



# **Downtown** Transportation Plan Update

**TRANSPORTATION COMMISSION  
DECEMBER 13, 2012**

**TRANSIT SERVING DOWNTOWN  
RESIDENTS, WORKERS, VISITORS**

**Presentation and Discussion, December 13, 2012**

**TRANSIT SERVING DOWNTOWN  
RESIDENTS, WORKERS, VISITORS**

- Existing Policy and Projects
- Transit Rider MOEs
- Land Use/Transit Demand
- Downtown Transit Service
- Scope of Downtown Transit Work

# DOWNTOWN TRANSIT

## Planning Principles

### Plan for multiple modes of travel within and to and from Downtown Bellevue

Develop an innovative multimodal transportation strategy for Downtown Bellevue that updates the existing Downtown Subarea Plan project list. The recommended strategy should consider and incorporate the emerging and anticipated mobility needs of motorists, pedestrians, bicyclists, **transit riders**, taxi patrons and carpool/vanpool riders, and support the transport, parking and loading needs of employers, residents and businesses.

### Accommodate the anticipated travel demands from the 2030 land use forecast

Ensure that the planned transportation system will accommodate the **2030 forecast for Downtown** residential and employment growth.



# Downtown Subarea Plan

## Transit Policy

- Improve connections within Downtown, to other Bellevue neighborhoods and to the region
- Improve service to meet demand
- Provide layover spaces
- Improve transit rider facilities and information
- Support high capacity transit



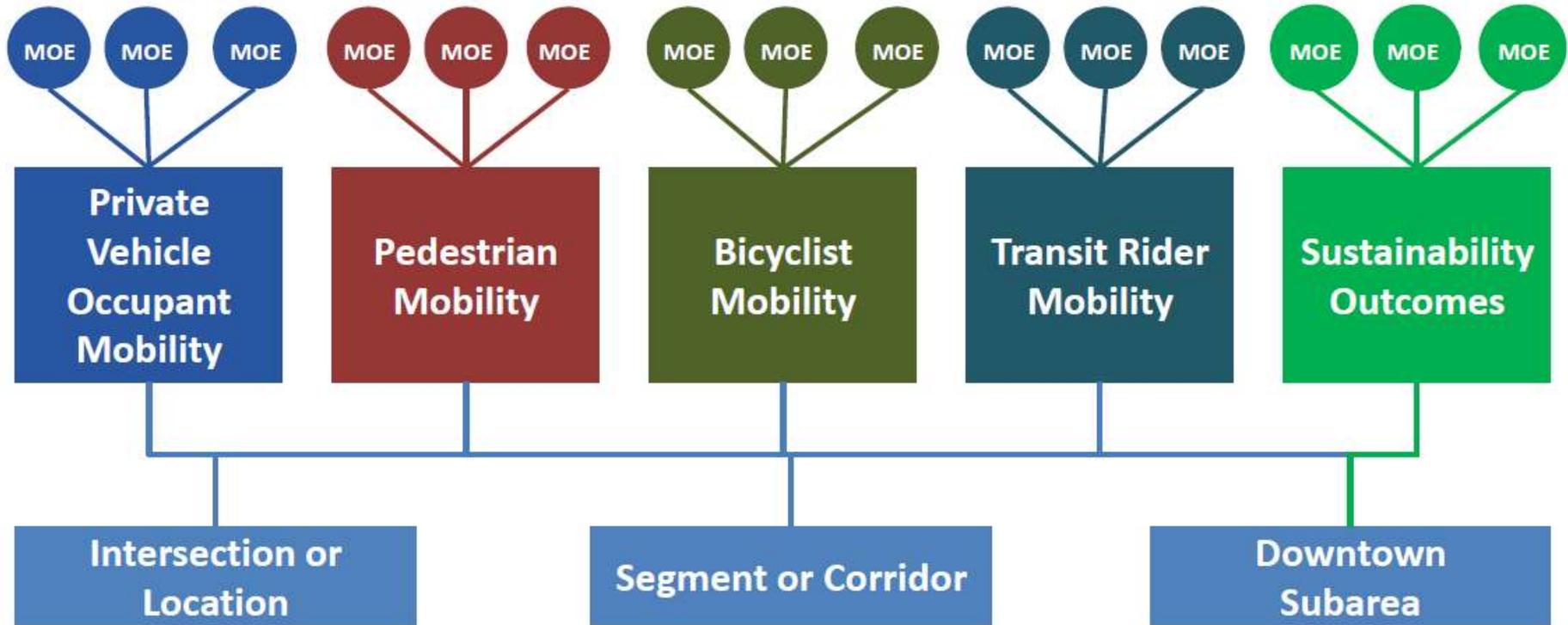
# Downtown Subarea Plan

## Transit Projects

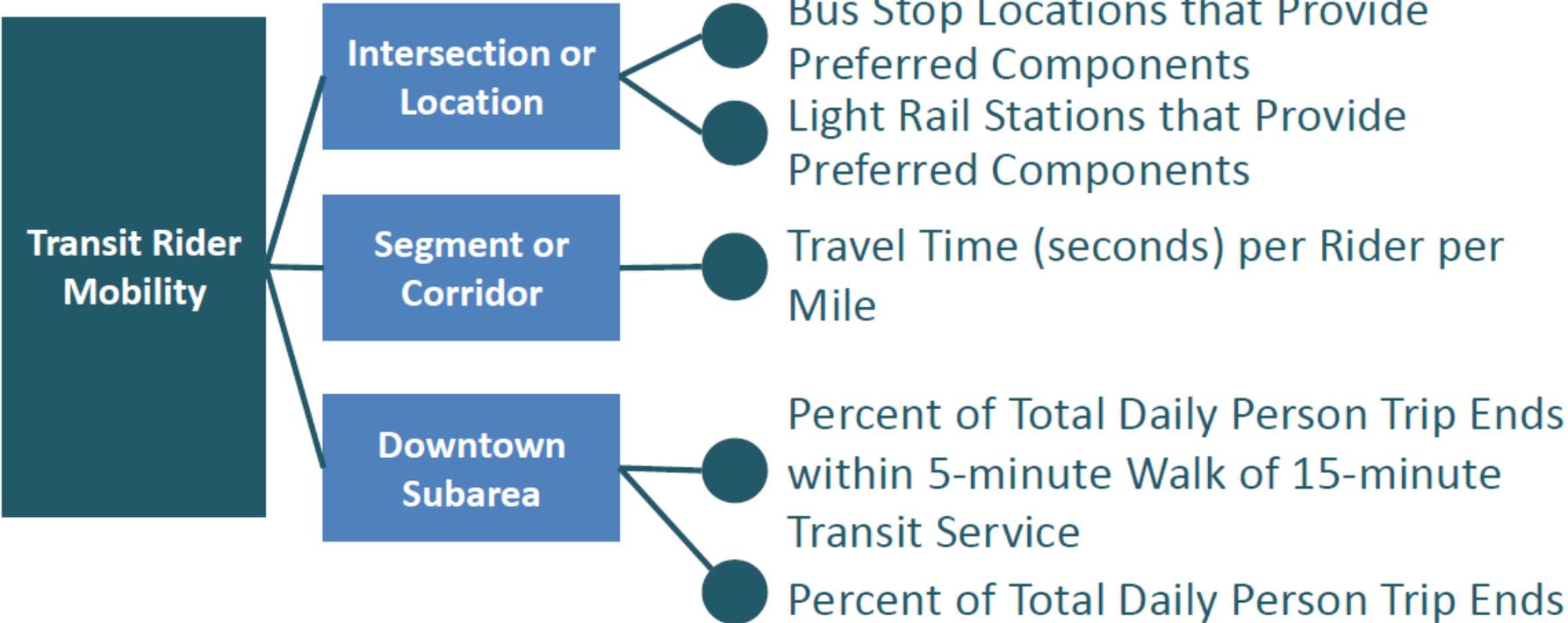
- New transit facilities to support service and ridership
- Expand Transit Center
- Provide a circulator within Downtown and to nearby activity centers
- Improve transit stop facilities and amenities
- On 108<sup>th</sup> Avenue NE add contraflow transit lanes:
  - NB between 4<sup>th</sup> and 8<sup>th</sup>
  - SB between 10<sup>th</sup> and Main



# Measures of Effectiveness



# Transit Rider Mobility



**Measures of Effectiveness**

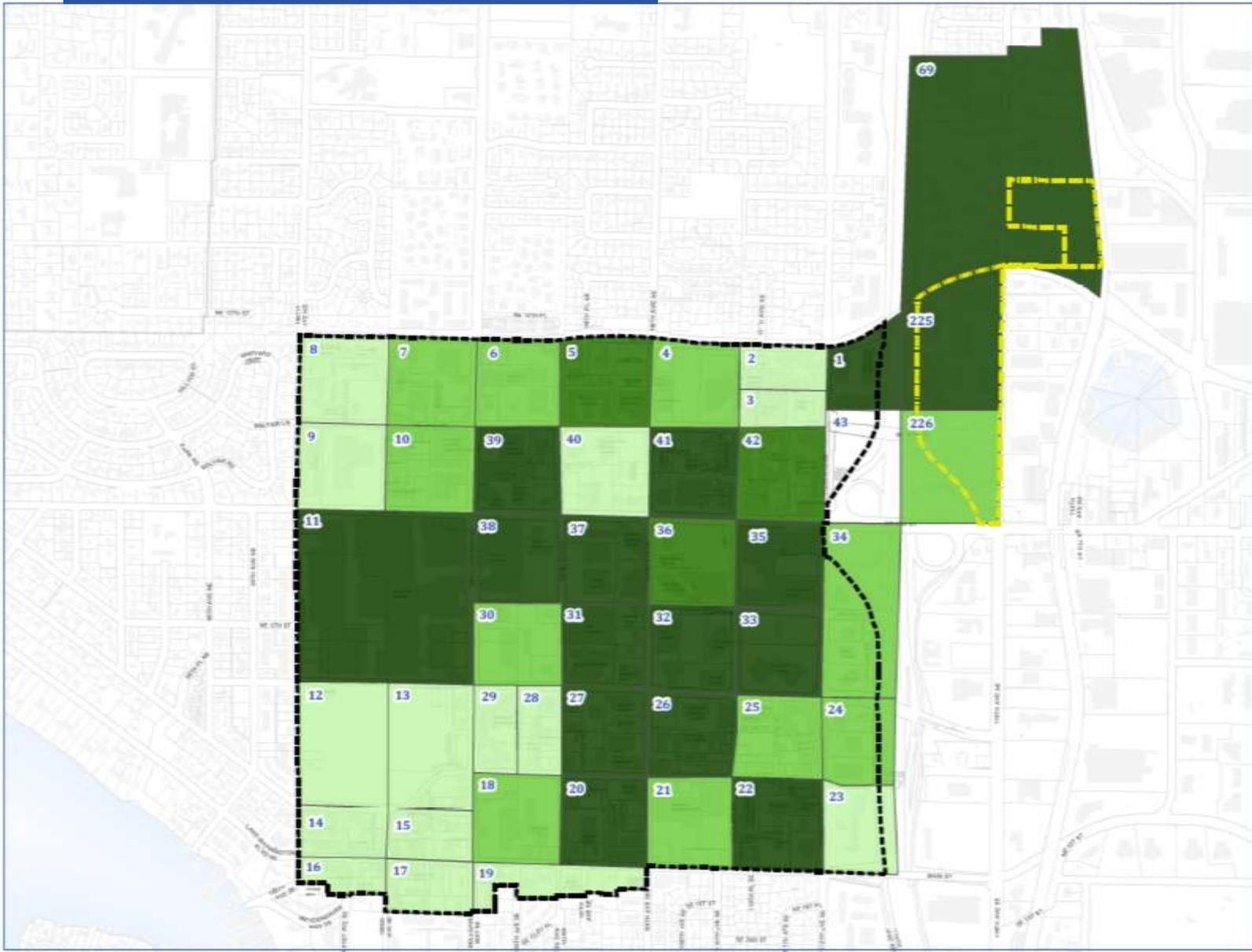
# Downtown Land Use Forecast

	1990	2000	2010	2030	2010/2030 Growth
Employment	22,257	34,042	42,525	70,300	+27,775
Population	1,182	2,588	7,147	19,000	+11,853



# Downtown 2010: Employment

Including Medical Institution District



## Employment Totals by TAZ: Year 2010

Downtown Transportation Plan Update

### Legend

# Transportation Analysis Zone Number (TAZ)

### Employment Totals

- No Jobs
- 1 to 250
- 251 to 500
- 501 to 1,000
- Over 1,000

### Area Boundaries

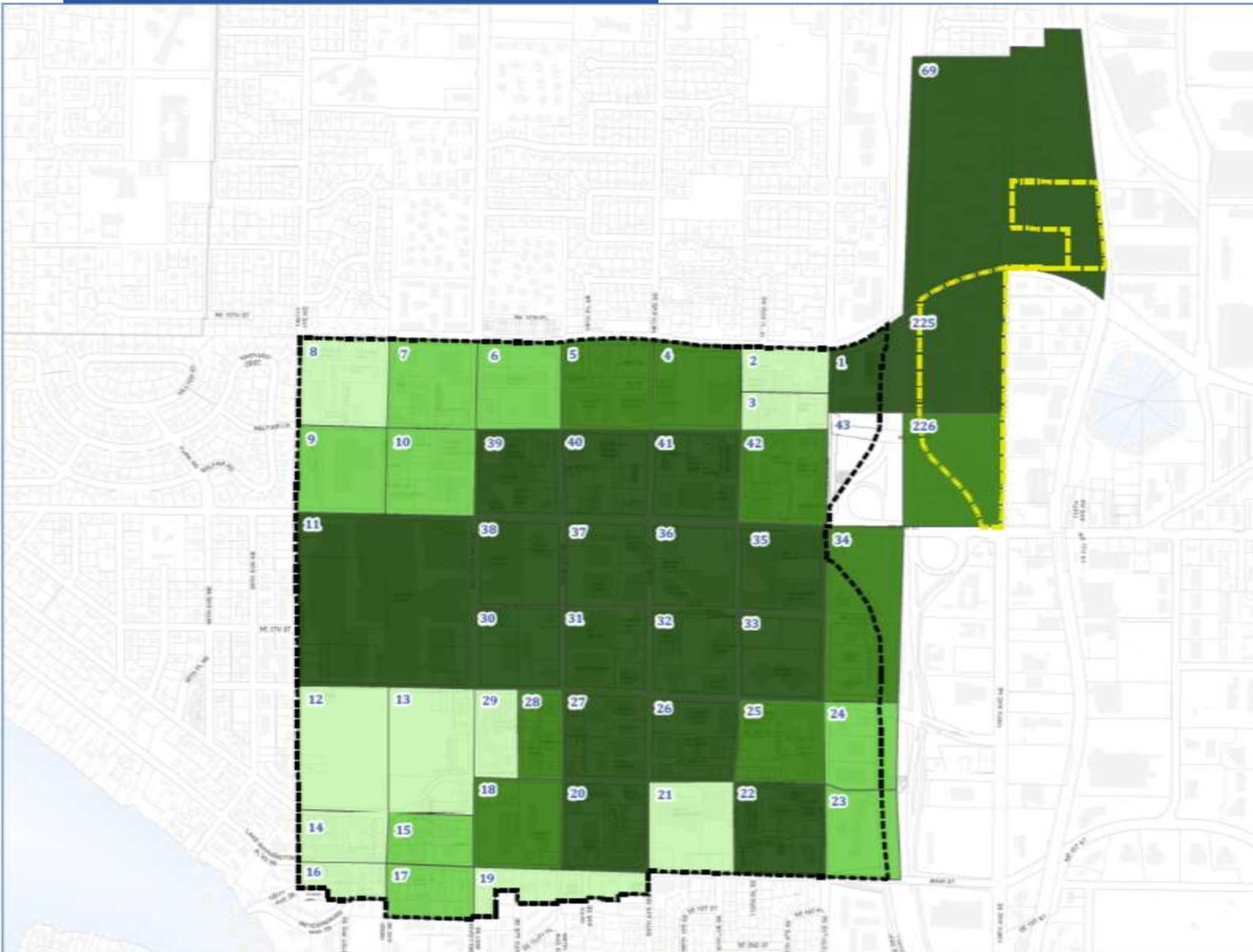
- Downtown Bellevue
- Medical Institution District



Source: City of Bellevue Building Permits, Spring 2010

# Downtown 2030: Employment

Including Medical Institution District



## Employment Totals by TAZ: Year 2030

Downtown Transportation Plan Update

**Legend**

- # Analysis Zone Number (TAZ)

**Employment Totals**

- No Jobs
- 1 to 250
- 251 to 500
- 501 to 1,000
- Over 1,000

**Area Boundaries**

- Downtown Bellevue
- Medical Institution District



Source: City of Bellevue Building Department, Spring 2009

# Downtown Employment Change

Including Medical Institution District



**Employment Change by TAZ:**  
2010 to 2030  
Downtown Transportation Plan Update

### Legend

Change is calculated using 2010 and 2030 figures.

# Analysis Zone Number (TAZ)

### Employment Change

- 1 to -250
- No Change
- 1 to 250
- 251 to 500
- 501 to 1,000
- Over 1,000

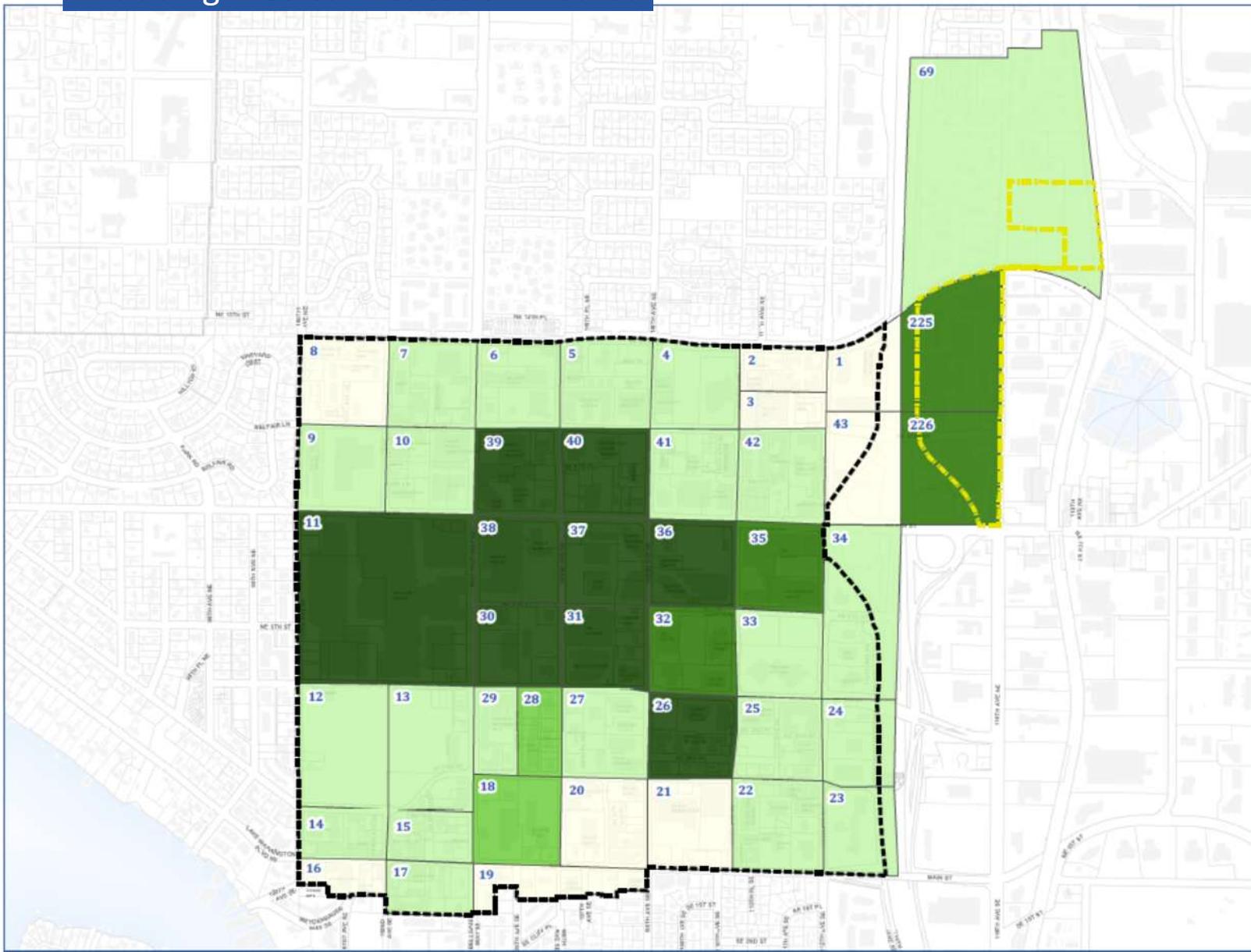
### Area Boundaries

- Downtown Bellevue
- Medical Institution District



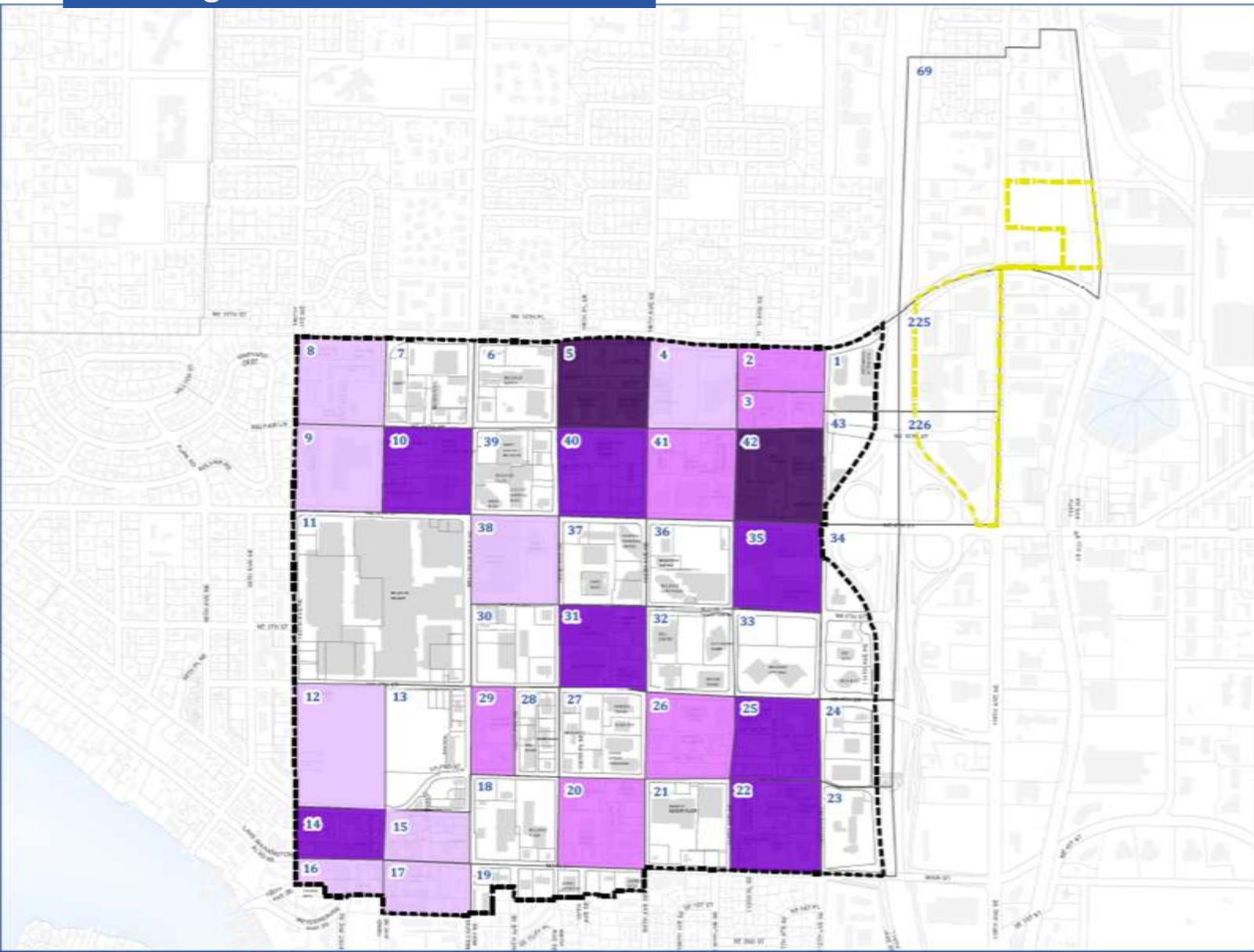
60,000  
Feet

Source:  
City of Bellevue  
Building Footprints:  
Spring 2009



# Downtown 2010: Population

Including Medical Institution District



## Population Totals by TAZ: Year 2010

Downtown Transportation Plan Update

### Legend

# Transportation Analysis Zone Number (TAZ)

### Population Totals

- No Residents
- 1 to 250
- 251 to 500
- 501 to 1,000
- Over 1,000

### Area Boundaries

- Downtown Bellevue
- Medical Institution District

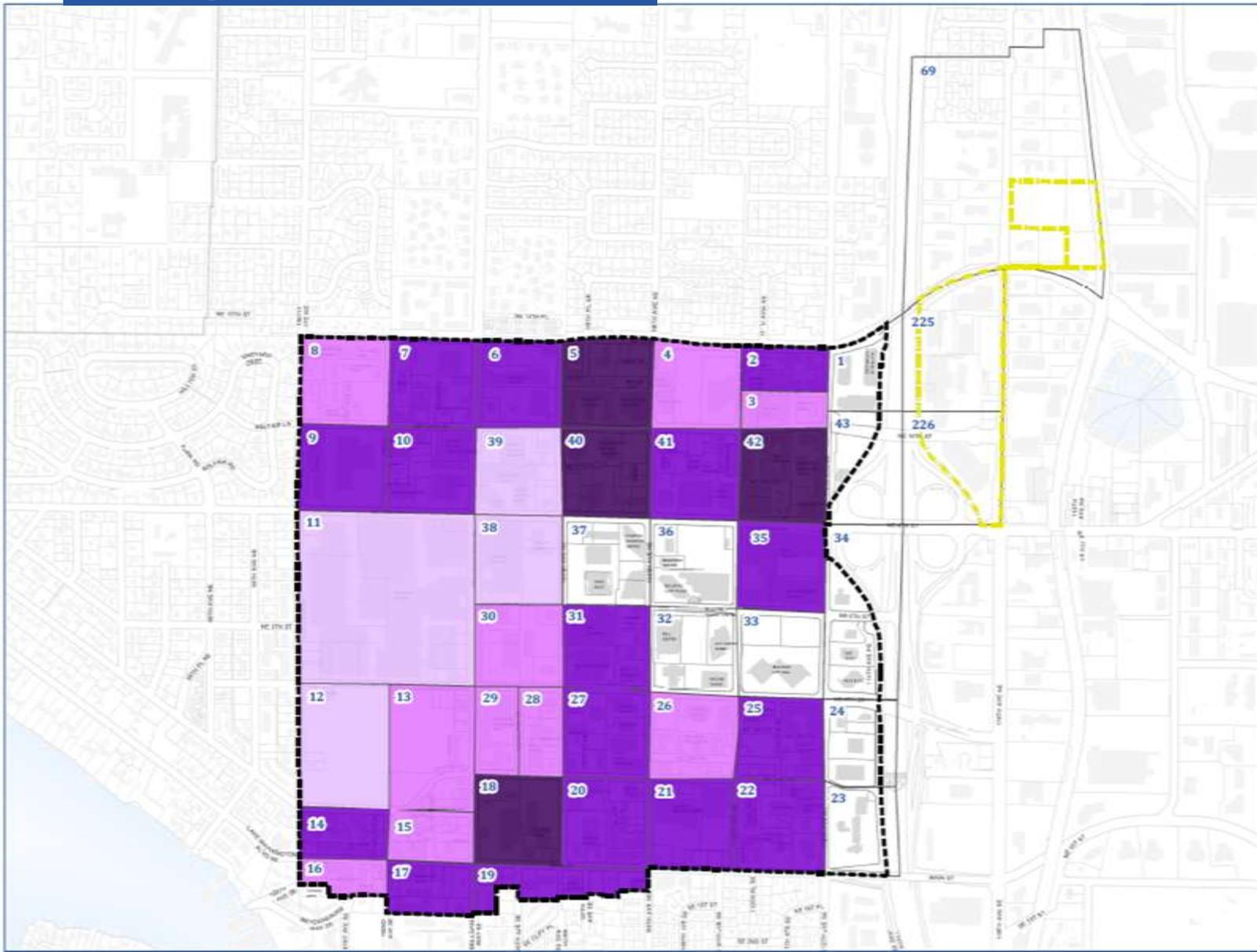


80,000 Feet

Source: City of Bellevue Building Department, Spring 2008

# Downtown 2030: Population

Including Medical Institution District



## Population Totals by TAZ: Year 2030

Downtown Transportation Plan Update

### Legend

# Transportation Analysis Zone Number (TAZ)

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### Area Boundaries

- Downtown Bellevue
- Medical Institution District

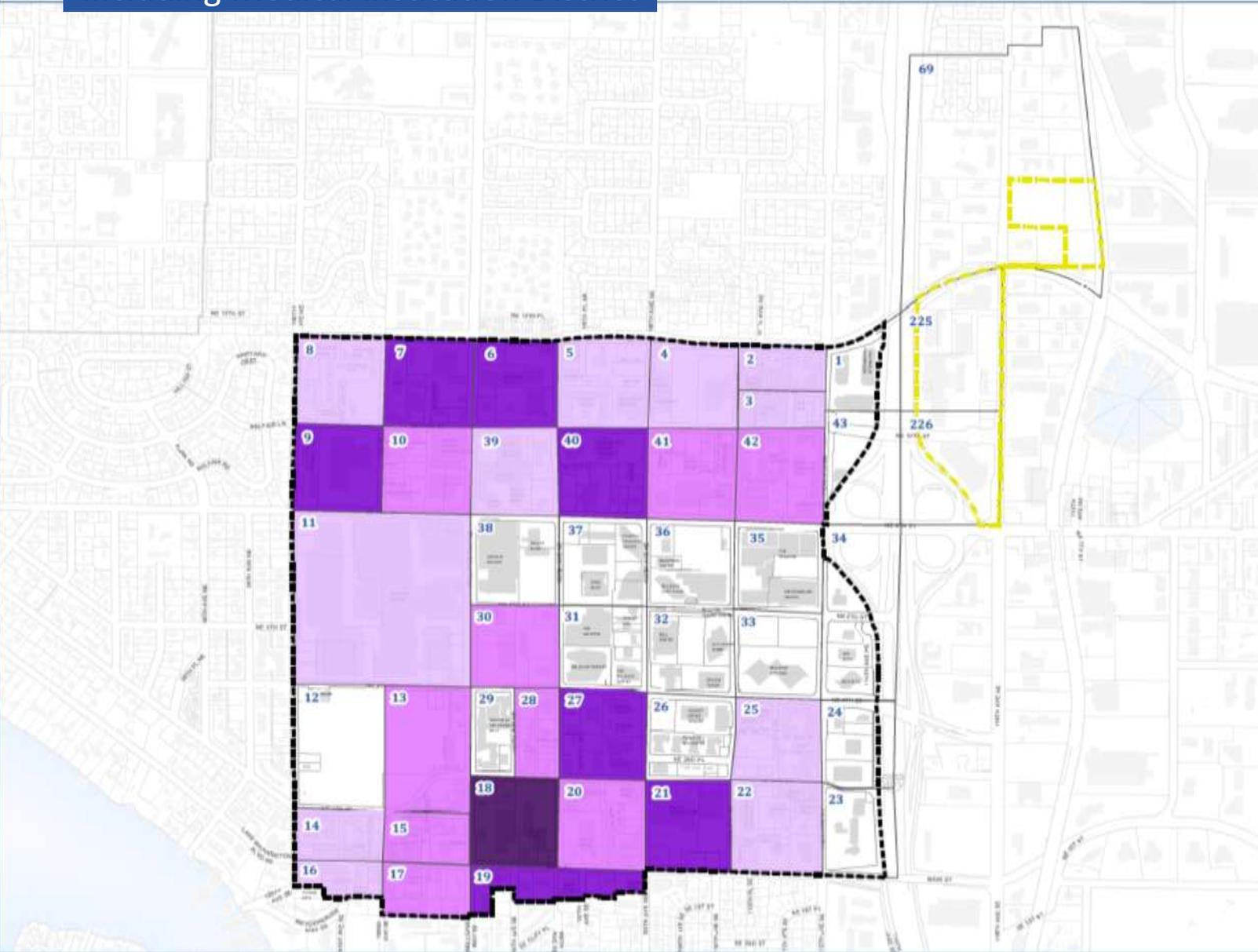


80,000 Feet

Source: City of Bellevue Building Footprints, Spring 2023

# Downtown Population Change

Including Medical Institution District



**Population Change by TAZ: 2010 to 2030**  
 Downtown Transportation Plan Update

**Legend**

Change is calculated using 2010 and 2030 figures.

# Transportation Analysis Zone Number (TAZ)

**Population Change**

- No Change
- 1 to 250
- 251 to 500
- 501 to 1,000
- Over 1,000

**Area Boundaries**

- Downtown Bellevue
- Medical Institution District



Source: City of Bellevue Building Footprints Spring 2008

# BKR Travel Demand Model Forecast

## Total Downtown Person Trips

### By Mode

	2010	2030	Growth
Auto	345,342	543,933	198,591/58%
Pedestrian	33,590	84,571	50,981/152%
Transit	11,211	62,042	50,831/453%
<b>TOTAL</b>	<b>390,144</b>	<b>690,547</b>	<b>300,403/77%</b>

Model shows auto demand increases at a slow annual rate of 2%

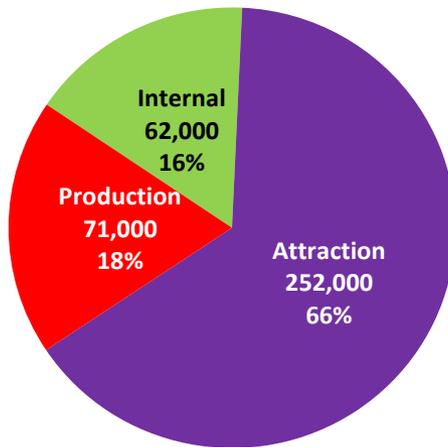
Pedestrian activity increases significantly

Transit demand increases faster than any other mode; 22% per year

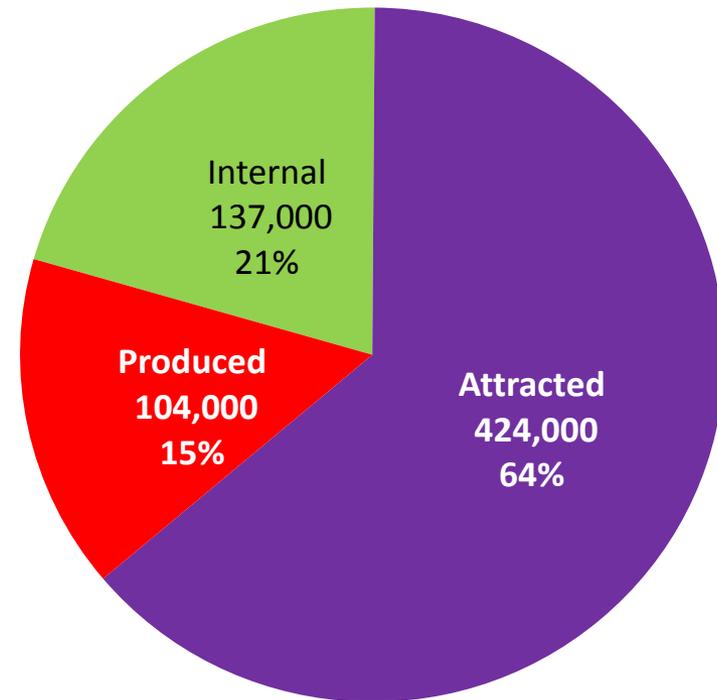
# BKR Model – Total Downtown Person Trips

## 2030 Daily Person Trips

## 2010 Daily Person Trips



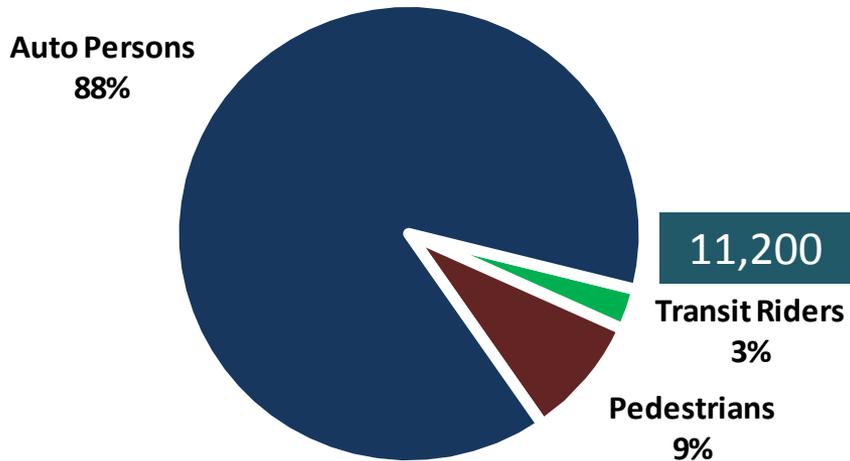
~ 385,000



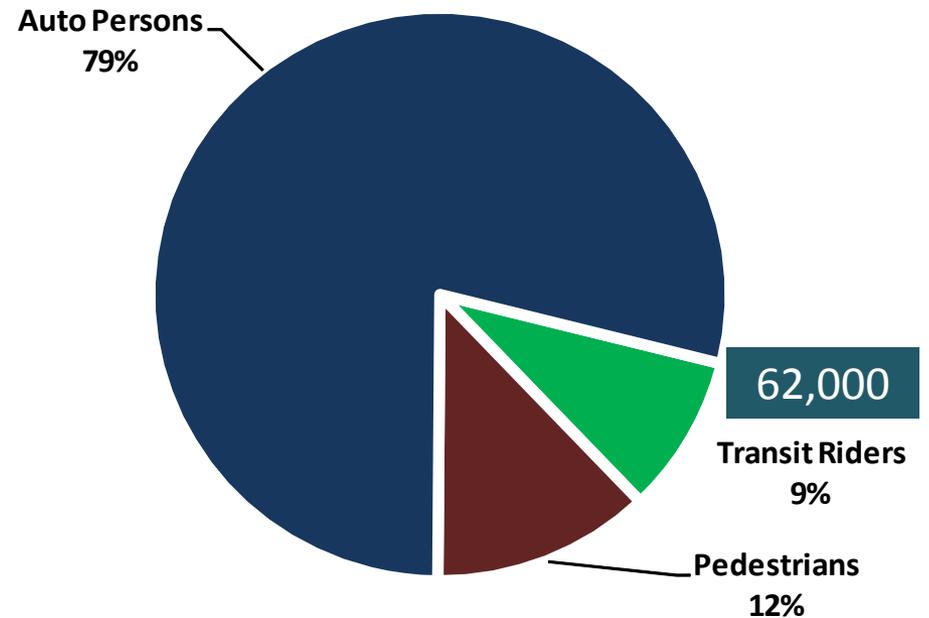
~ 665,000

# BKR Model –Downtown Person Trips

Downtown Daily Person Trips: 2010

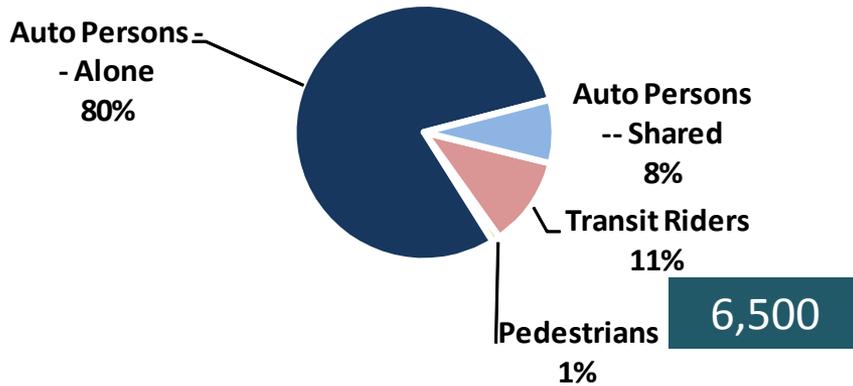


Downtown Daily Person Trips: 2030

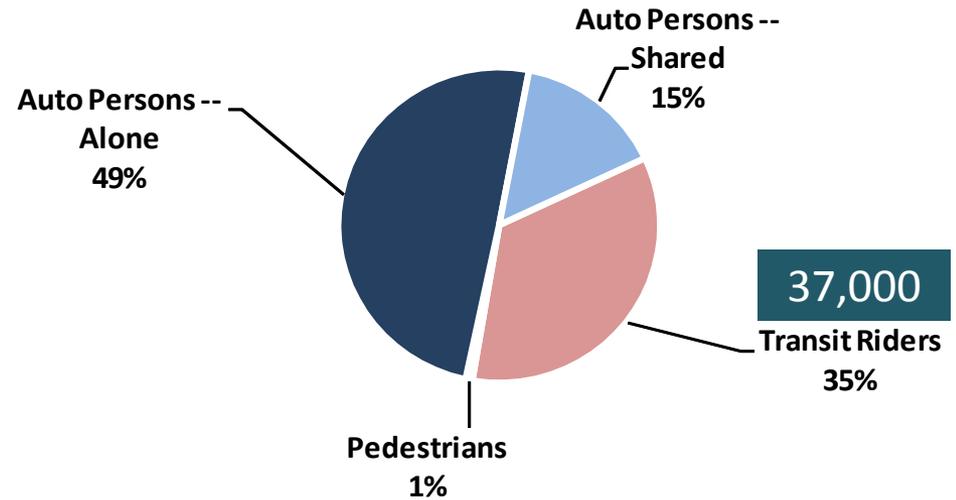


# Downtown Home-Based Work Trips by Mode

## Daily Person Work Trips: 2010



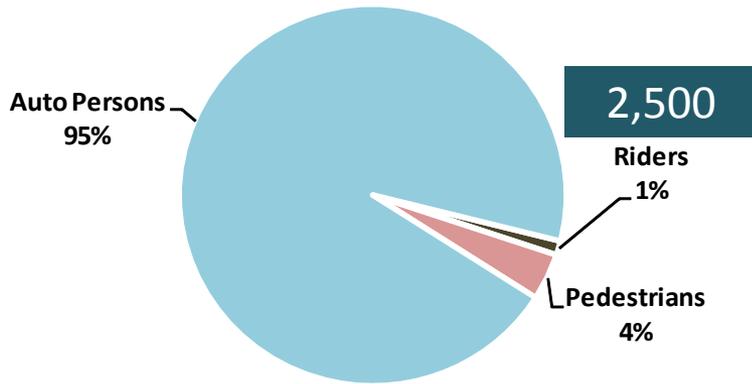
## Daily Person Work Trips: 2030



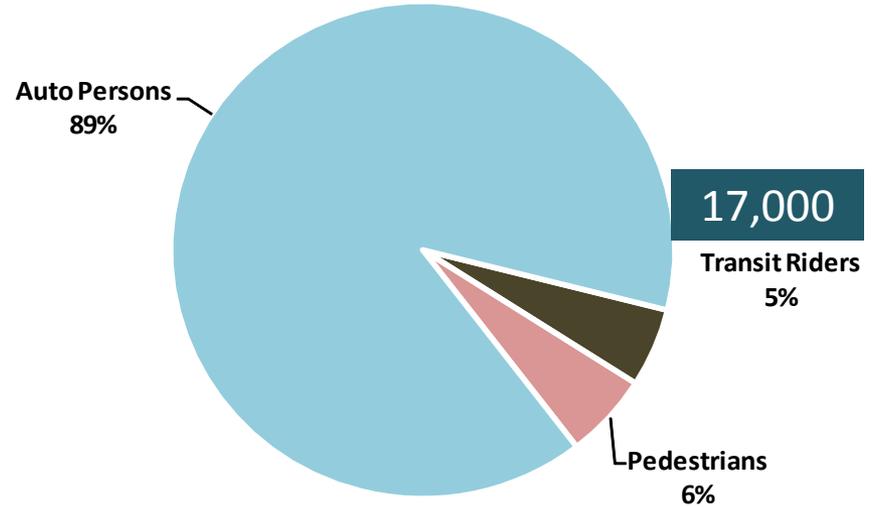
Note: More than half of the 2010 and 2030 projected daily transit ridership is in Home-Based Work Trips.

# Downtown Home-Based Other by Mode

All Home-Other Daily Person Trips:  
2010

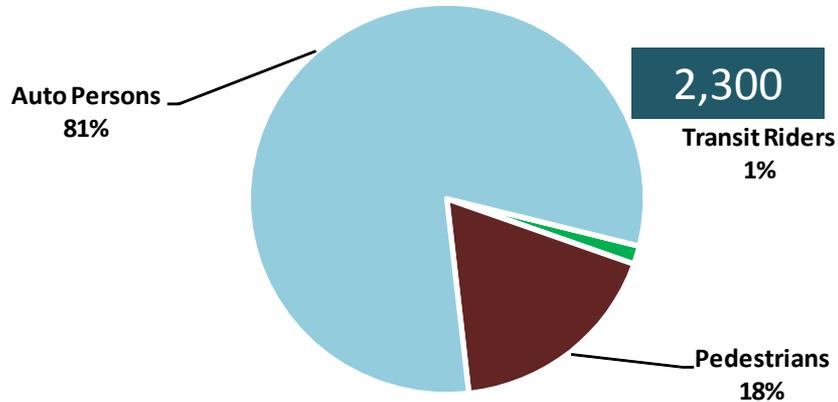


All Home-Other Daily Person Trips:  
2030

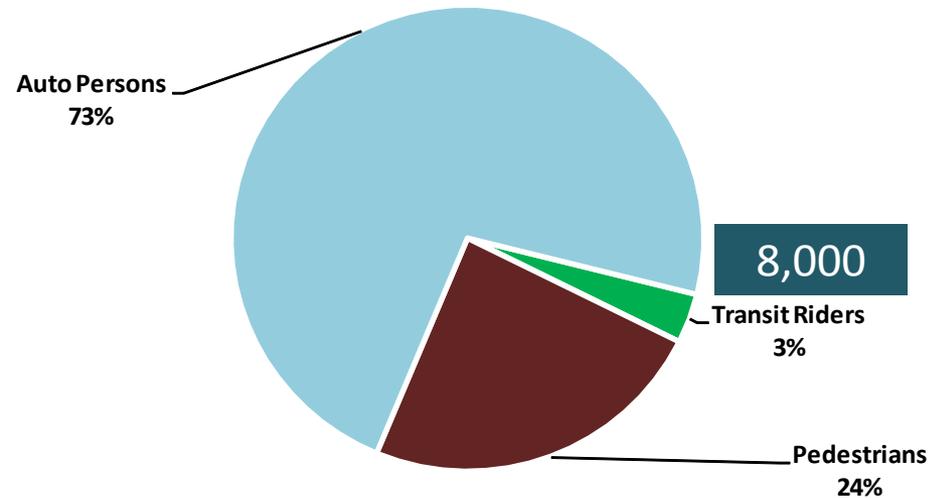


# Downtown Non-Home-Based by Mode

**Downtown Daily Non-Home Person  
Trips: 2010**



**Downtown Daily Non-Home Person  
Trips: 2030**

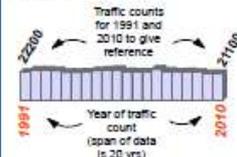


# 1991 – 2010: Average Annual Weekday Traffic

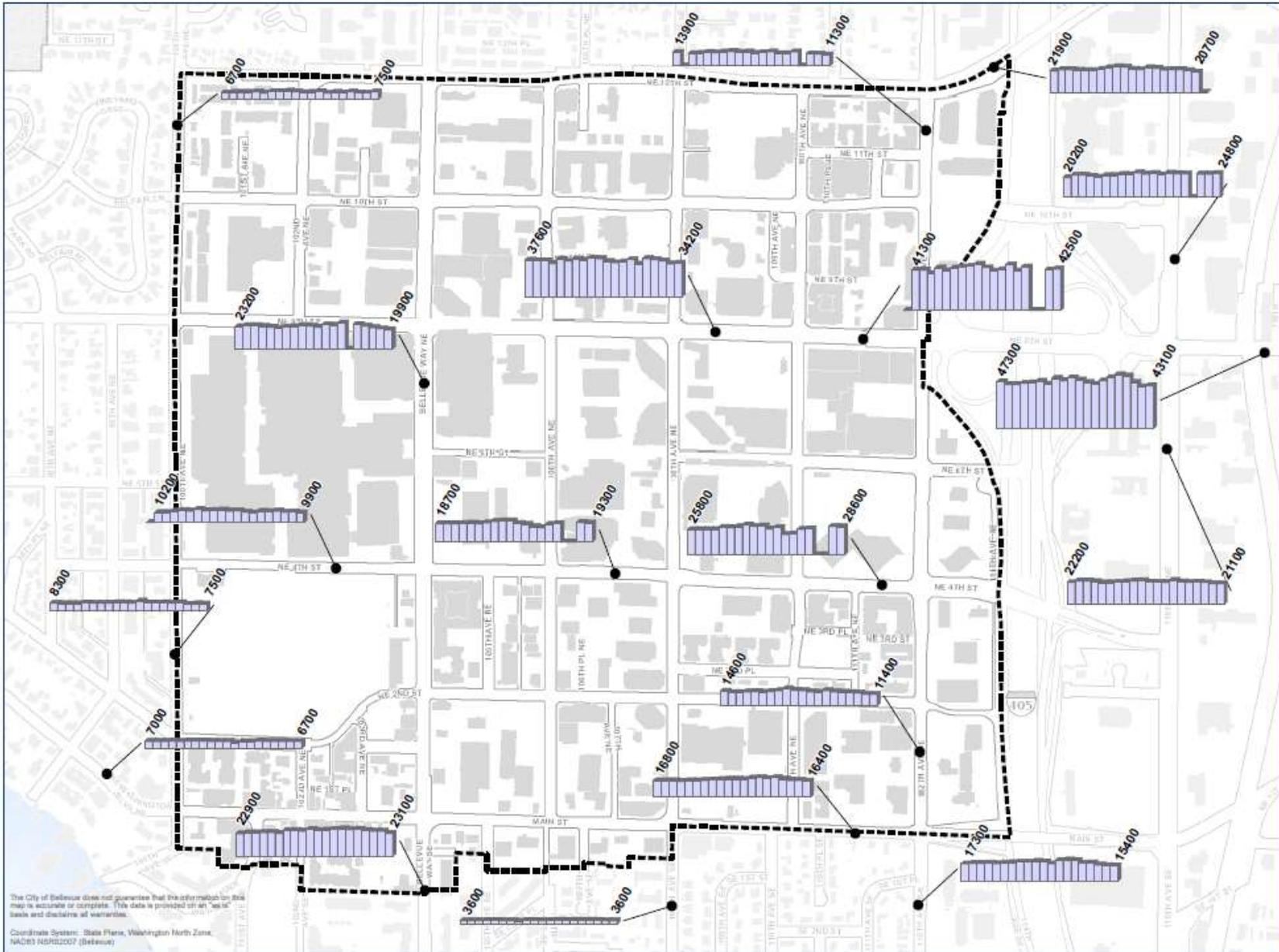


## Average Annual Weekday Traffic Downtown Transportation Plan Update

### Legend



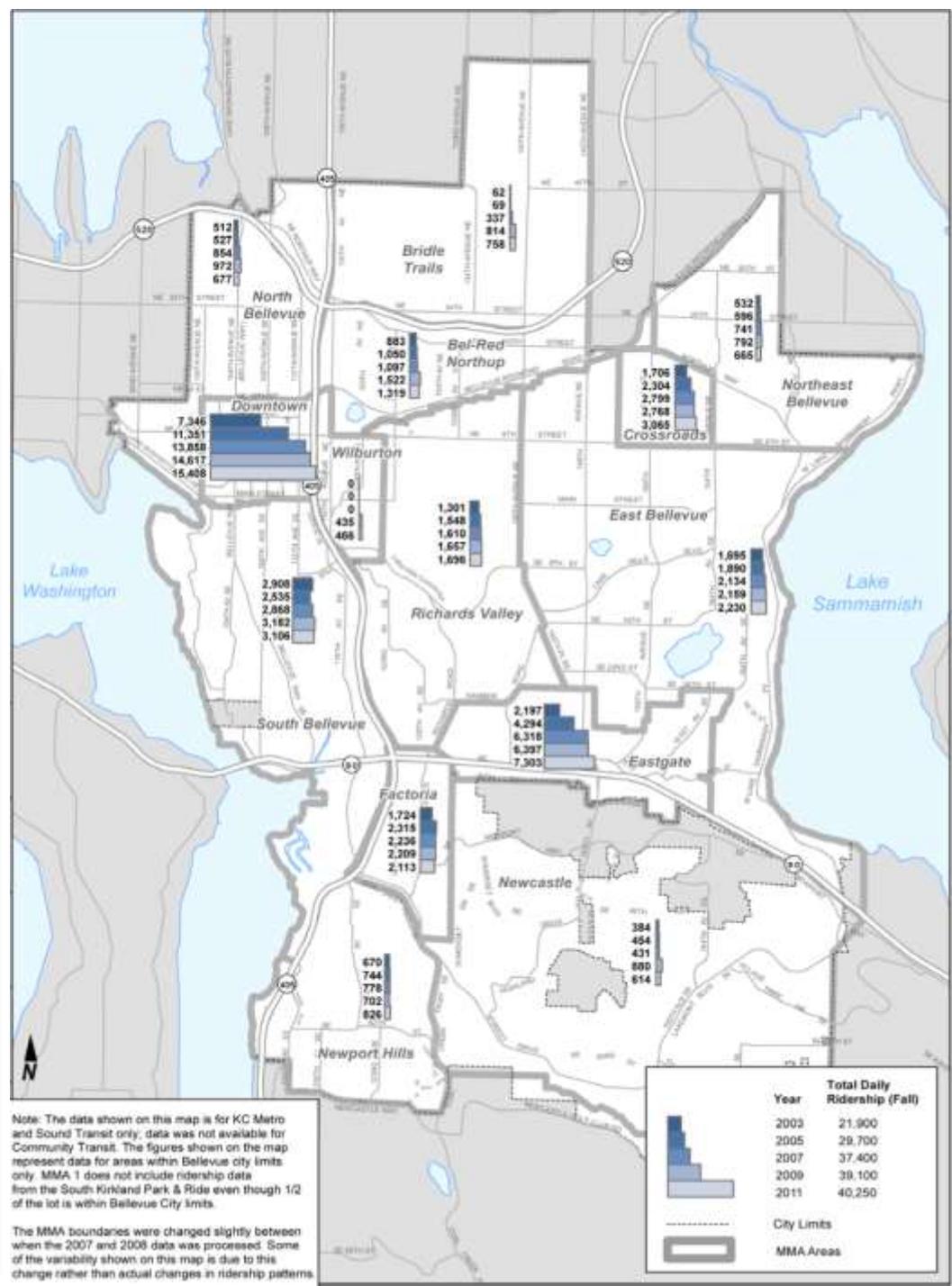
**Note:**  
Data values at "0" on the graph are missing data or no-data for that particular year.



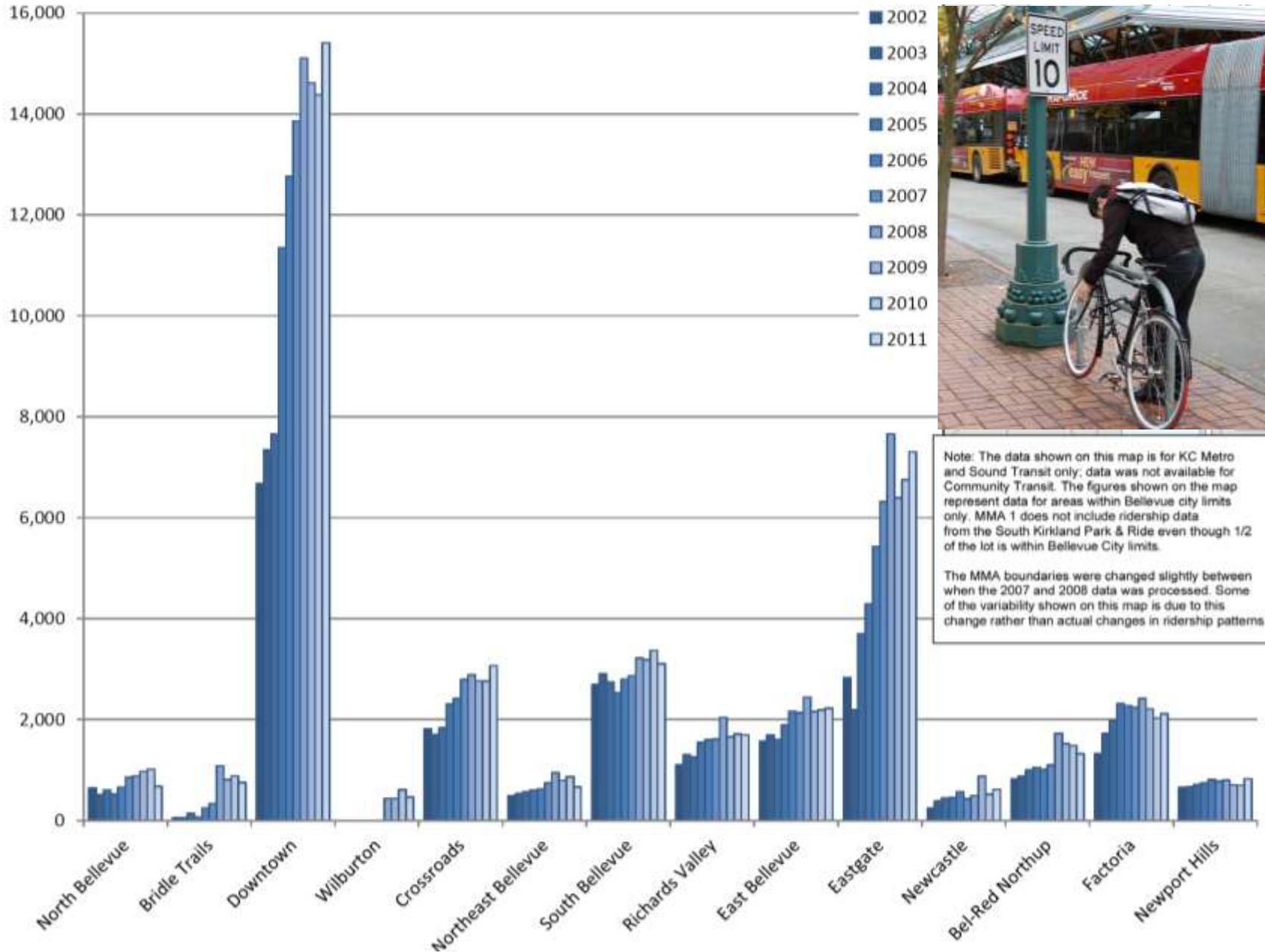
The City of Bellevue does not guarantee that the information on this map is accurate or complete. This data is provided on an "as is" basis and disclaims all warranties.

Coordinate System: State Plane, Washington North Zone, NAD83 NRSR22007 (Bellevue)

# 2003 – 2011 Daily Transit Ridership



# 2003 – 2011 Daily Transit Ridership



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.

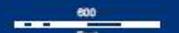
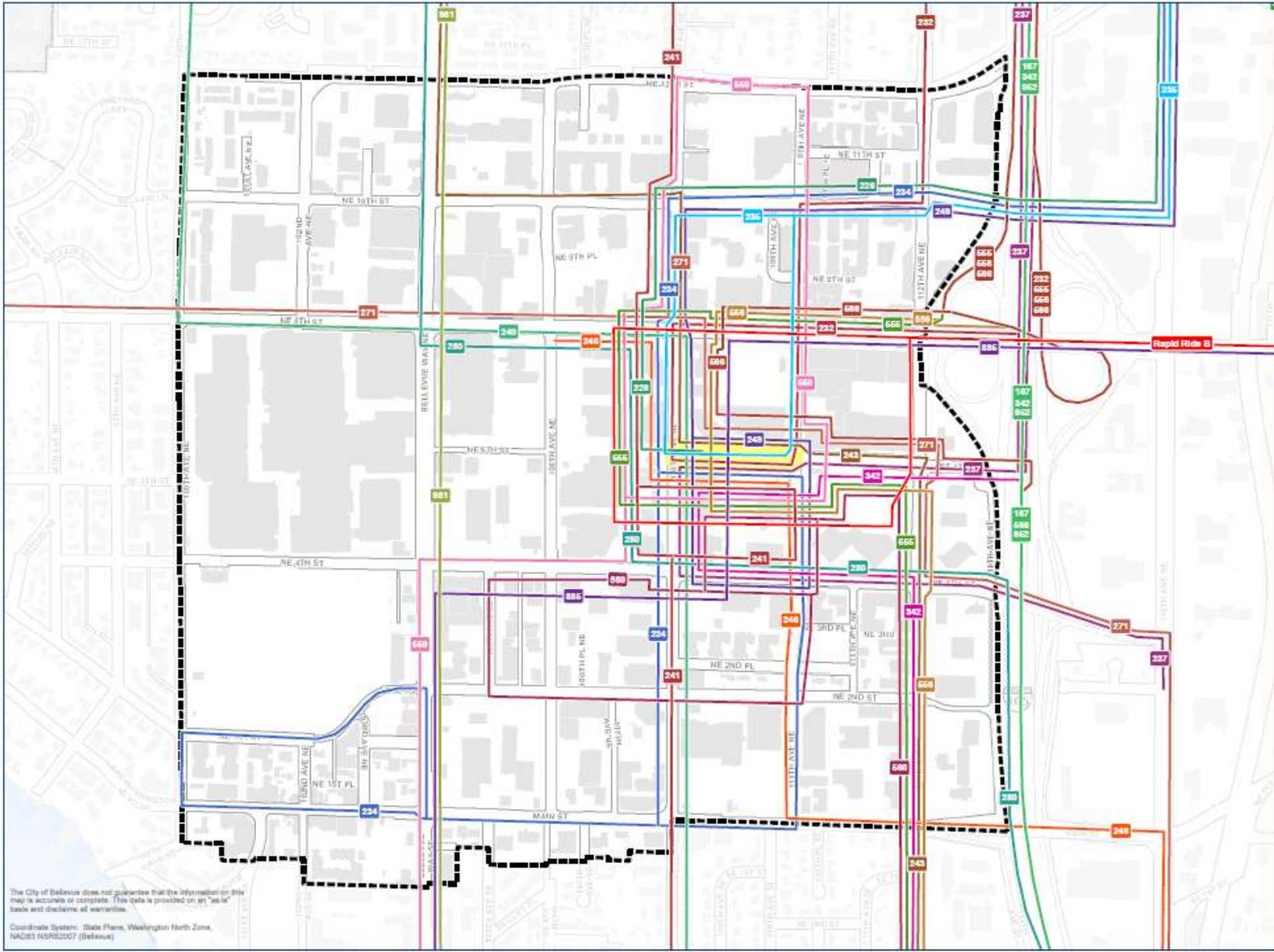
# Downtown 2010: Transit Network



## Transit Network

Downtown Transportation Plan Update

### Legend



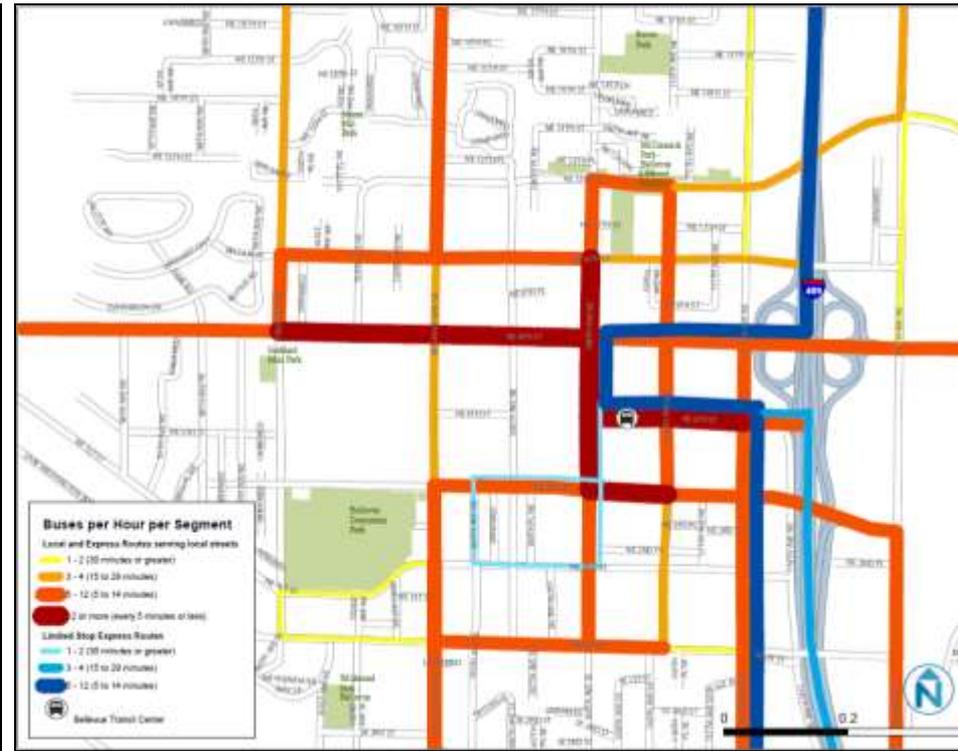
Sources:  
City of Bellevue

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Coordinate Systems: State Plane, Washington North Zone, NAD83 14SR02207 (Bellevue)

# Downtown 2010: Transit Service Time of Day

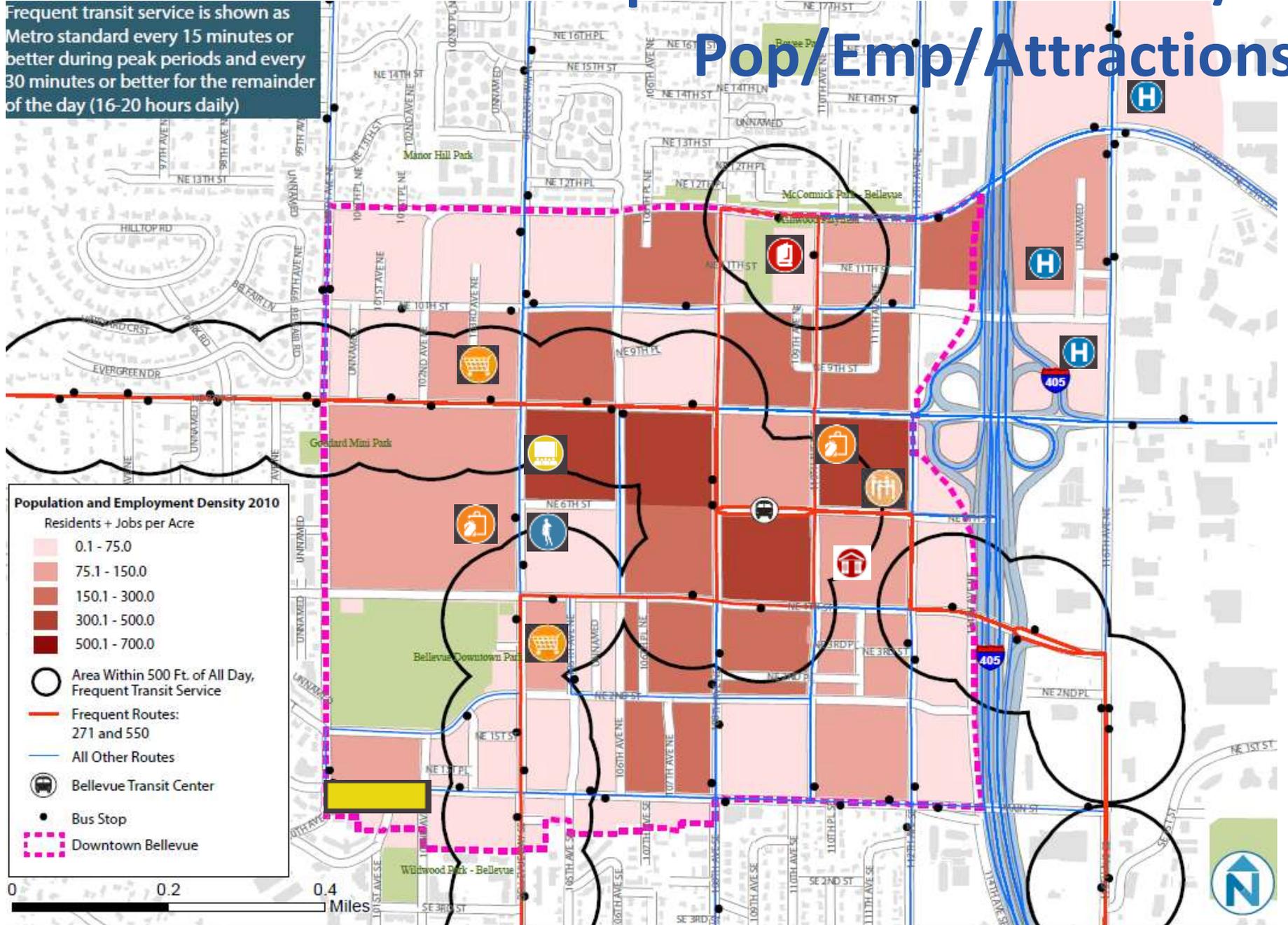
## Mid-Day

## AM/PM Peak



# Downtown 2010: Frequent Transit Service / Pop/Emp/Attractions

Frequent transit service is shown as Metro standard every 15 minutes or better during peak periods and every 30 minutes or better for the remainder of the day (16-20 hours daily)

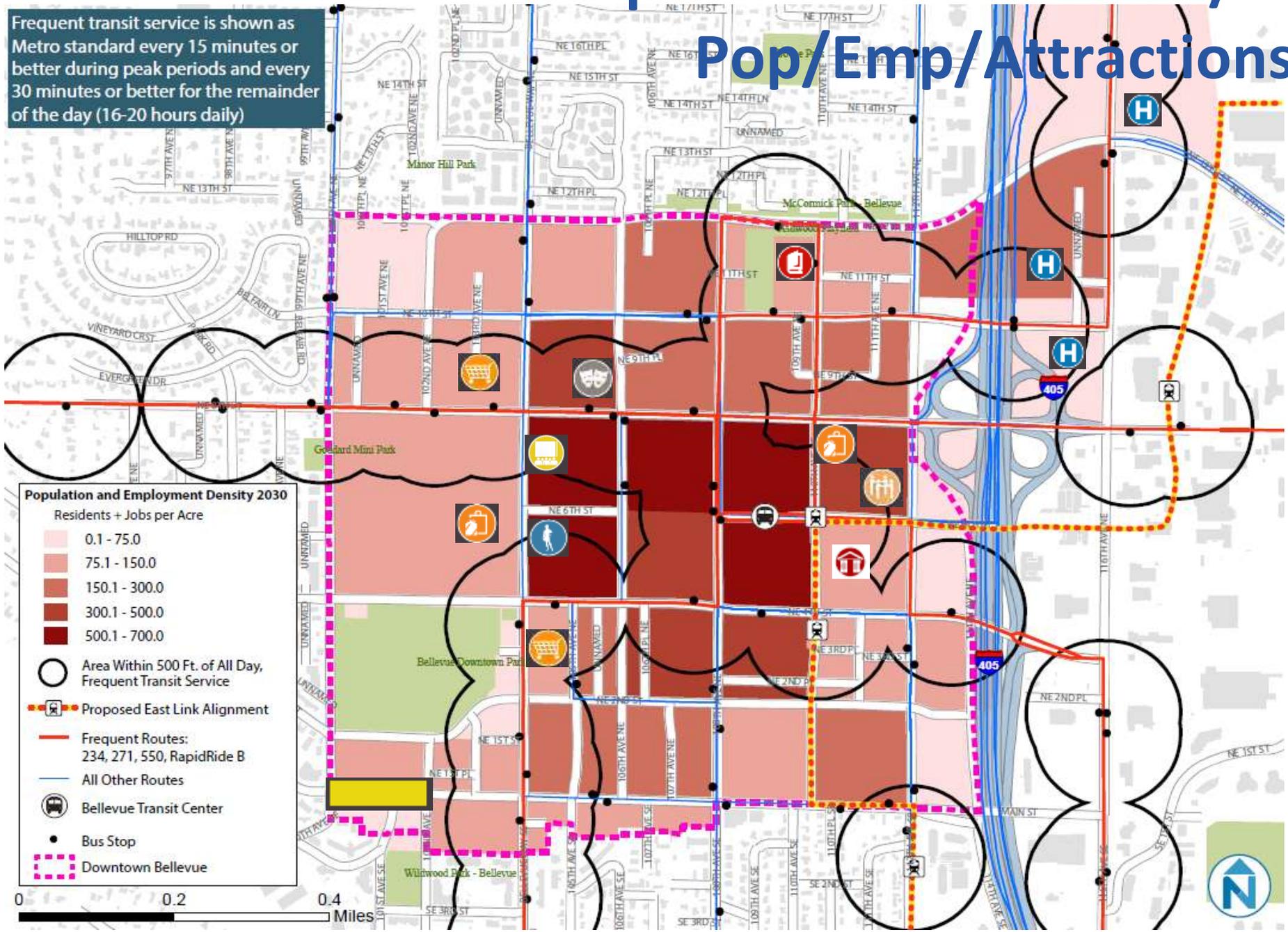


## Pop/Emp/Attractions

# Downtown 2030: Frequent Transit Service / Pop/Emp/Attractions

Frequent transit service is shown as Metro standard every 15 minutes or better during peak periods and every 30 minutes or better for the remainder of the day (16-20 hours daily)

## Pop/Emp/Attractions



### Population and Employment Density 2030

Residents + Jobs per Acre

- 0.1 - 75.0
- 75.1 - 150.0
- 150.1 - 300.0
- 300.1 - 500.0
- 500.1 - 700.0

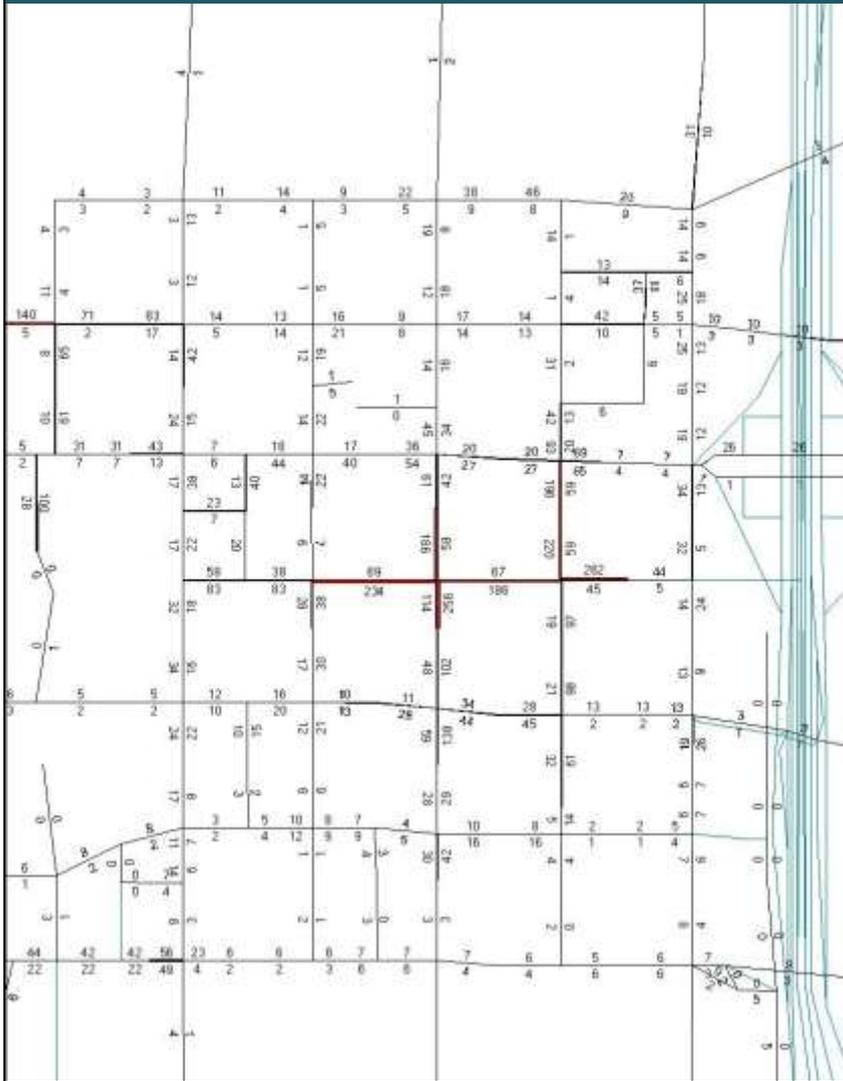
- Area Within 500 Ft. of All Day, Frequent Transit Service
- Proposed East Link Alignment
- Frequent Routes: 234, 271, 550, RapidRide B
- All Other Routes
- Bellevue Transit Center
- Bus Stop
- Downtown Bellevue



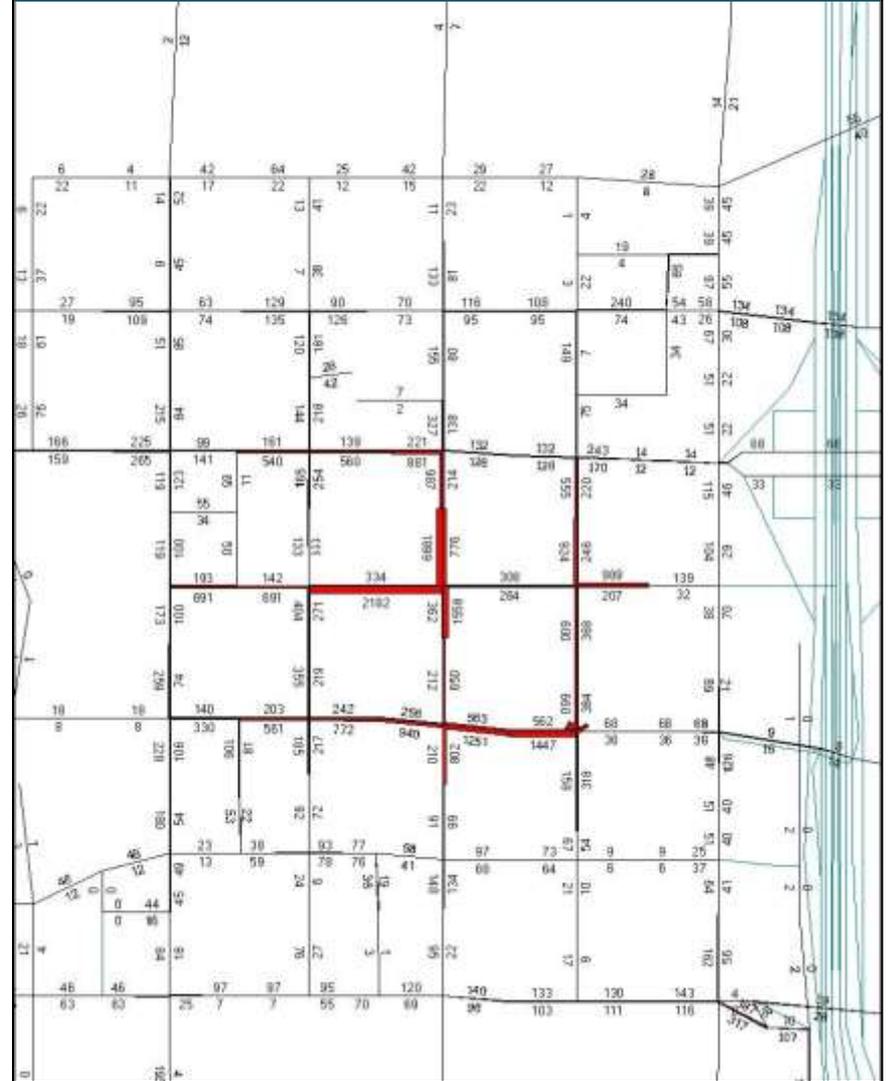


# Downtown Pedestrian Access to Transit

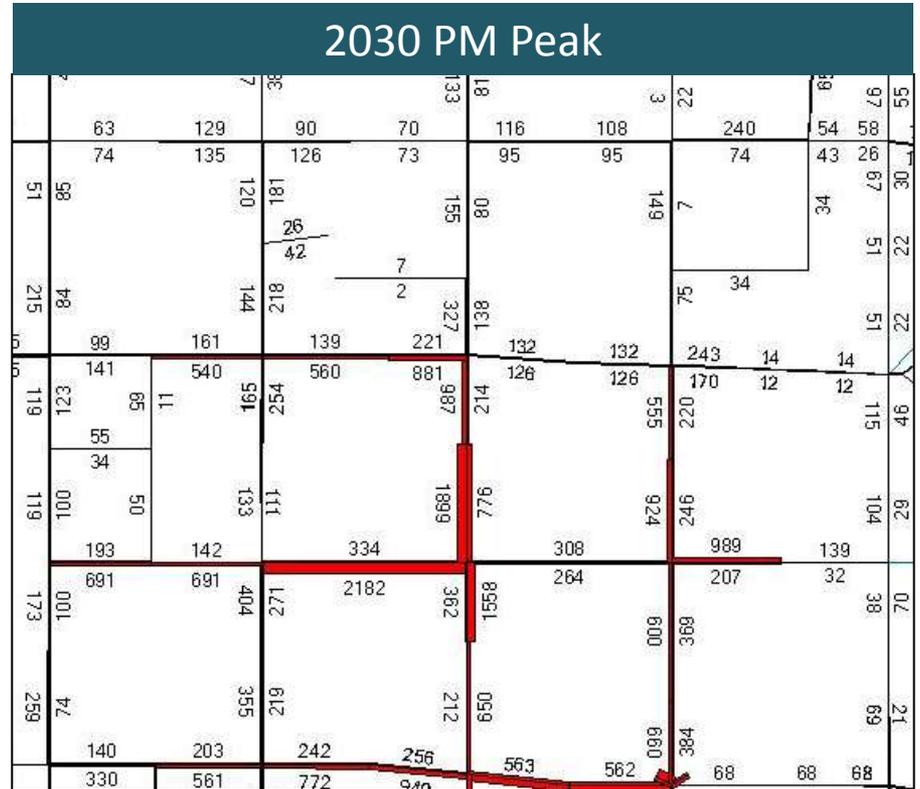
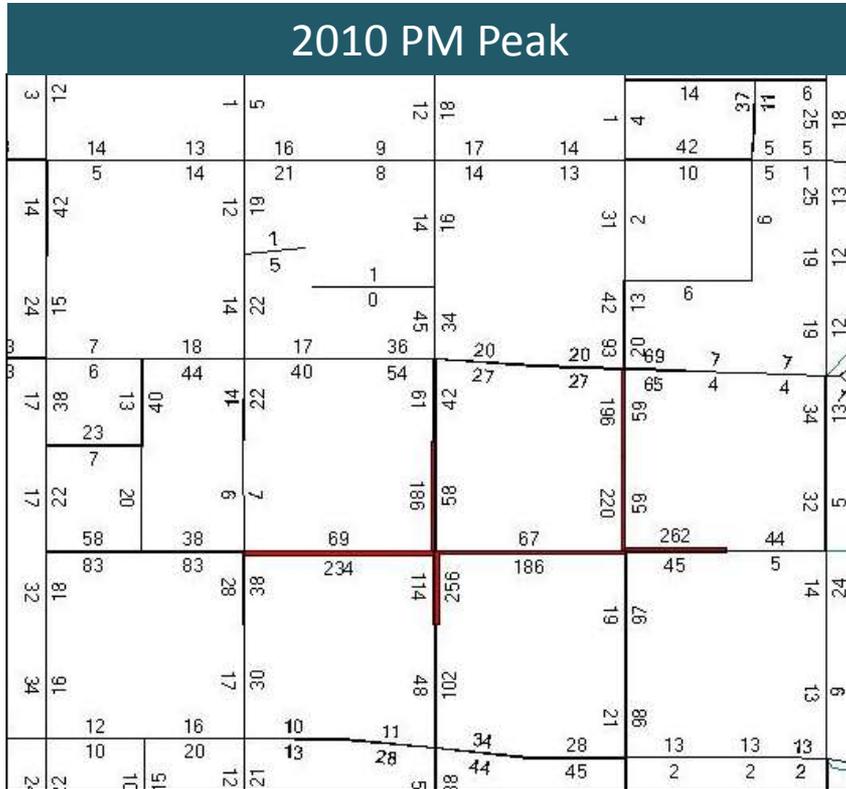
2010 PM Peak



2030 PM Peak



# Downtown Pedestrian Access to Transit



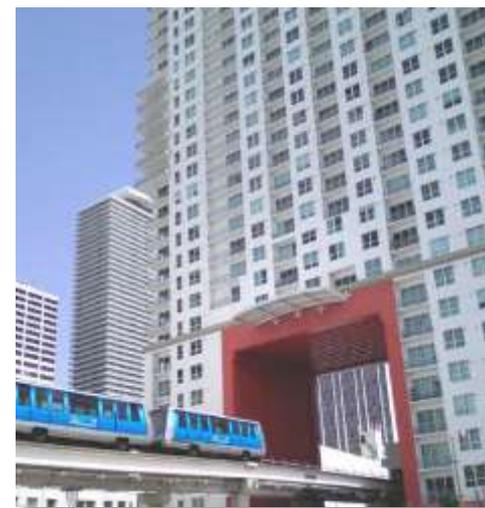
# Downtown Transit Mobility – Scope of Work

## Derived from:

- Council Direction
- Measures of Effectiveness
- Community Involvement
- Land Use Forecasts
- Transit Demand Modeling

## Scope topics include:

- Coverage
- Speed and Reliability
- Capacity
- Comfort/Access/Information



# Downtown Transit Mobility – Scope of Work

## Coverage



## Speed and Reliability



## Capacity



## Comfort/Access/Information



# Downtown Transit Mobility – Coverage

## Coverage



- All Day Frequent Transit service - routing and stop locations - to provide transit mobility to growing Downtown neighborhoods and employment centers
  - MOE: Residential and employment trips served within a 5-minute walk of 15-minute transit service
- All Day Frequent Transit service to the Medical Institution District east of I-405

# **DOWNTOWN BELLEVUE TRANSIT**

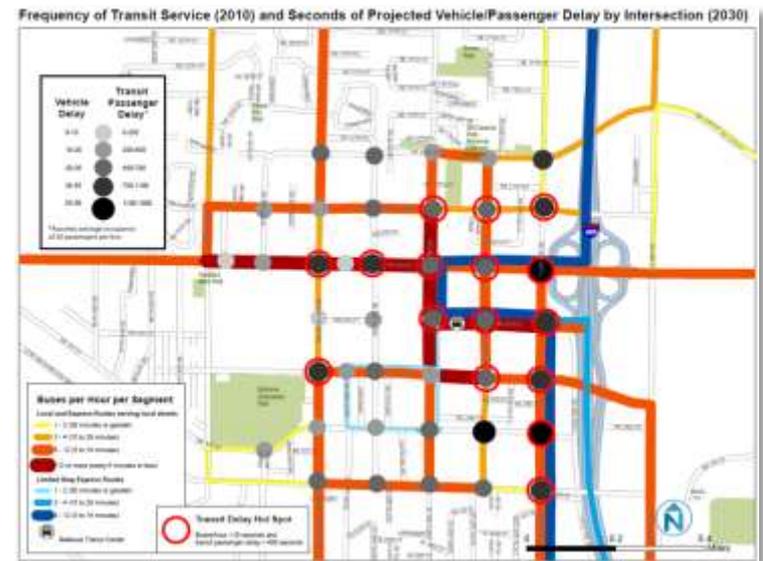
## **TRANSIT COVERAGE**

### **DISCUSSION/DIRECTION**

# Downtown Transit Mobility – Speed and Reliability

- Transit delay – MOE: Transit rider travel time
  - Getting buses past vehicles queued to get through intersections
  - Impacts of bus/ pedestrian conflicts on right turns
- Best practices to address the type of transit delay anticipated
  - Signalized intersections (Transit signal priority)
  - Roadway segments/corridors (Peak hour transit/HOV Lanes)
  - Off-board fare payment

## Speed and Reliability



## **DOWNTOWN BELLEVUE TRANSIT**

## **TRANSIT SPEED AND RELIABILITY**

## **DISCUSSION/DIRECTION**

# Downtown Transit Mobility – Capacity

- Transit Center Capacity
  - Passenger waiting space, boarding and alighting
  - Passenger circulation - transferring
  - Transit vehicle circulation capacity
  - Bus layover space
- Transit demand to Downtown Bellevue from the region and other Bellevue neighborhoods
  - MOE: Percent of daily trip ends within a 5-minute walk and total Downtown
  - Serve Medical Institution District
  - How to serve transit demand with Bus, BRT, LRT, other technology

## Capacity



# **DOWNTOWN BELLEVUE TRANSIT**

## **TRANSIT SERVICE CAPACITY**

## **DISCUSSION/DIRECTION**

# Downtown Transit Mobility – Comfort/Access/Information

- MOE: Preferred components for transit stops appropriate to the transit stop typology
  - Shelters with amenities
  - Passenger information – maps, electronic
- Wayfinding to/from neighborhood destinations
- Sidewalks and other access: crosswalks, mid-block crossings
- Bicycle facilities: on-street bicycling facilities and wayfinding, short-term and long-term bicycle parking near transit

## Comfort/Access/Information



## **DOWNTOWN BELLEVUE TRANSIT**

### **TRANSIT PASSENGER COMFORT, ACCESS AND INFORMATION**

## **DISCUSSION/DIRECTION**



# **Downtown** Transportation Plan Update

## **Next Steps**

**December 14, 2012:** Transit Workshop with Staff/Consultants

**January 10, 2013:** Transportation Commission

- Downtown Transit – gap analysis, needs assessment and preliminary recommendations

**February 14, 2013:** Transportation Commission

- Downtown Transit – Preliminary recommendations continued





# **Downtown** Transportation Plan Update

**Thank you!**

[www.bellevuewa.gov/DowntownTransportationPlanUpdate](http://www.bellevuewa.gov/DowntownTransportationPlanUpdate)

EXTRA SLIDES

# Downtown Travel Demand Summary Table

## Downtown Bellevue Trip Patterns Analysis Summary

All Trips	Total						
	2010		2030		Change		
Mode	Trips	Percent	Trips	Percent	Absolute	Diff in %	Growth
<b>Transit Riders</b>	<b>11,211</b>	<b>3%</b>	<b>62,042</b>	<b>9%</b>	<b>50,831</b>	<b>6%</b>	<b>453%</b>
Pedestrians	33,590	9%	84,571	12%	50,981	4%	152%
Auto Persons	345,342	89%	543,933	79%	198,591	-10%	58%
<b>Total</b>	<b>390,144</b>		<b>690,547</b>		<b>300,403</b>		<b>77%</b>

Trips by Purpose	Total						
	2010		2030		Change		
Mode	Trips	Percent	Trips	Percent	Absolute	Diff in %	Growth
<i>Home-Based Work Trips</i>							
<b>Transit Riders</b>	<b>6,504</b>	<b>11%</b>	<b>36,982</b>	<b>35%</b>	<b>30,478</b>	<b>23%</b>	<b>469%</b>
Pedestrians	533	1%	728	1%	195	0%	37%
Auto Persons	50,261	88%	69,041	65%	18,780	-23%	37%
<b>Total</b>	<b>57,298</b>		<b>106,751</b>		<b>49,453</b>		<b>86%</b>
<i>Home-Based Other Trips</i>							
<b>Transit Riders</b>	<b>2,450</b>	<b>1%</b>	<b>16,675</b>	<b>5%</b>	<b>14,226</b>	<b>4%</b>	<b>581%</b>
Pedestrians	6,754	4%	25,578	8%	18,824	4%	279%
Auto Persons	175,998	95%	298,245	88%	122,247	-7%	69%
<b>Total</b>	<b>185,201</b>		<b>340,498</b>		<b>155,297</b>		<b>84%</b>
<i>Non-Home-Based Trips</i>							
<b>Transit Riders</b>	<b>2,258</b>	<b>2%</b>	<b>8,385</b>	<b>3%</b>	<b>6,127</b>	<b>2%</b>	<b>271%</b>
Pedestrians	26,303	18%	58,265	24%	31,962	6%	122%
Auto Persons	119,084	81%	176,648	73%	57,564	-8%	48%
<b>Total</b>	<b>147,645</b>		<b>243,298</b>		<b>95,653</b>		<b>65%</b>