

Aurora Corridor to E Line

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King County Metro Transit

- Part of general government with Executive and council
- 2.1 million population; 2,100 square miles; Puget Sound to Cascade Crest; 39 cities
- UW, Boeing, Amazon, Microsoft, Costco, Starbucks
- Bus: 130.7 million annual boardings in 2016
- Bus fleet: trolley, 163; hybrid, 832; diesel, 368
- Seattle streetcars: South Lake Union, 4; First Hill, 6
- Metro operates Link LRT and several bus routes for Sound Transit
- Facilities: transit tunnel, 7 bases; 8,091 stops, 15 transit centers, 25,468 parking stalls

It Takes a Village

- Good intergovernmental cooperation is key
- Ridership grew with improved frequency and speed
- The Bus Rapid Transit (BRT) line evolved over time



Outline: Aurora Corridor to E Line

What is RapidRide?

Travel time improvement

Intergovernmental Cooperation

- King County Metro Transit
- Washington Department of Transportation
- City of Shoreline
- City of Seattle

Ridership growth



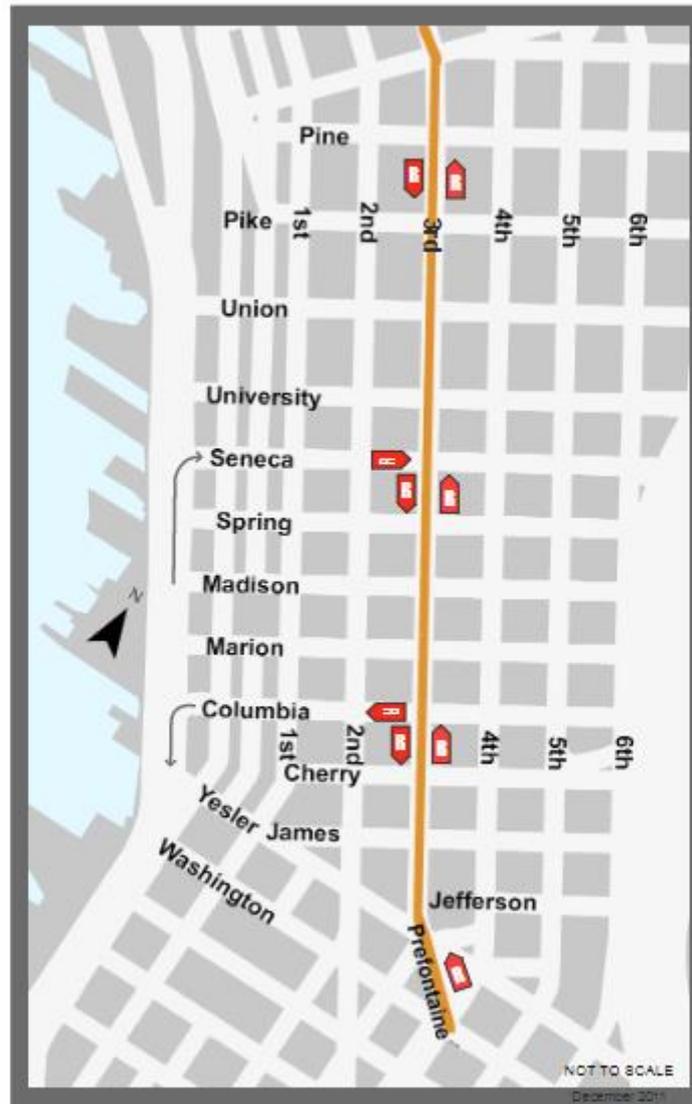
RAPID RIDE

Elements of RapidRide



- Frequent Service
- Travel Time Savings
- Faster Fare Collection
- Enhanced Bus and Passenger Amenities
- Uniquely Branded - "The Best of Metro"

Downtown Seattle RapidRide Stop Locations 2012 - 2015



Stops for RapidRide C, D and E Lines operating through Downtown Seattle until the opening of the SR-99 Tunnel.

Travel Time Changes

Route 358, 1999 to 2013

- North 63rd Street signal
- Battery Street v. John Street
- Shoreline Project
- Seattle parking restrictions
- Transit Signal Priority with detection

Travel Time Changes

E Line, 2014 to date

- Faster fare collection
- Linden Avenue North deviation
- Phinney Place North signal
- Battery-Wall bus lanes
- New TSP system with On Board Systems

Real Travel Time, 2001 v. 2016

Direction	2001	2016	Change	Percent
Northbound Minutes, downtown to Aurora Village				
AM Peak	49	47	(2.2)	-4%
MIDDAY	49	49	0.0	0%
PM Peak	53	52	(0.4)	-1%
Southbound Minutes, Aurora Village to downtown				
AM Peak	45	45	(0.4)	-1%
MIDDAY	49	47	(1.7)	-3%
PM Peak	53	51	(2.2)	-4%

Travel Time Changes

Transit is faster despite significant increase in overall traffic:

Year	Weekday Trips (SDOT)
1999	40,100
2015	58,000

Intergovernmental Cooperation

- King County Metro Transit
- Washington State Department of Transportation
- Seattle
- Shoreline
- Worked on one another's projects
- Federal Transit Administration grants



Intergovernmental Cooperation

King County Metro Transit

- Transit Agency
- Merged into King County in mid-1990s after lawsuit over governance
- Designs and operates transit service
- New hours to Route 358 in 2003



TRANSIT SERVICE

N.E.W.S.

Metro - North, East, West, South 

January 1998

*We'd like
to hear
from you!*

You can help Metro improve bus service in north Seattle

We need your advice

- Look at the proposals inside this brochure.
- Fill out the questionnaire — and tell us which proposals you like best.
- Stop by an information table in your community and share your ideas with Metro planners.

This is your chance to help redesign your bus service

The proposals in this publication are designed to improve service in north Seattle. On the enclosed questionnaire, tell us which proposals you like best, and how much we should change the current system so we can make other improvements:

Coming to North Seattle

A Metro Transit Production

THE BUS STOPS HERE

★★★★ "YOUR CHANCE TO HELP REDESIGN YOUR BUS SERVICE"

"TWO THUMBS UP!"

"THESE PROPOSALS WILL MAKE A DIFFERENCE!"



King County PUBLIC TRANSPORTATION METRO
A PUBLIC TRANSPORTATION METRO
PRODUCED BY METRO
DISTRIBUTED BY THE GENERAL PUBLIC

BASED ON THE
"SIX YEAR TRANSIT DEVELOPMENT PLAN" by KING COUNTY
METRO - YOUR NEIGHBORS - YOUR COMMUNITY

King County METRO

Excludes King County Proposal No. PASSEK Required Implementation Begins Sept. 1998

Network Change, 1999

- 1998 network had routes 6, 16, 16 shuttle, 359, and 360 with 30-minute headways
- 1999 network had routes 16 and 358 with 20-minute headways
- Traded coverage for speed, and frequency
- Improved night and evening service
- Fewer stops served on Aurora Avenue North; less stop, more go.

Intergovernmental Cooperation

City of Shoreline

- Aurora Corridor, 2007-14
- Difficult project
- Acquired right of way
- Urban form
- Secured grant funding; \$140 million over three phases







City of Shoreline Budget

Three miles

Total cost: \$140 million

Outside sources: \$130 million

Utilities will cover \$16 million of the outside subtotal.

Intergovernmental Cooperation

City of Seattle

- Shoreline and Seattle supported Route 358 getting the new service subsidy in 2003
- In 2013, improved flow (BAT lanes, TSP, parking restrictions)
- Seattle ran own outreach
- Safety, ridership

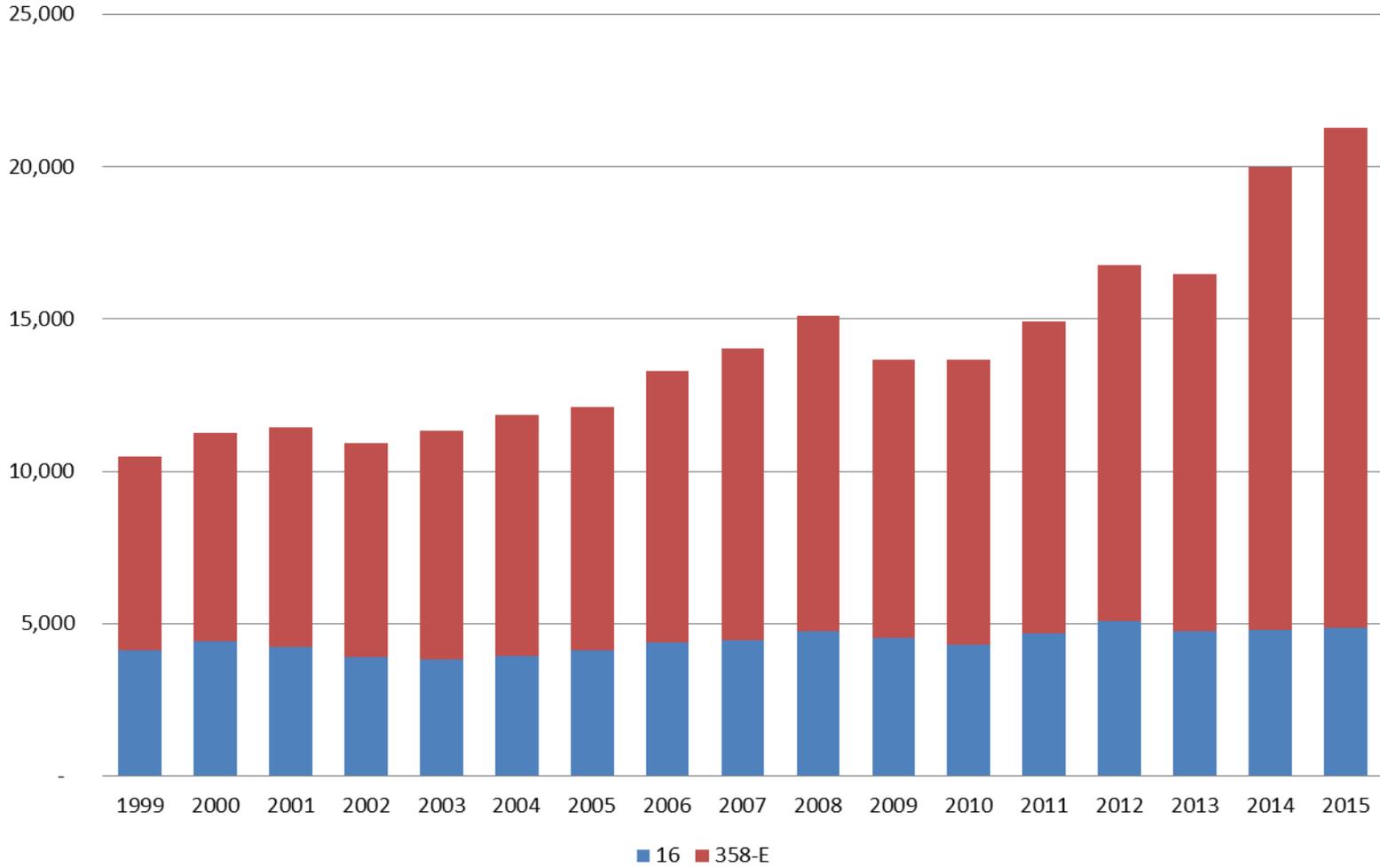


Intergovernmental Cooperation

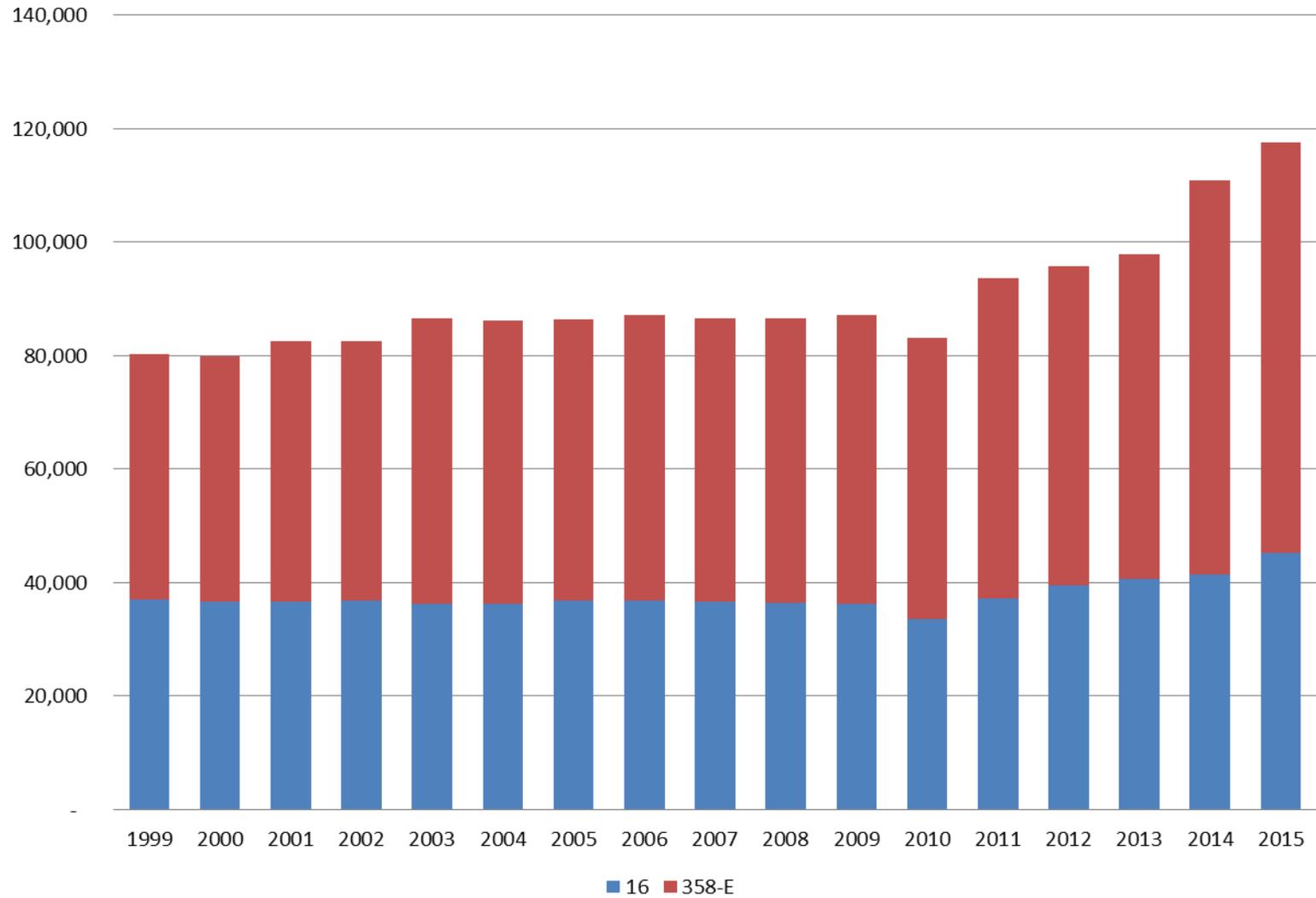
Washington State DOT

- Corridor plan, 1999
- In Shoreline, governs state highway SR-99; supported design
- Traffic engineer mandated new outside lane restrictions for safety
- Alaskan Way Viaduct project, 2011, paid for service

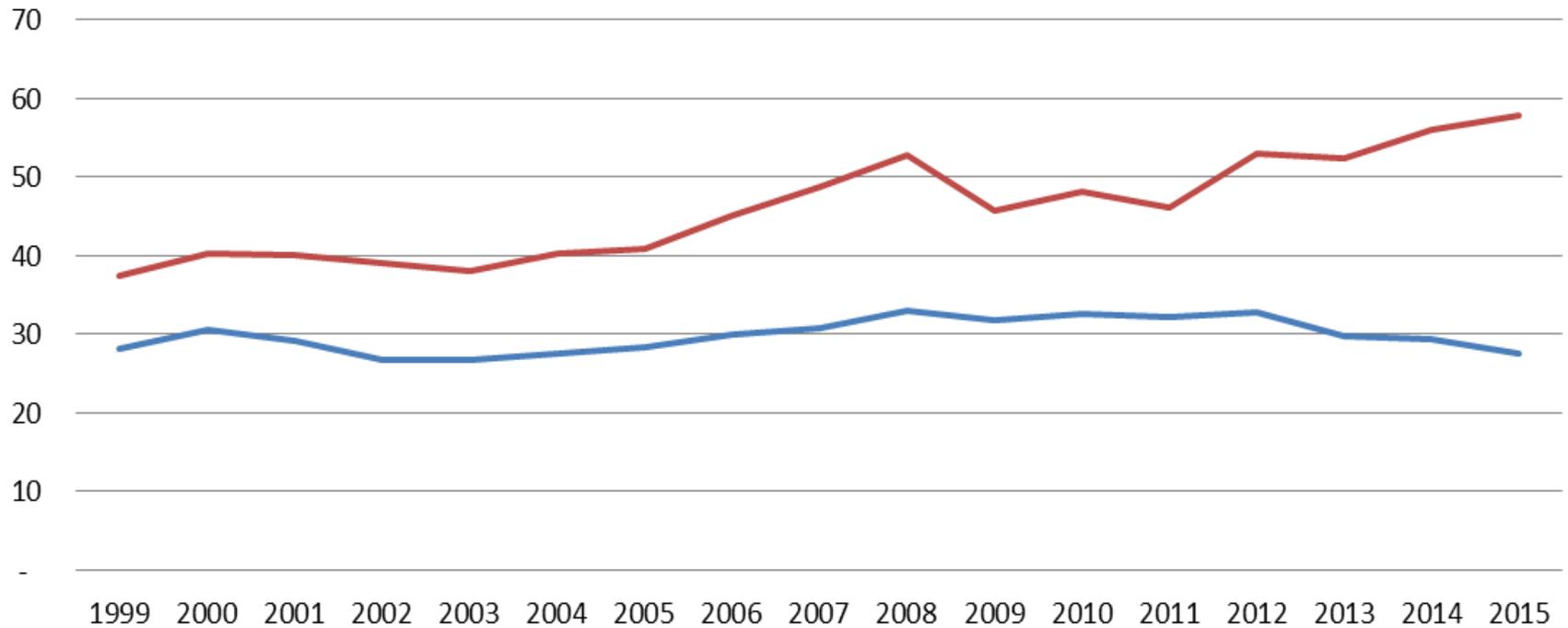
Aurora Corridor Weekday Rides



Aurora Corridor Weekday Annual Platform Hours

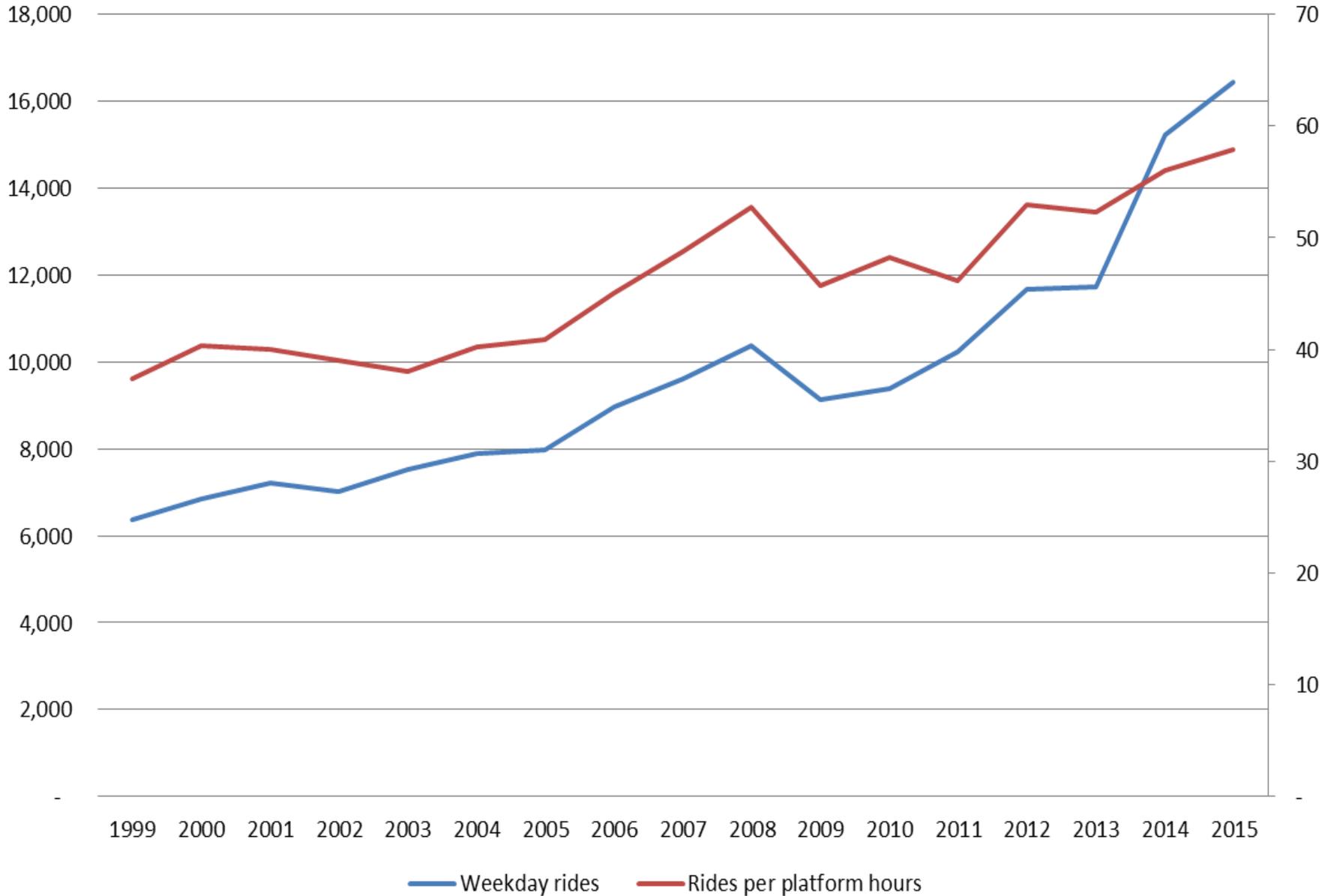


Aurora Corridor Weekday Rides per Platform Hour



— 16 — 358-E

Route 358 and E Line Growth



ORCA and Fare Collection

One Regional Card for All
Seven agency smart card, summer 2009
Free Ride Area ended fall 2012
Zone surcharge and ORCA
Short term changes under consideration
Next Gen ORCA
LIFT program (low income fare)



E Line Future

- SR-99 tunnel and north portal
- Harrison Street transfer point
- Improved transfer points
- Sound Transit Lynnwood Link, 2023, parallel line of service grid
- Seattle sidewalks and access management?

RapidRide Future

- Metro Connects
- City of Seattle, Move Seattle Levy, 2015: seven new lines, “RapidRide plus”
- FTA funding uncertainty
- Service hours uncertain
- Near term capacity issues in downtown Seattle

It Takes a Village

- Good intergovernmental cooperation is key
- Ridership grew with improved frequency and speed
- The BRT line evolved over time



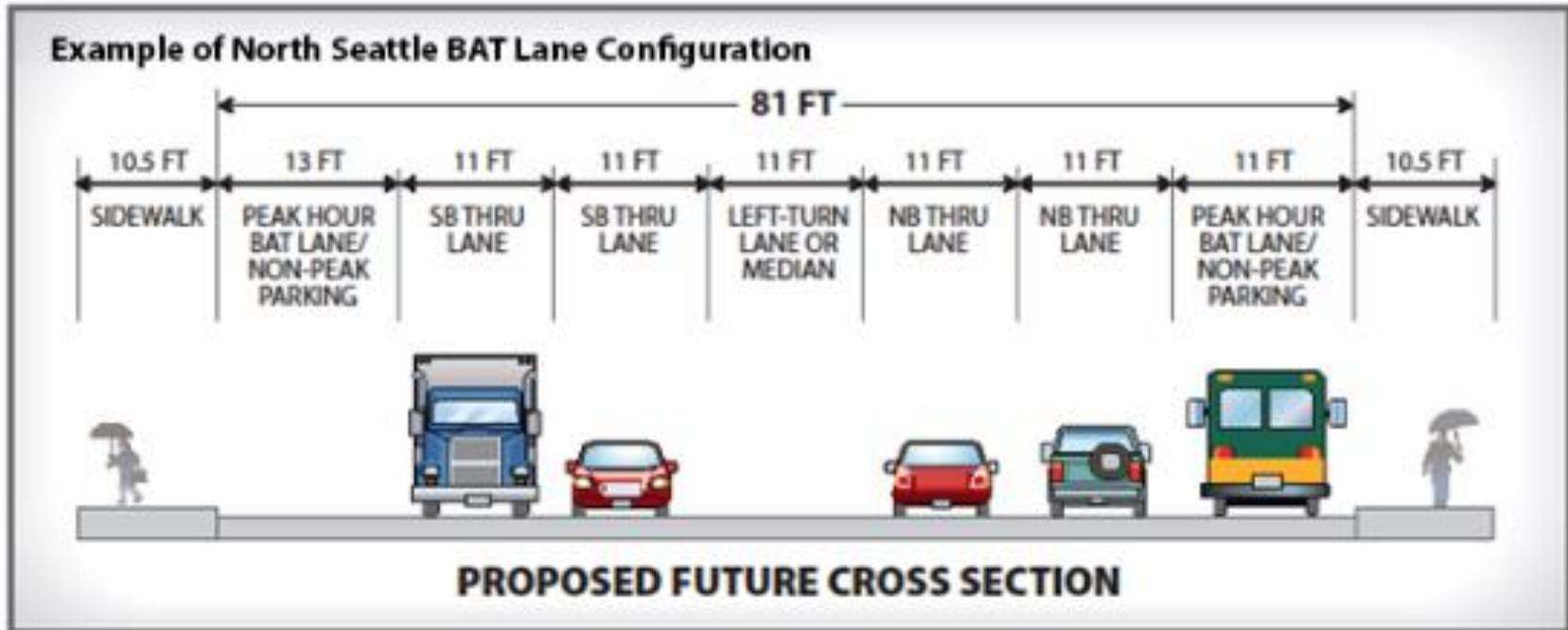
RAPID RIDE

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Seattle DOT Outreach, 2013

How will BAT lanes look?



1998 Political Context

- Metro merged into King County
- Executive Locke shifted sales tax revenue to service from capital and directed restructures
- Six-tenths sales tax allocation changed
- Subarea equity – new hours at 40-40-20

SDOT Outreach, 2013

What is the current transit ridership for Metro Route 358 which will become RapidRide E Line?

Metro Route 358, which will be replaced by RapidRide E line carries more riders than any other Metro route.

Time Period	Both Directions	Southbound	Northbound
Weekday (all day)	11,673		
AM peak hour		1,772	1,015
PM peak hour		661	2,551

SDOT Outreach, 2013

7. How many collisions have occurred on Aurora?

Between January 1, 2010 and July 1, 2013, the following number of accidents occurred on Aurora between North 145th Street and Bridge Way North:

Project Boundaries	Total Accidents	Number of Accidents that Involved Injuries	Number of Accidents that Involved Fatalities
Bridge Way to North 145th Street	894	332	1

E Line Transfer points

Aurora Village Transit Center

North 185th Street, Route 348

North 155th Street, Route 330

North 105th Street, Route 40

North 85th Street, Route 45

North 46th Street, Route 44

Denny Way, Route 8

STOP BY AN INFORMATION TABLE IN YOUR COMMUNITY

Metro planners and members of the North Seattle Sound Transit Board will be available to hear your ideas and answer questions about the proposition. Please feel welcome to meet us at any of the following locations:

Tues., Jan. 13, 6-8 p.m.

Ballard Library

5711 24th Ave. N.W.

If you are using transit, take routes 17, 18 or 44.

Wed., Jan. 14, noon-2 p.m. and 5-7 p.m.

University Bookstore

4326 University Way N.E.

If you are using transit, take routes 7, 9, 30, 43, 44, 46, 48, 68, 70, 71, 72, 73, 74, 75 or 271.

Tue., Jan. 20, 6-8 p.m.

Phinney Neighborhood Center

6532 Phinney Ave.

If you are using transit, take routes 17, 18 or 44.

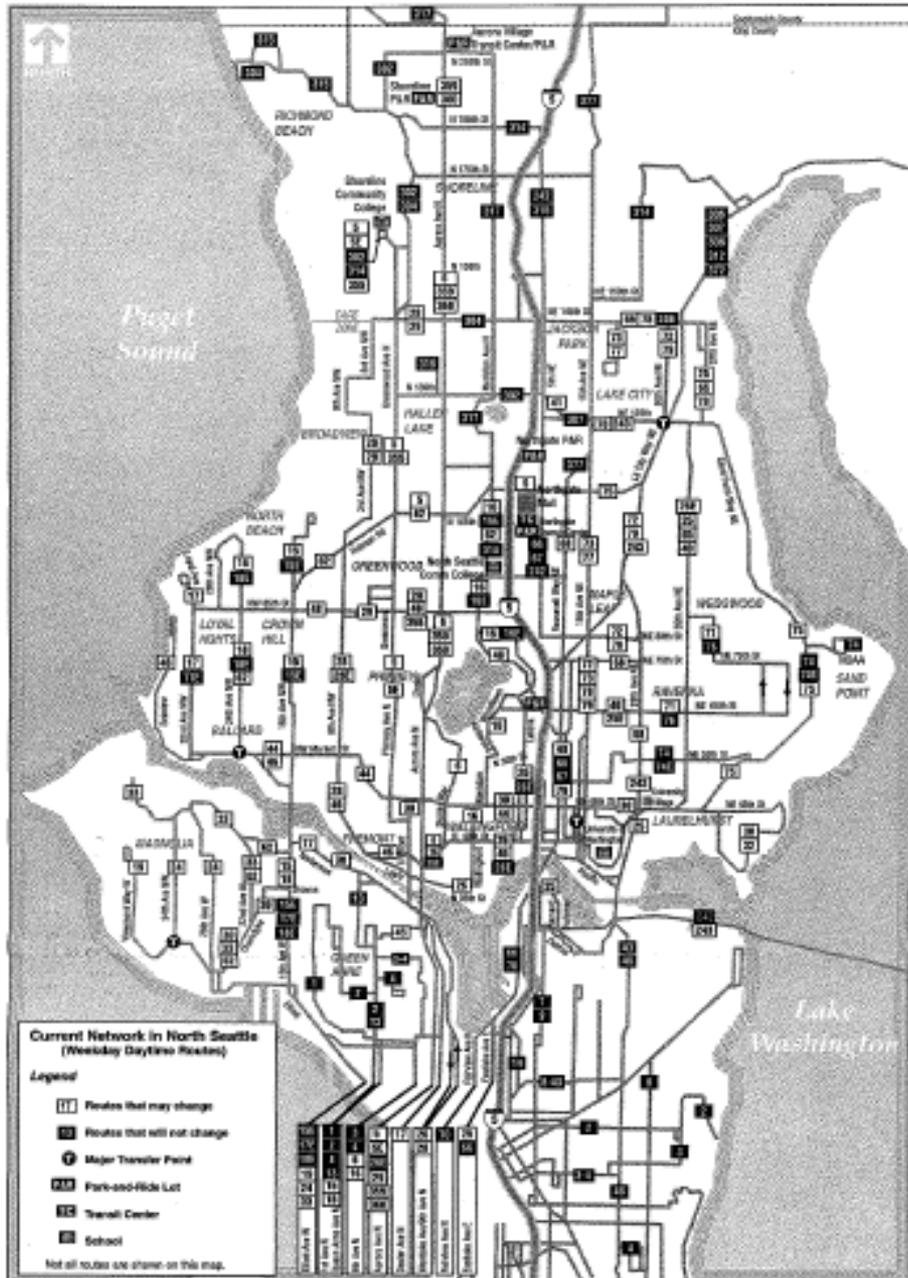
Wed., Jan. 21, 5-7 p.m.

Ravenna Eckstein Center

6535 Ravenna Ave.

If you are using transit, take routes 7, 9, 30, 43, 44, 46, 48, 68, 70, 71, 72, 73, 74, 75 or 271.

76 (also, center is served by routes 72, 73 and 243).



Current network in north Seattle



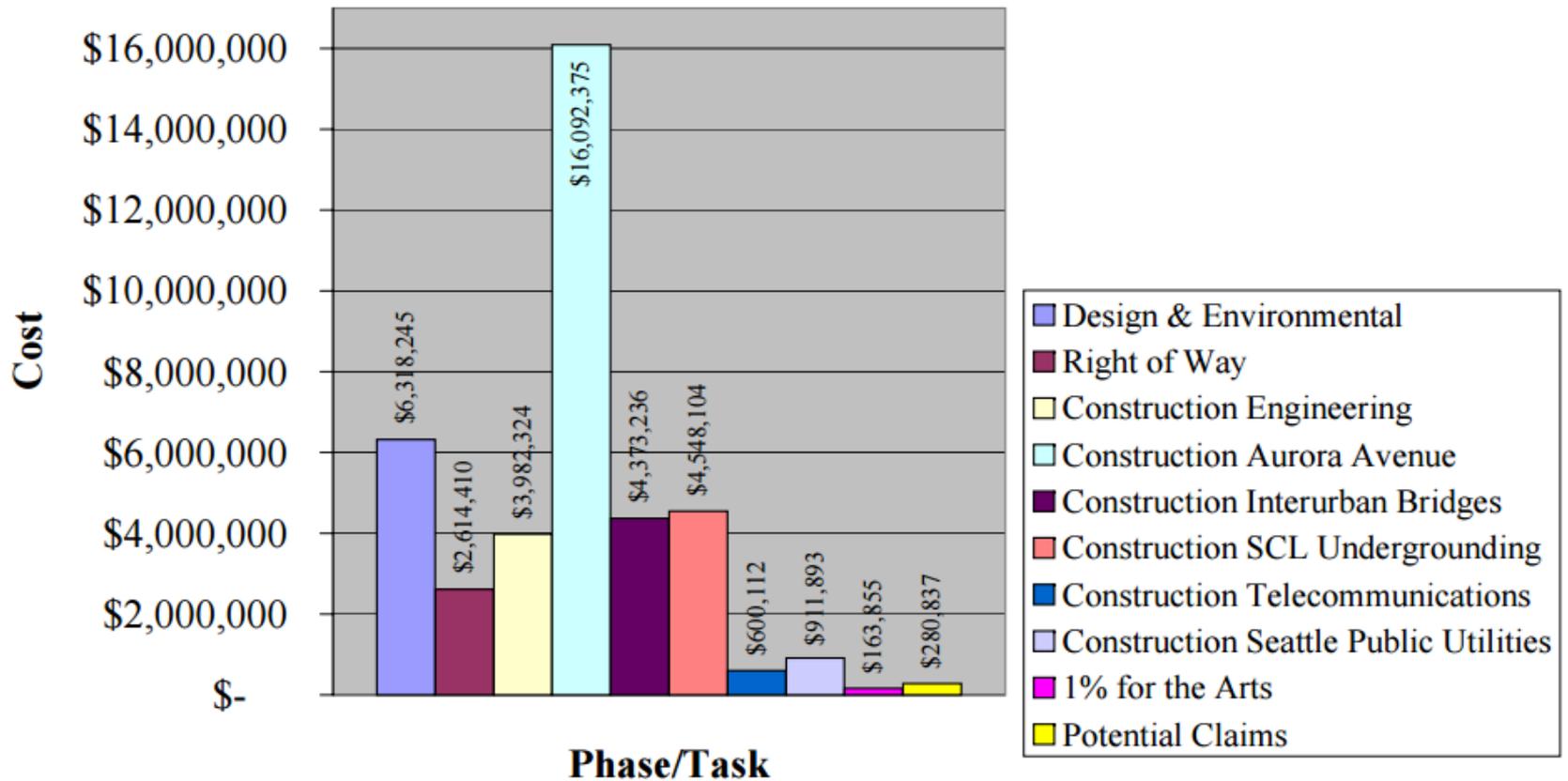
Should we combine routes in Wallingford so the buses would come more often but you may have to walk farther to the bus stop?



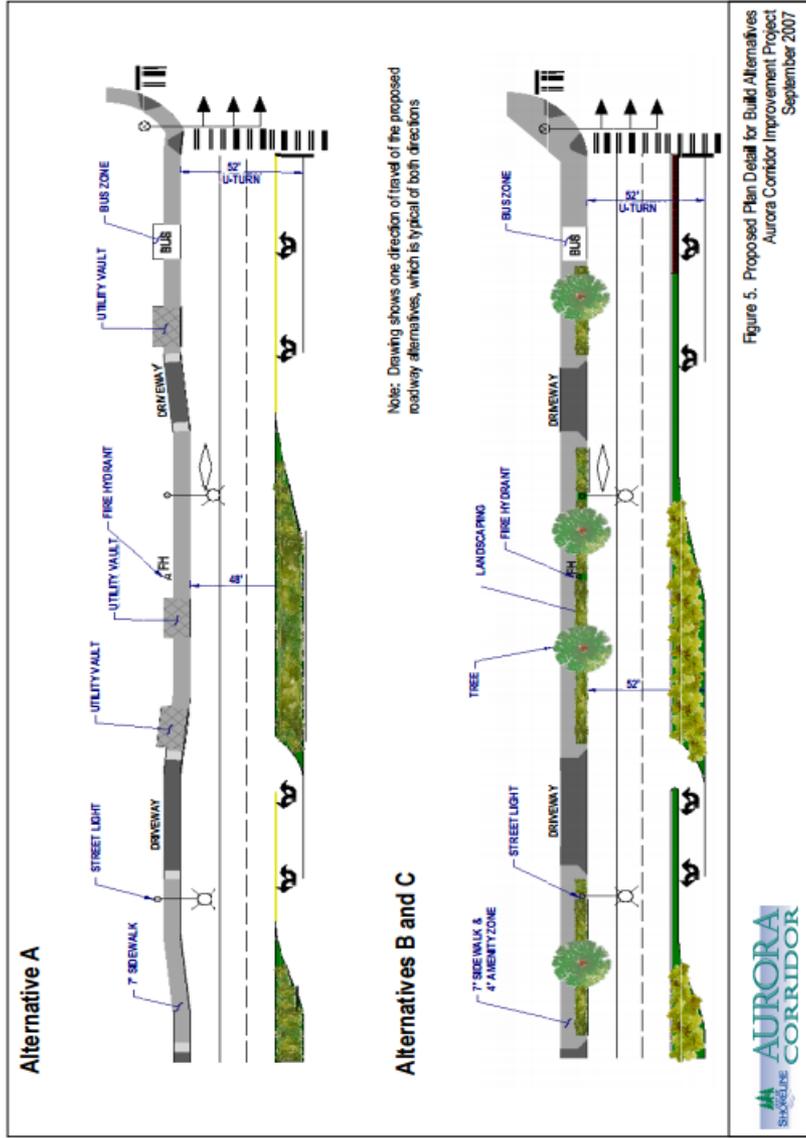


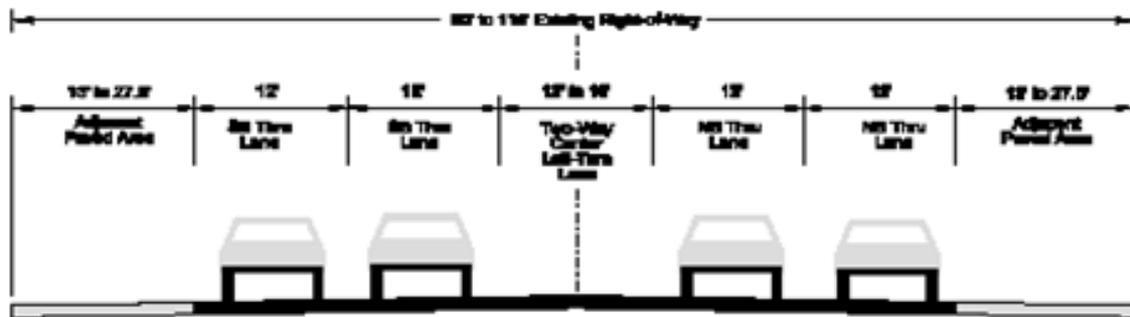
City of Shoreline

Total Projected Cost for Aurora Ave N 145th-165th and the Interurban Trail Bridges

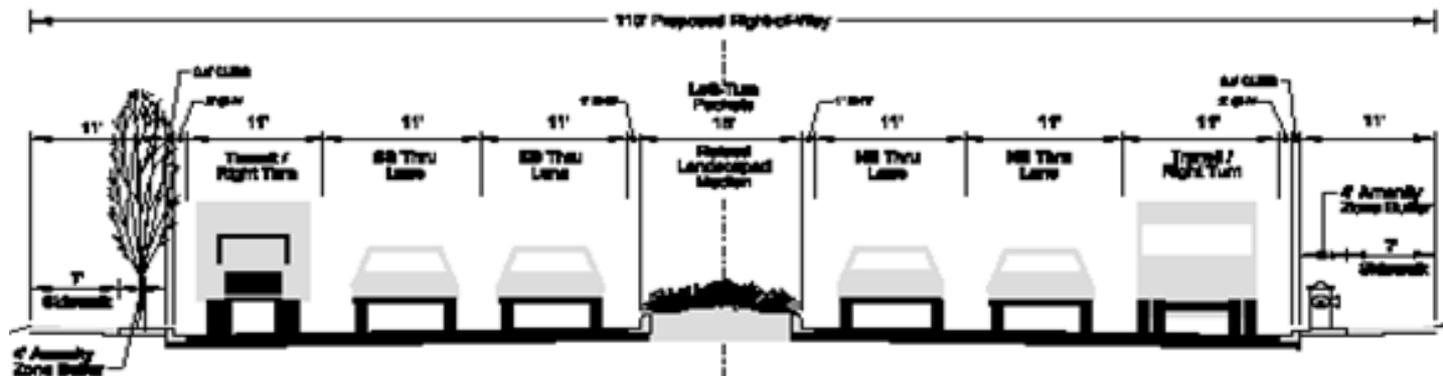


City of Shoreline





**No Action Alternative
Typical Cross Section at Mid-Block**



**Alternative A-Modified
Typical Cross Section at Mid-Block**





Service restructures

Renton, fall 1996

Shoreline and SE Seattle, spring 1997

Bellevue, fall 1997

Seattle, fall 1998 and spring 1999 (100,000 new platform hours)

Sound Transit formed 1996; 1999 service investments

SR-522, fall 2002

North King County, fall 2003

How will travel times (bus, car and freight) be improved on Aurora?

Northbound Travel Time Summary – N 38th/Bridge Way to N 145th All times rounded to the nearest minute				
	Time	Existing Travel Time	Estimated Recommendation Travel Time	Travel Time Improvement (Percentage)
BUS	AM	23 min	21 min	10%
BUS	PM	23 min	20 min	11%
CAR/TRUCK	AM	14 min	13 min	7%
CAR /TRUCK	PM	17 min	13 min	24%

Southbound Travel Time Summary - N 145th to N 38th/Bridge Way All times rounded to the nearest minute				
	Time	Existing Travel Time	Estimated Recommendation Travel Time	Travel Time Improvements (Percentage)
BUS	AM	27 min	23 min	16%
BUS	PM	26 min	22 min	17%
CAR/TRUCK	AM	13 min	13 min	0%
CAR/TRUCK	PM	15 min	13 min	9%

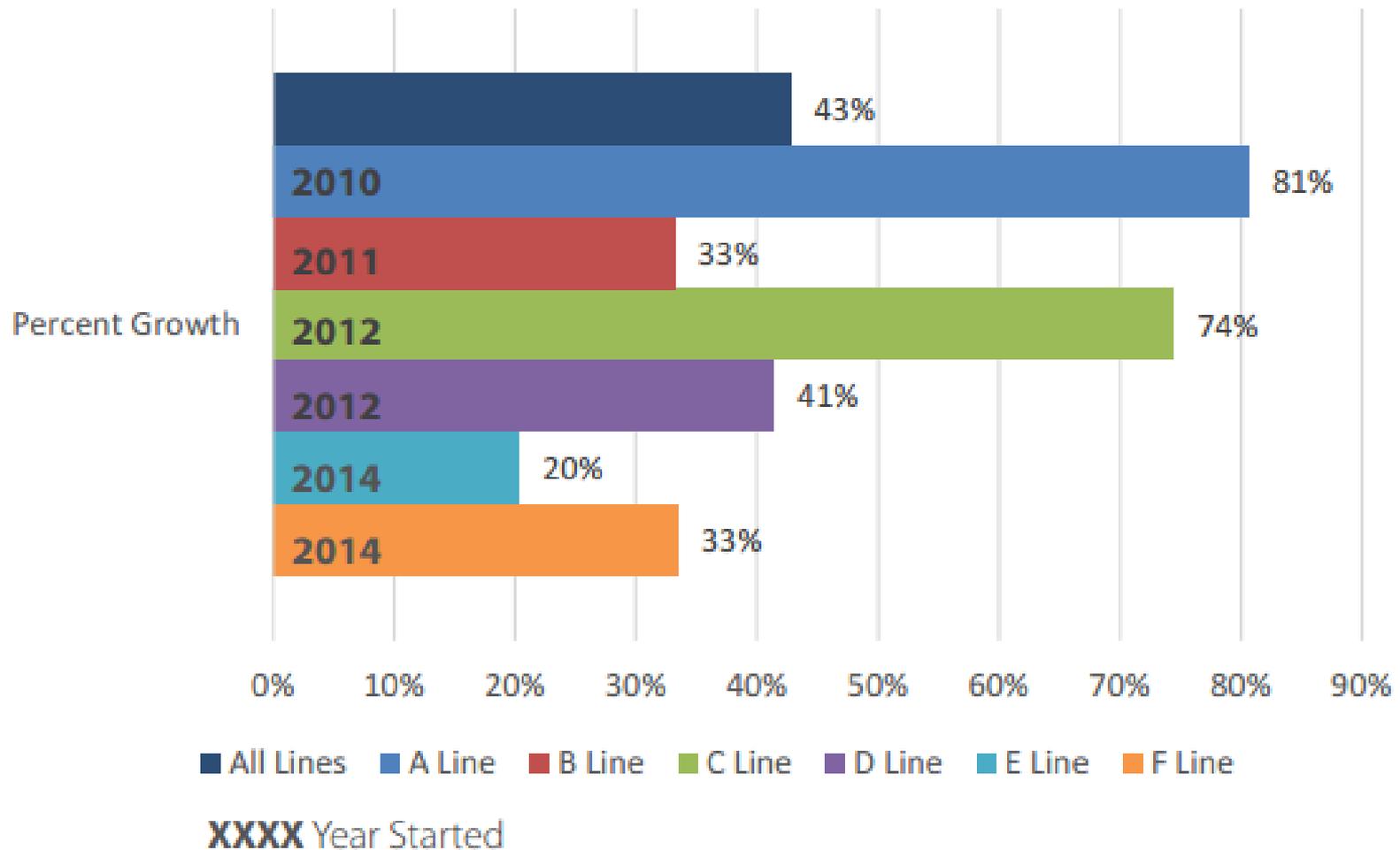
Weekday Data, 1998 v. 2000

Route	Daily Trips	Annual Platform Hours	Annual Rides	Daily Riders	Rides per Platform Hour
6	33	9,700	352,000	1,390	36
6TB	50	15,800	591,600	2,330	37
16	61	21,800	696,200	2,740	32
16SH	22	4,400	67,100	260	15
359	57	18,900	806,400	3,180	43
360	9	2,900	101,900	400	35
1998 sum	232	73,500	2,615,200	10,300	36
16	110	36,600	1,119,700	4,410	31
358	129	43,200	1,740,900	6,850	40
2000 sum	239	79,800	2,860,600	11,260	36

Weekday Rides and Rides per Platform Hour by Year

Year	358-E	358
1999	6,380	37
2000	6,850	40
2001	7,220	40
2002	7,030	39
2003	7,530	38
2004	7,900	40
2005	7,980	41
2006	8,950	45
2007	9,600	49
2008	10,380	53
2009	9,140	46
2010	9,380	48
2011	10,230	46
2012	11,670	53
2013	11,729	52
2014	15,237	56
2015	16,429	58

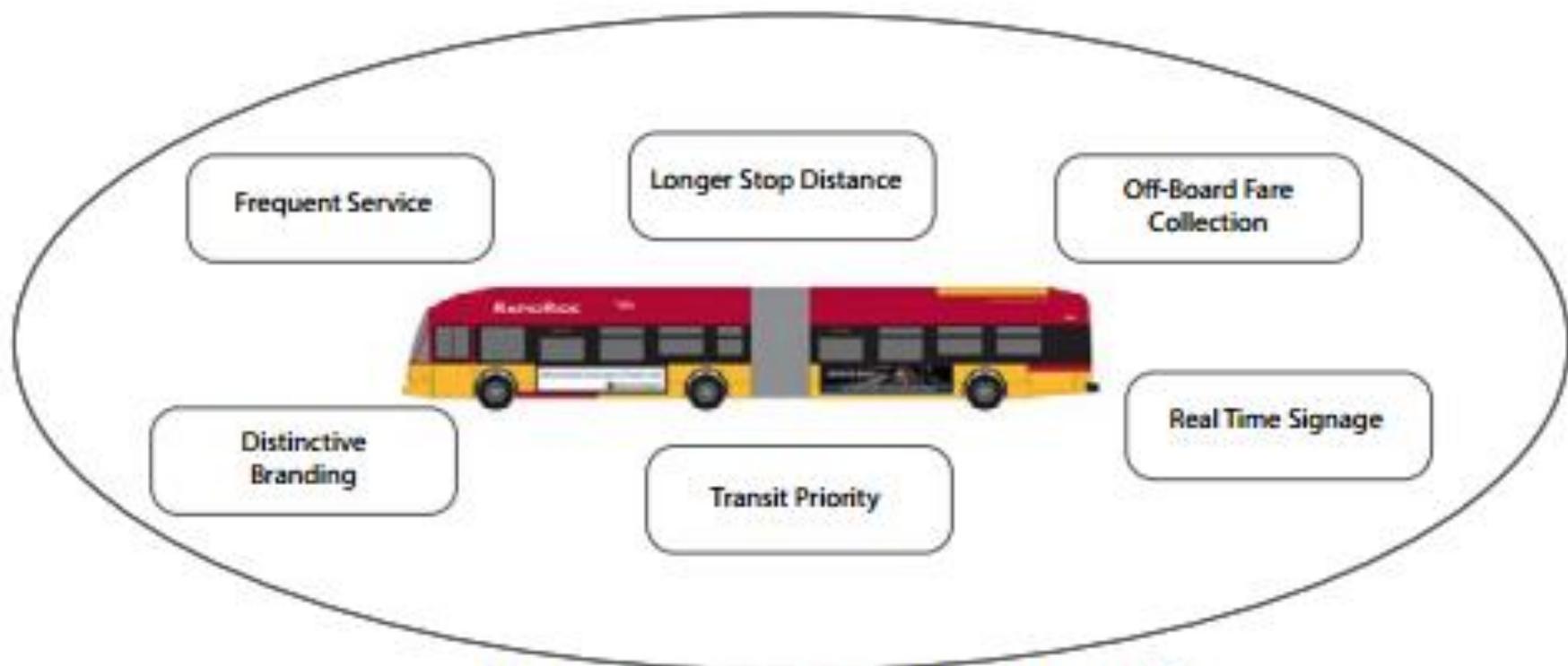
Ridership Growth - YTD through September 2014 against Baseline



Source: Ridership Data, YTD through September 2014

What is RapidRide?

- Very frequent service in high ridership corridors
- Arterial, mixed traffic BRT model
- Primary service on each corridor
- Connectivity with service network
- Transit Now, 2006, countywide tax



BRT SYSTEM ELEMENTS

Why these Alignments?

- Direct and easy to understand
- Connections with bus, light rail and other modes
- Speed and performance gains feasible
- Opportunities to restructure existing service
- Potential for ridership growth
- Subarea equity

RAPID RIDE

RapidRide Corridors 2010 - 2014

- A** Pacific Highway South
- B** Bellevue-Redmond
- C** West Seattle
- D** Ballard-Uptown
- E** Aurora Avenue North
- F** Burien-Renton



PACIFIC HIGHWAY SOUTH RapidRide - A Line Station & Stop Locations



LEGEND

- Pacific Highway South RapidRide Route - A Line
- Other Metro transit service

BUS STOPS

- RapidRide station stop
- Other RapidRide stop

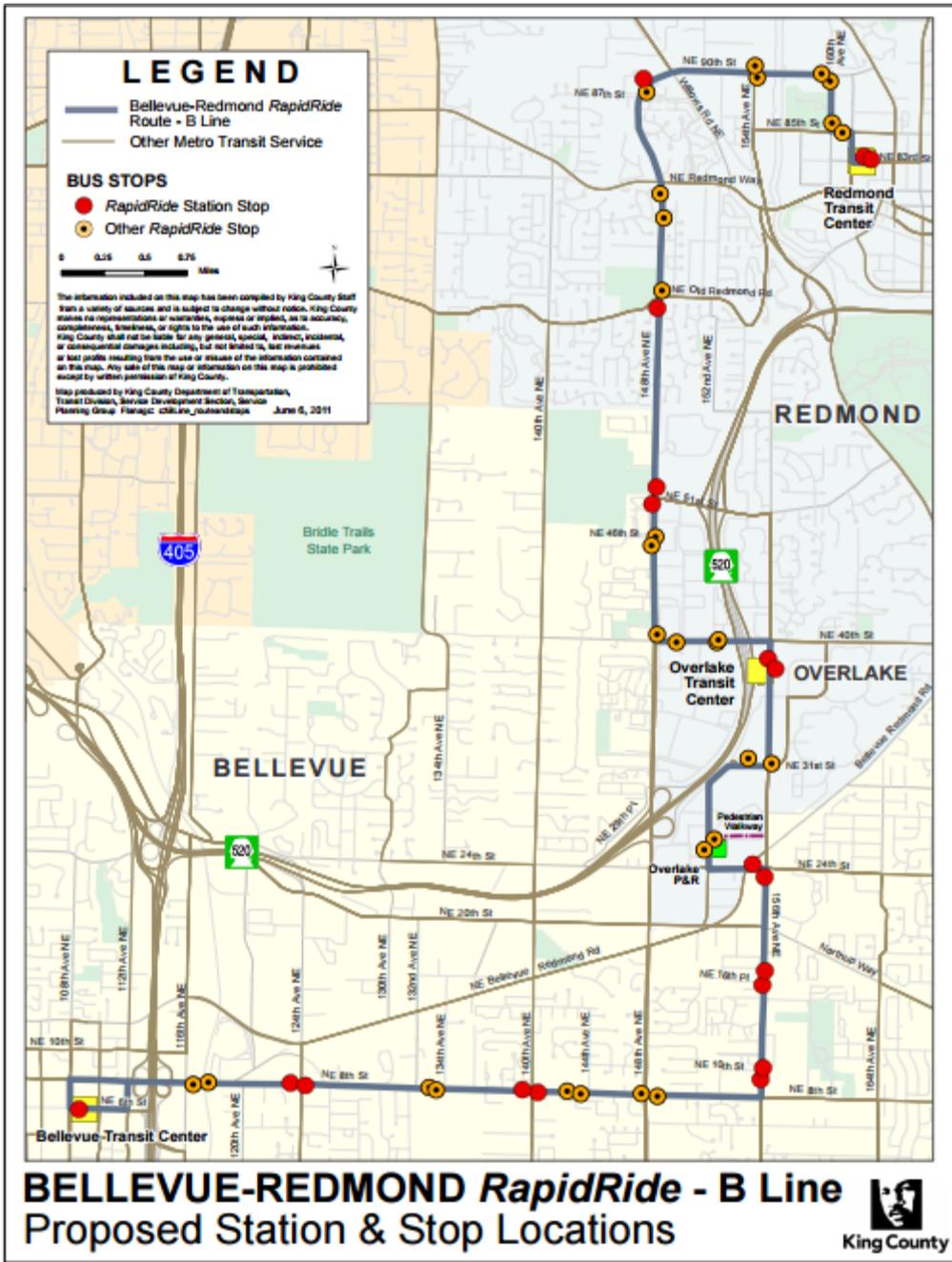
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Department of Transportation,
Transit Division, Service
Development Section,
Service Planning Group
Filename: s14101_0000000000

June 2, 2010



King County

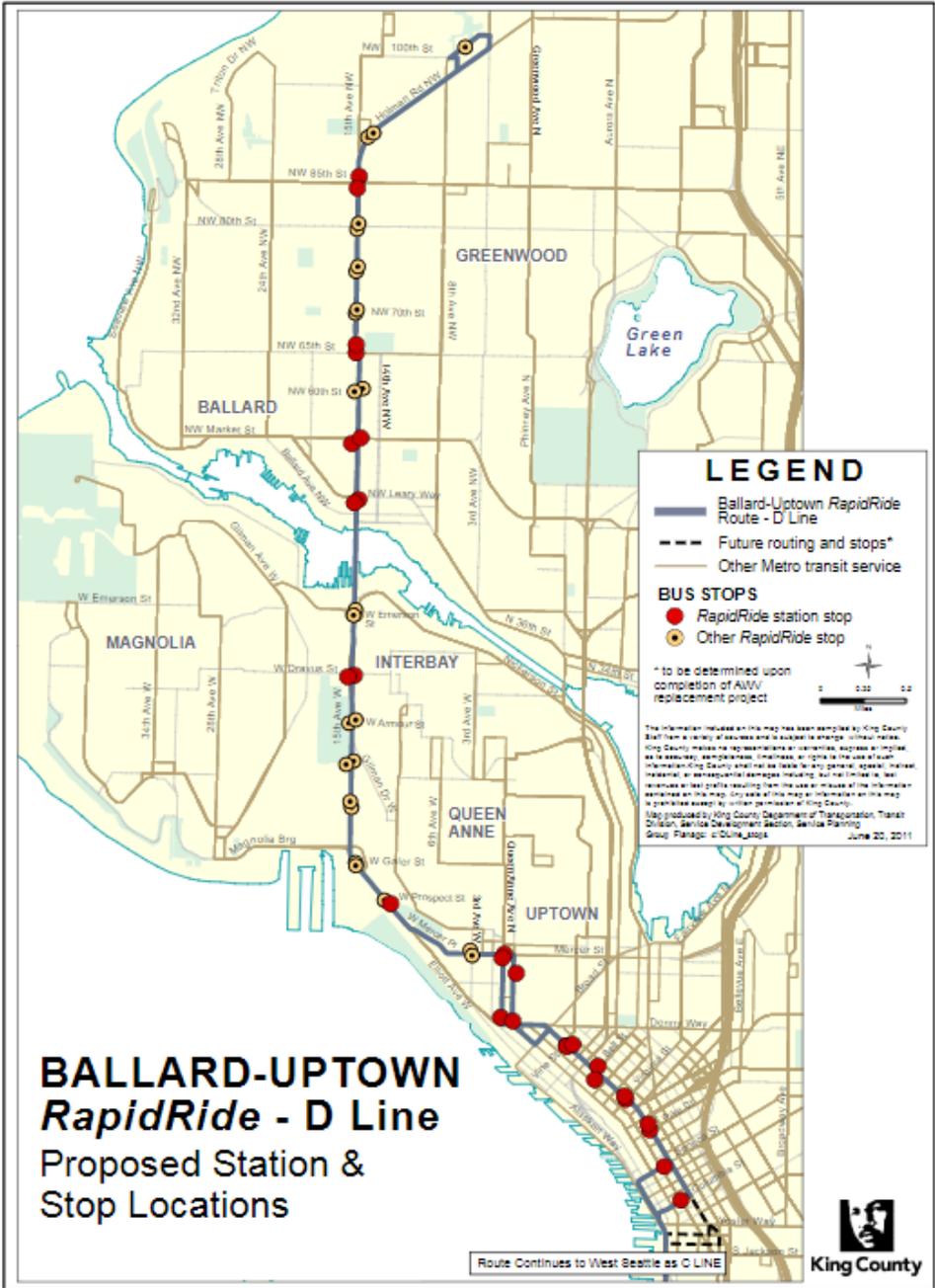


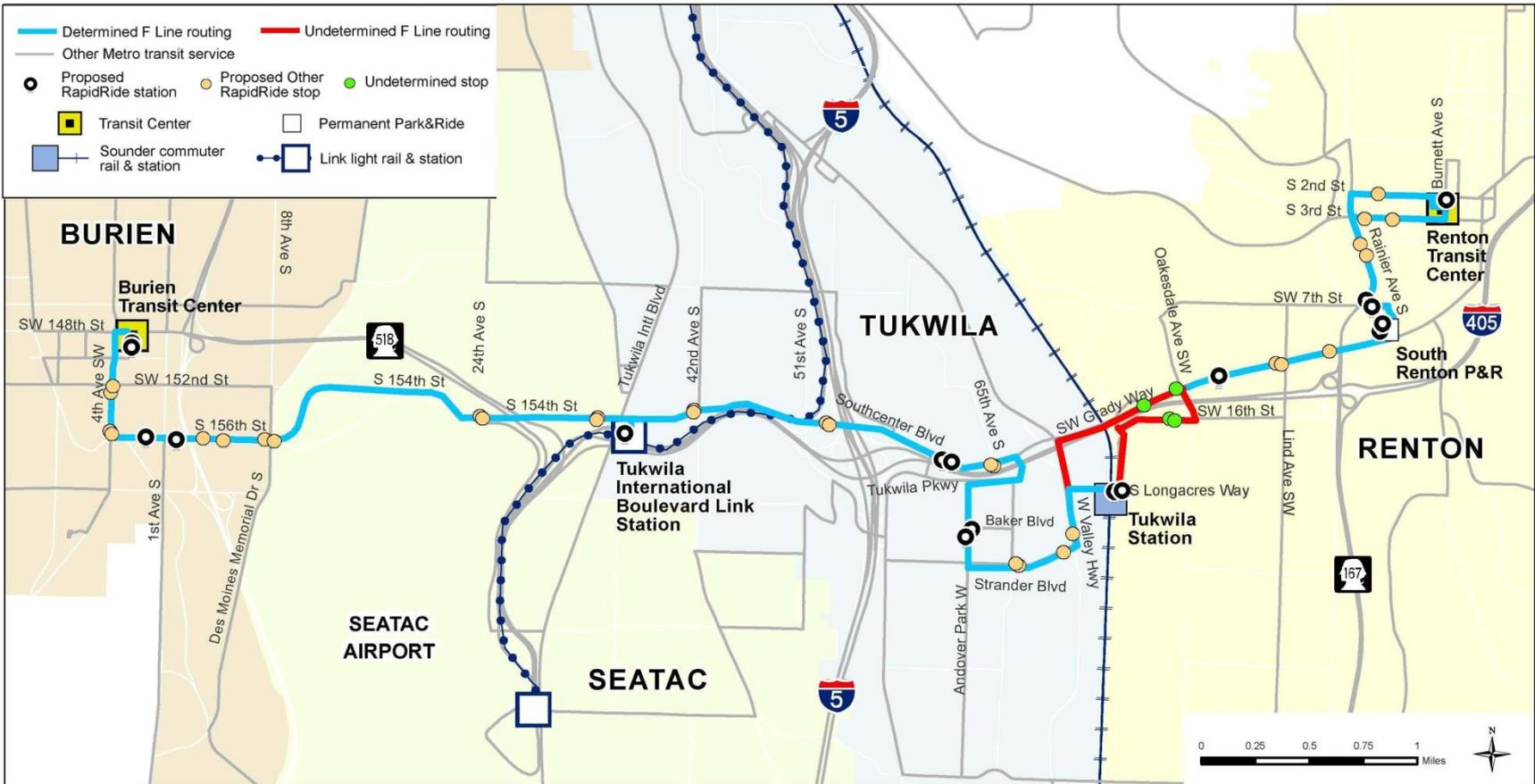


WEST SEATTLE RapidRide - C Line

Proposed Station & Stop Locations







RAPID RIDE

Frequent Service

- 10 minutes or less in peak
- 15 minutes or less in off peak
- No need for traditional timetable

King County
METRO

RAPIDRIDE

ALine

Schedule

Weekday

6 am - 9 am
Bus departs every 10 minutes

9 am - 3 pm
Bus departs every 15 minutes

3 pm - 6 pm
Bus departs every 10 minutes

6 pm - 10 pm
Bus departs every 15 minutes

Weekend

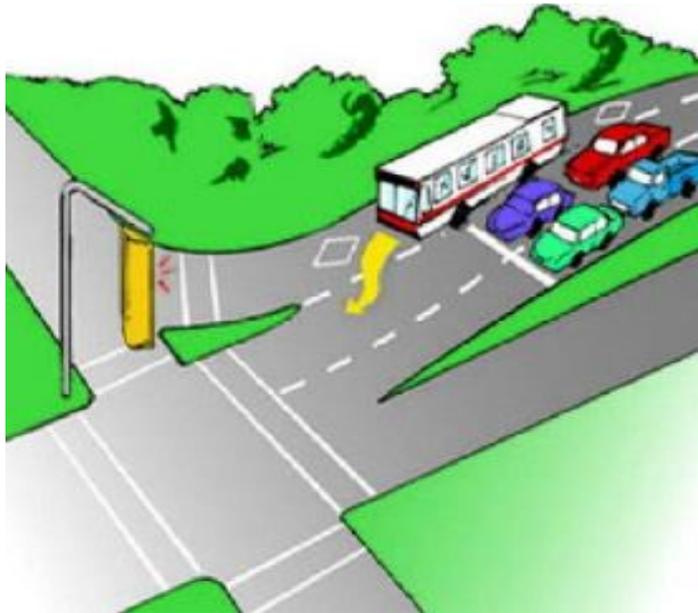
4:30 am - 10 pm
Bus departs every 15 minutes

Late Night/Early Morning

10 pm - 6 am
Bus departs approximately every 30 minutes

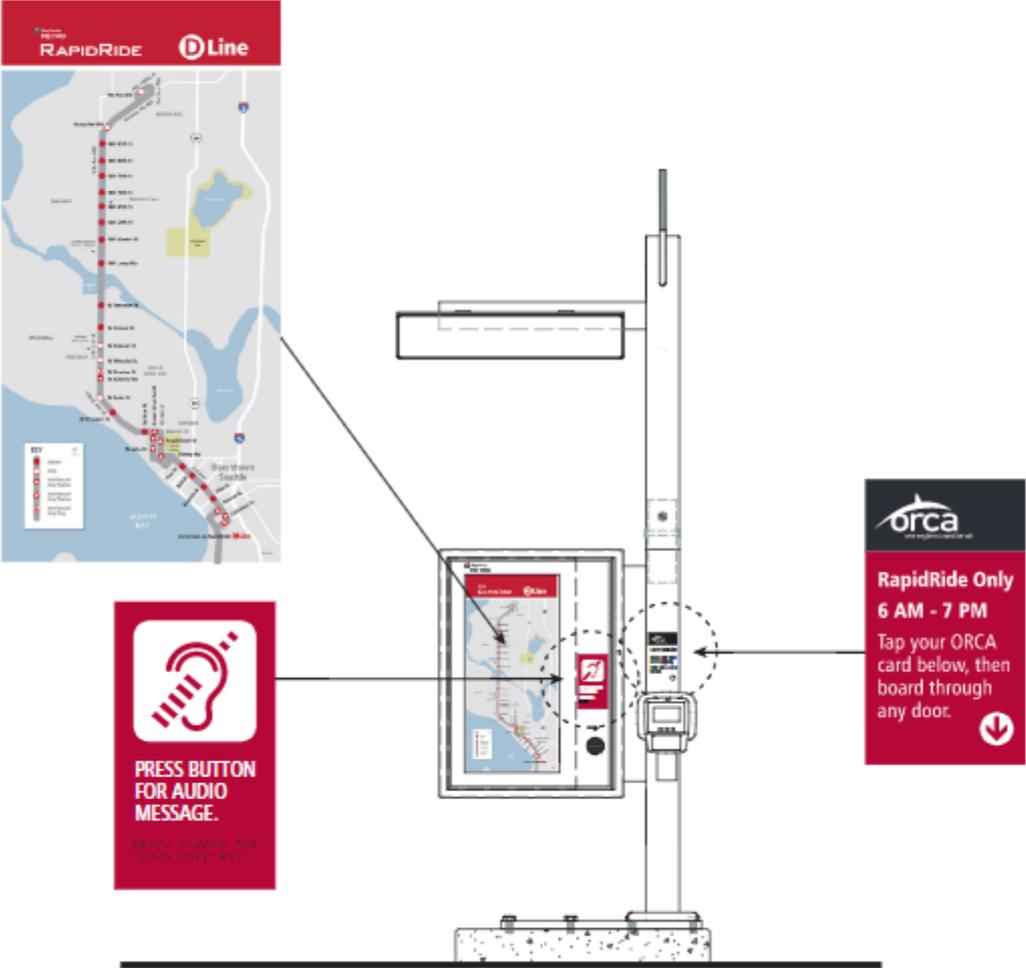


Travel Time Savings



- HOV and BAT lanes
- Faster fare collection
- Bus Bulbs
- Queue Jumps
- Transit Signal Priority

RapidRide Tech Pylon Decals, Map



Faster Fare Payment

- Off board payment at stations
- All door boarding
- Proof of payment with fare enforcement



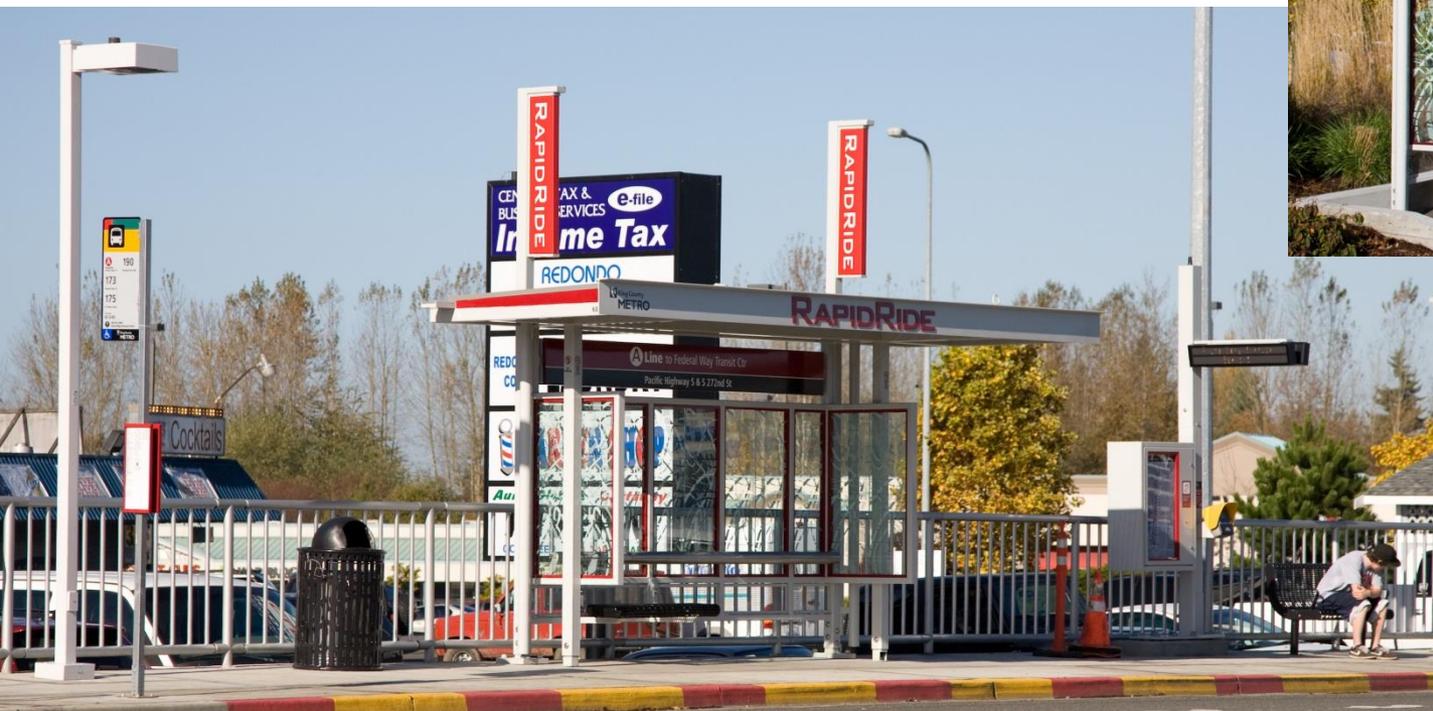
RAPID RIDE

Buses



RAPID RIDE

Stations and Stops



Unique Branding

- “The best of Metro”
- Attracts riders
- Creates awareness



RAPID
RIDE

The Result



- Increased ridership
- Positive customer transit experience
- Shorter waits
- Better service networks

RapidRide Budget

Roadway Improvements	\$50 Million
Passenger Facilities	\$28 Million
Real Time Information Signs	\$7 Million
<u>Vehicles</u>	<u>\$128 Million</u>
Total	\$215 Million

Grant Funding Awarded to Date

\$82 Million

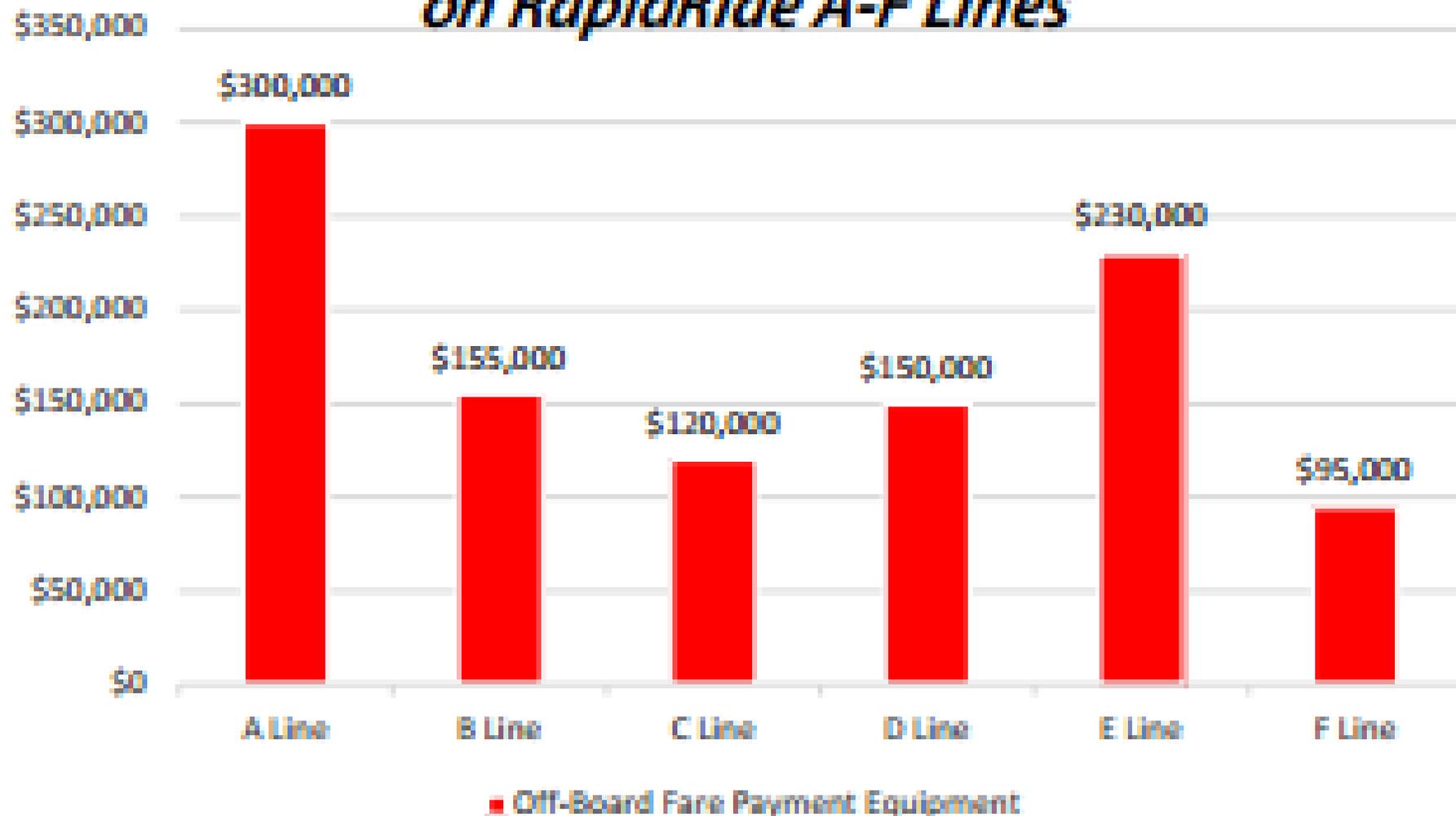
Capital Costs of Passenger Facilities on RapidRide A-F Lines



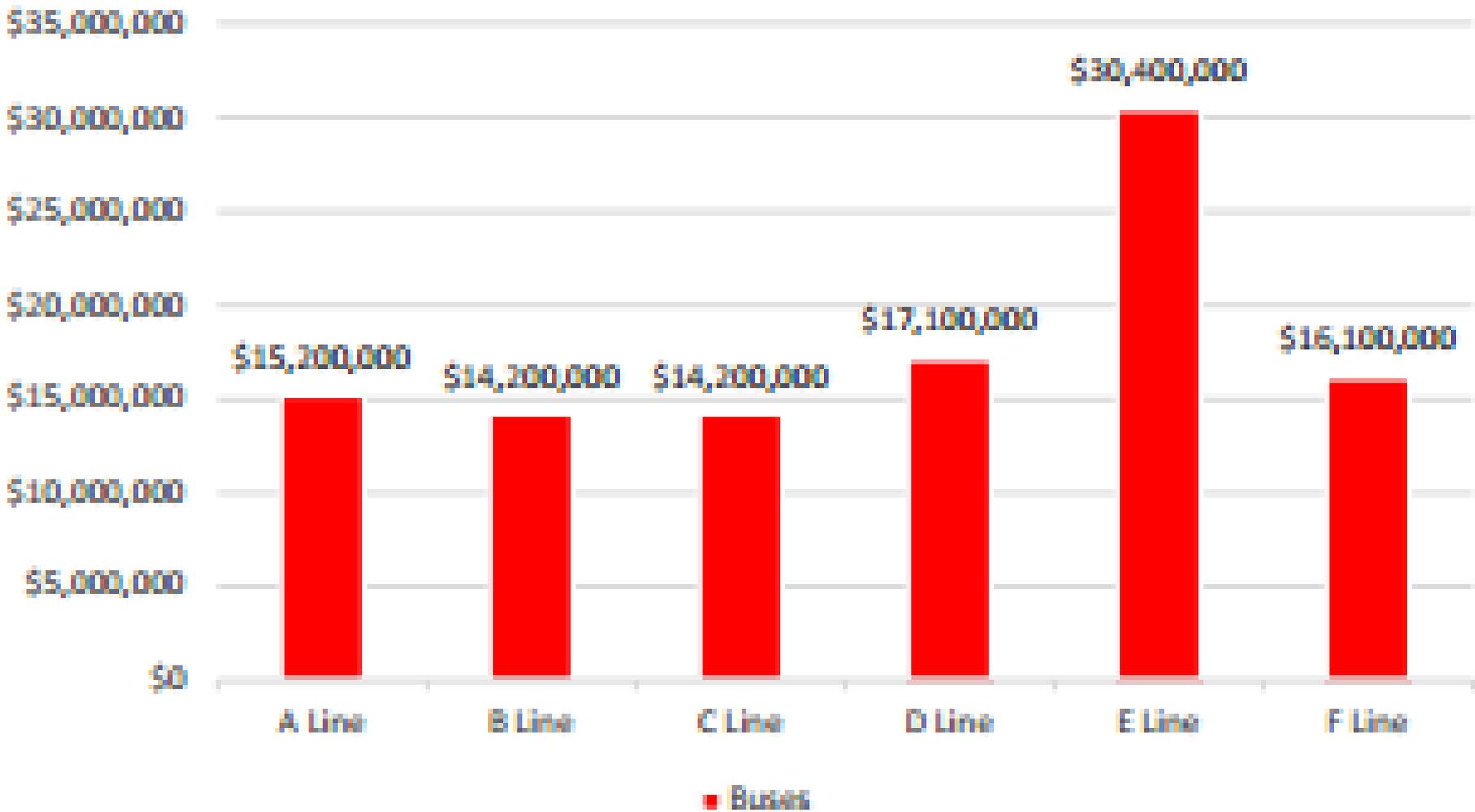
Capital Costs of Real Time Signage on RapidRide A-F Lines



Capital Costs of Off-Board Fare Payment Equipment on RapidRide A-F Lines



Capital Costs for Fleet on RapidRide A-F Lines



RapidRide Stop Counts

	A Line	B Line	C Line*	D Line*	E Line*	F Line	Downtown Seattle	All Lines
station	26	18	21	24	29	13	15	146
enhanced	18	12	8	10	19	20		87
standard	5	18	7	6	8	23		67

300
total RapidRide
stops on all lines

Notes:

*C Line counts indicate the number of stops south of Spokane Street and from Denny Way to the northern terminus. D Line counts include stops north of Denny Way. E Line counts include stops north of 5th Avenue.

E Line count excludes 2 future stations, at Harrison St, planned for implementation in 2018.

F Line count includes 2 stations at TIBS, but there is only tech pylon serving both zones.

Drop off only and layover stops are excluded from all lines.

**Downtown Seattle between Prefontaine Pl S and Denny Way.

15 stations downtown are **excluded** from C, D, and E Line counts.