountains to Sound Greenway/ Factoria Blvd to Lakemont Blvd	Part 1: Construct Mountains to Sound Greenway Trail as 10' or greater width paved multiuse trail beginning at the current end of the I-90 trail at Factoria Blvd. Route extends eastward along the north side of SE 36th St, follows a new independent alignment along the I-90 off-ramp to the 150th Ave SE at SE 37th St intersection, crosses 150th Ave SE and continues along the south side of SE 37th Street, just east of the entrance to the I-90 on-ramp (cross SE 37th St opposite Eastgate Plaza) trail route turns north and continues eastward adjacent to I-90 in WSDOT right-of-way to Lakemont Blvd. Design of the MTSG I-90 trail links should, to the extent feasible, preserve existing and/or enhance adjacent on-street bicycle facilities, especially in locations where these are most useful to bicyclists. Consider revisions to Factoria Blvd/SE 36th Street intersection to enhance pedestrian and bicycle crossings. Identified as priority bike corridor EW-4. Part 2: Install boulevard treatment on roadway segments adjacent to MTSG trail, with elements likely to include street trees, median plantings, special lighting, crosswalks, seating, special signs, landscaping and public art. Coordinate with City's Urban Boulevards program.	Ped-Bike	Design	560	189,360			

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11	TFP-244	1, 2, 4, 7, 8, 12, 14	BNSF bike path/ southern city limits to northern city limits	Add a 10-14 foot-wide off-street path along the Burlington Northern Santa Fe railroad right-of-way from the southern city limits to the northern city limits. This is part of a proposed regional trail that would connect eastside communities from Renton to Woodinville. Approximately 7.5 miles of the trail is located within the City of Bellevue. The regional trail shall have connections to pedestrian and non-motorized city facilities and be compliant with current trail standards. Potential trail connections include Newcastle Beach Park, Greenwich Crest, the I-90 trail, Woodridge, the Wilburton area, downtown Bellevue, Bel-Red, NE 15th St, the West Tributary Trail and the SR 520 trail. Identified as priority bike corridor NS-3: BNSF Trail Corridor. Funding allocation is to support initial scoping of project and coordination with community and property owner.	Ped-Bike	Predesign	200	189,560			
12	TFP-078	6, 9	West Lake Sammamish/north City limit to I-90	The ultimate project will provide a consistent 4' shoulder on the east side, a 10.5' northbound vehicle travel lane, a 10' southbound vehicle travel lane, a 10' wide multi-purpose trail (8' wide in approximately 2% of the corridor due to constricted space) on the west side separated by a 1.5' shy distance space and a 2' or 5' wide landscaped buffer where space is available, a signal at SE 34th Street, pedestrian crossings at SE 26th Street, Northup Way, NE 24th Street and at 5 other locations along the parkway. The project will also make storm drainage, water quality and fish passage improvements throughout the corridor. Funding allocation is to support design and construction of first two segments (of five segments total).	Roadway & Ped-Bike	Design, partial implementation	15,400	204,960			
13	TFP-213	8, 12	124th Avenue NE/ NE 8th St to NE 14th Street	Design roadway improvements to include addition of bike lanes for segment NE 8th St to Bel-Red Rd and roadway widening to five lanes with sidewalks and bike lanes both sides from Bel-Red Rd to NE 14th St. Signal modifications at 124th Avenue and Bel-Red Rd. Project design may be coordinated with adjacent development. Evaluate neighborhood protection measures to limit through traffic and impacts on segment south of NE 8th St. Funding allocation will support predesign only between NE 8th St. and Bel-Red Road but full implementation between Bel-Red Rd and NE 14th St.	Roadway & Ped-Bike	Predesign, partial design, implementation for segment Bel-Red Rd-NE 14th St.	10,200	215,160	X	IF	9,600
14	TFP-245	2, 9, 12	140th Ave NE/ NE 24th St to NE 8th St	Option A: Add 5 foot-wide bike lanes on 140th Avenue NE between NE 24th Street and NE 8th Street. Option B: Develop off street multi-use paved path along east side of 140th Avenue NE, replacing separated gravel path that exists on much of segment; may be boardwalk for part of Bel-Red to NE 20th St segment. With either option, add a 10-14 foot-wide off street path connecting the SR-520 Trail to 140th Avenue NE, if feasible. Component of priority bike corridor; NS-4: Somerset-Redmond Connection.	Ped-Bike	Predesign	200	215,360			
15	TFP-211	4	NE 6th Street Extension	Extend NE 6th Street from the I-405 HOV interchange to 120th Ave NE. The facility will be designed to accommodate multiple uses, including HOV, transit, general purpose and non-motorized. Conceptual design alternatives have been completed to coordinate with WSDOT's I-405 improvements and Sound Transit's East Link route. The project would likely be a regional or outside agency-led effort in which the City may choose to participate financially. The funding allocation is a placeholder that may be used for additional pre-design or other early implementation efforts.	Roadway & Ped-Bike	Placeholder	1,000	216,360	X	IF	1,000

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16	TFP-232	6, 9	164th Avenue NE/SE - NE 18th Street to SE 14th Street	Designate bike shoulder on both sides between NE 18th Street and Northup Way and between NE 8th Street and SE 14th Street. Stripe and sign 5 foot bike lanes between Northup Way and NE 6th Street. Accomodate on-street parking on the east side of the street from NE 6th Street to SE 14th Street. Component of priority bike corridor NS-5 Spirit Ridge-Sammamish River Connection.	Ped-Bike	Presdesign	200	216,560			
17	TFP-246	11	150th Avenue SE/ south of SE 38th St to Newport Way	Evaluate needs for improvements for segment south of SE 38th St to Newport Way, including intersection at 150th Ave SE and Newport Way SE. Issues to be considered include vehicular safety and circulation, pedestrian accommodation and bicycle mobility. Project located on Priority Bicycle Corridor NS-4: Somerset-Redmond Connection. Project elements will be determined through predesign process and may include roadway widening and channelization changes, sidewalks, bike facility, street lighting and landscaping.	Roadway & Ped-Bike	Predesign	1100	217,660			
18	TFP-234	3, 4	Main Street/ 100th Avenue to 116th Avenue	Funding to support pedestrian and bicycle facility components of Main Street project, as identified in the pre-design plan. Build out to plan conditions where impacted by East Link. Component of priority bike corridor EW-3 Lake to Lake Trail.	Ped-Bike	Placeholder	500	218,160			
19	TFP-230	3	108th Avenue NE/ NE 12th Street to Main Street	108th Avenue NE Downtown corridor enhancement consisting of Great Streets, Midblock Crossing, Ped Corridor interface and bike lanes. Project scope and description may be revised, depending on outcome of Downtown Transportation Plan update. Component of priority bike corridor NS-1 Enatai-Northtown Connection.	Ped-Bike	Placeholder	200	218,360			
20	TFP-158	9	SE 16th Street/148th Avenue SE to 156th Avenue SE	Add 5 foot bike lanes outside of 11 foot vehicles lanes on both sides of SE 16th Street. Construct new curb, gutter and 6' sidewalk and 4' planter, on north side between 148th and 154th Avenues NE. Component of priority bike corridor EW-3 Lake to Lake Trail.	Ped-Bike	Full implementation	3,600	221,960			
21	TFP-247	10	Eastgate Way/Richards Rd to SE 35th Place	Install bike lanes. Missing link in sidewalk between Richards Road and 139th Ave SE may be implemented in coordination with adjacent development. Funding will support implementation of bike lanes on portion of corridor (segment to be determined).	Ped-Bike	Partial implementation	1,000	222,960			
22	TFP-195	10	150th Avenue SE/ SE 37th Street/I-90 off-ramp	Option A: Add second EB right turn lane, add second WB left turn lane, add EB through lane past I-90 eastbound on-ramp, extend SB left-turn pocket, and extend 3rd SB lane from I-90 on-ramp to SE 38th St. Option B: Construct multi-lane roundabout. Option C: Construct roundabout per Option B plus construct multilane roundabout at 150th Ave SE/SE 38th St and landscaped median between SE 38th St and SE 37th St. With any of the three options, upgrade ped and bike crossings, install gateway treatment.	Roadway	Full implementation of Option A intersection improvements or Option B roundabout	3,300	226,260	X	IF	3,300
23	TFP-173	1	108th/112th Avenue NE/ north city limit to NE 12th Street	Add 5 foot bike lanes on both sides of 108th/112th Avenue NE from north city limit to NE 12th Street. Construct a 6 foot-wide sidewalk along the west side of 112th Avenue NE from end of transportation trail south to NE 24th Street. Construct sidewalk on east side from NE 24th St to connect to existing sidewalk 450' south. Widen for turn pockets at NE 24th Street intersection. Component of priority bike corridor NS-2 Lake Washington Loop.	Ped-Bike	Predesign	200	226,460			

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24	TFP-218	12	130th Avenue NE/NE 20th to NE Bel-Red Road	Initiate design for roadway improvements. Segment NE 20th St to NE 16th St to include two travel lanes, bike lanes, on-street parking, landscape strip and sidewalks both sides. Segment NE 16th St to Bel-Red Rd to include one through lane each direction, center turn lane, landscape strip and sidewalks both sides. Project to be coordinated with Sound Transit East Link.	Roadway & Ped-Bike	Design	400	226,860	X		
25	TFP-248	12	134th Ave NE/ NE 20th St to NE 16th St.	Develop a level cross section for NE 16th St to allow for future construction of 134th Ave NE as a through street between Bel-Red Rd and NE 20th St as outlined in the Bel-Red Subarea Plan. Coordinate with East Link project final design. Develop conceptual plans for roadway alignment to allow for future construction of 134th Avenue NE as a through street. Roadway to include three lanes, landscape strip and sidewalks both sides. Segment between NE 16th St and NE 20th St anticipated to be implemented with future private development in the immediate vicinity.	Roadway & Ped-Bike	Predesign	200	227,060	X		
26	TFP-249	4	Hospital/NE 8th Street Station Access Improvements	Improve rider access to the planned East Link station at NE 8th Street, especially for pedestrians. Funding allocation may be used to identify and analyze potential access improvements, develop design concepts, and advance implementation of elements such as access links to 116th Avenue NE, sidewalks, street crossings, and other features to facilitate connections between the station and nearby employment, housing, shopping and services.	Ped-Bike	Placeholder	200	227,260			
27	TFP-250	12	148th Avenue NE Master Plan improvements at Bel-Red Road, NE 20th St and NE 24th St.	Construct improvements per 148th Master plan, as follows: 1) a third northbound thru lane on 148th from 350' south of Bel-Red Rd to the SR 520 EB on ramp, 2) a northbound right turn lane, and eastbound and westbound dual left turn lanes at 148th and Bel-Red Rd, 3) eastbound and westbound dual left turns lanes at NE 20th St and 148th, 4) extend the northbound and westbound right turn lanes at NE 24th St and 148th, 5) eastbound and westbound dual left turn lanes at NE 24th St and 148th, and 6) configure the northbound 3 lane approach on 148th at the SR 520 EB on ramp to right turn only, thru/optional HOV right turn, and thru only. Improvements at NE 24th Street will accommodate or implement wide lane E-W bicycle facility. Project may be phased with initial phase focusing on the north end of the 148th corridor. Scope and cost may be modified based on ongoing analysis and coordination with City of Redmond associated with design work for the 148th Ave NE Master Plan. Funding allocation will support work in coordination with Redmond to identify project phasing and conduct predesign work.	Roadway	Master Plan Development Only	250	227,510	X		
28	TFP-251	11, 13, 14	Coal Creek Parkway/ 124th Ave SE to the southern city limits	Add a 10-14 foot-wide off street path along the west side of Coal Creek Parkway from 124th Avenue SE to the southern city limits. To accommodate path, existing bike lanes may be eliminated and roadway narrowed. Coordinate with City's Urban Boulevards program. Component of priority bike corridor; EW-5: Coal Creek-Cougar Mountain Connection.	Ped-Bike	Predesign	200	227,710			

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29	TFP-192	11	Lakemont Blvd (Phase 1)/Cougar Mountain Way to Lewis Creek Park and 164th Avenue SE to 171st Avenue SE	Install signal or roundabout and turn lanes at Cougar Mtn. Way/ Lakemont Blvd. intersection; construct northbound left turn lane on Lakemont Blvd. at SE 62nd Street; add sidewalk and bike lanes on east side between Cougar Mtn. Way and park; install planted medians where feasible.	Road-way (P-B element not funded)	Full implementation (intersection improvements only)	1,400	229,110	X	IF	1,400
30	TFP-252	10	Snoqualmie River Rd/ Kelsey Creek Rd to BC southwest entrance	Upgrade pavement to support transit buses, construct sidewalks and accessible bus stops. The project would likely be implemented by Bellevue College; the City may choose to collaborate with the College to advance overall project implementation. Develop a Bellevue College Transit Center on upgraded alignment.	Roadway & Ped-Bike	Placeholder	500	229,610			
31	TFP-253	10	150th Ave SE/East-gate Way SE	Construct improvements. Option A: Add second NB left turn lane, add second EB right-turn lane, add second WB through lane past 148th Ave SE. Add E-W bike lanes through intersection. Option B: Construct multilane roundabout. With either option, upgrade ped and bike cross-ings, accommodate or implement planned Eastgate Way bike lanes, install gateway treatment.	Roadway & Ped-Bike	Implementation (Option A intersection improvements)	3,700	233,310	X	IF	3,700
32	TFP-217	12	124th Avenue NE at SR-520	Construct ramps to and from the east. This project would likely be a regional or outside agency-led effort in which the City may choose to participate financially. The funding allocation is a placeholder that may be used to initiate project pre-design or early implementation.	Roadway	Placeholder	200	233,510	X		
33	TFP-193	3	NE 10th at I-405	Add SB off-ramp. This project would likely be a regional or outside agency-led effort in which the City may choose to participate finan-cially. The funding allocation is a placeholder that may be used to support project pre-design or early implementation.	Roadway	Placeholder	200	233,710	X		
34	TFP-110	3	110th Avenue NE/NE 6th Street to NE 8th Street	Uncomplete segment remains between NE 6th and NE 8th Streets. Predesign completed for a five-lane roadway section with sidewalks where missing. Project implementation will be coordinated with ap-proved and potential future private development in the immediate vicinity.	Roadway	Placeholder	500	234,210	X	IF	1,100
35	TFP-190	3	NE 2nd Street/Bel-levue Way to 112th Avenue NE	Widen from three lanes with parking and turn pockets to five lanes, consistent with the NE 2nd Street Pre-Design plan. Project implemen-tation will be coordinated with approved and potential future private development in the immediate vicinity.	Roadway	Placeholder	500	234,710	X		
36	TFP-222	3	Bellevue Way/NE 4th Street	Add a southbound right turn lane and a westbound right turn lane. Dual westbound left turn lanes. Project implementation will be coor-dinated with potential future private development in the immediate vicinity. Project scope and description may be revised, depending on outcome of Downtown Transportation Plan update.	Roadway	Placeholder	500	235,210	X	IF	2,000
37	TFP-219	3	NE 8th Street/106th Avenue NE	Realignment of the roadway to the south will better utilize the third westbound travel lane (between 108th and 106th Avenues NE; completed in 2009) and preserve the existing large sequoia tree. This realignment will allow NE 8th Street three through lanes westbound from I-405 to Bellevue Way. Project implementation will be coordinat-ed with potential future private development in the immediate vicinity. Project scope and description may be revised, depending on outcome of Downtown Transportation Plan update.	Roadway	Placeholder	500	235,710	X	IF	2,000

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38	TFP-223	3	Bellevue Way/NE 8th Street	Add southbound right turn lane. Project implementation will be co-ordinated with potential future private development in the immediate vicinity. Project scope and description may be revised, depending on outcome of Downtown Transportation Plan update.	Roadway	Placeholder	500	236,210	X	IF	1,500
39	TFP-225	3	Bellevue Way/NE 2nd Street	Add a northbound right turn lane and a second southbound left turn lane. Project implementation will be coordinated with potential future private development in the immediate vicinity. Project scope and description may be revised, depending on outcome of Downtown Transportation Plan update.	Roadway	Placeholder	500	236,710	X	IF	1,000
40	TFP-216	3	112th Avenue NE/NE 2nd Street	Straighten and realign NE 2nd Street between 112th and 114th Avenues NE, add dual southbound left turn lanes and a northbound right turn lane. Project implementation will be coordinated with potential future private development in the immediate vicinity. Project scope and description may be revised, depending on outcome of Downtown Transportation Plan update.	Roadway	Placeholder	500	237,210	X	IF	2,200
41	TFP-197	3	NE 2nd Street Extension and I-405 interchange	Extend NE 2nd Street across I-405 from 112th Avenue NE to 116th Avenue NE; add half interchange with I-405, to/from the south. This project would likely be a regional or outside agency-led effort in which the City may choose to participate financially. The funding allocation represents only a placeholder that may be used to initiate project pre-design or early implementation.	Roadway	Placeholder	200	237,410	X		
42	TFP-103	13	129th Place SE/SE 38th Street to Newport Way	Connect the stub ends of 129th Place SE to provide a through street connection between SE 38th Street and Newport Way. Investigate traffic operations at the intersection of 129th Place SE and SE Newport Way. Consider signalization and channelization improvements if warranted. Project implementation will be coordinated with future private development in the immediate vicinity. The funding allocation is a placeholder that may be used for project pre-design, property acquistion or early implementation and may be directed to design and development of a non-motorized facility on this link if a street connection is not feasible.	Roadway & Ped-Bike	Placeholder	500	237,910	X		
43	TFP-254	12	Bel-Red Rd/NE 20th St to NE 24th St	Widen to five lanes, including two travel lanes in each direction, with center turn lane, bike lanes.	Roadway & Ped-Bike	Placeholder	500	238,410	X		

LEGEND

CIP: Capital Investment Program Plan
TFP: Transportation Facilities Plan
Predesign: Scope typically covers evaluation of alternatives for project features, public engagement, identification of potential phasing and magnitude of cost.
Design: Scope typcially covers design of project to 60% or 90% level, development of cost estimate for full implementation
Full Implementation: Scope covers all costs to complete project (design, property acquisition, construction)
Placeholder: Project is to be implemented by another party or if opportunity arises; funding allocation is to facilitate project scoping, predesign or support implementation elements, as useful.

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