Stakeholder Input Requested:
Initial Ideas on Transportation Network Assumptions

REVISED – August 17, 2011

Special Plan Bay Area Stakeholder Meeting

August 16, 2011

Agenda

Part One: Overview (30 minutes)

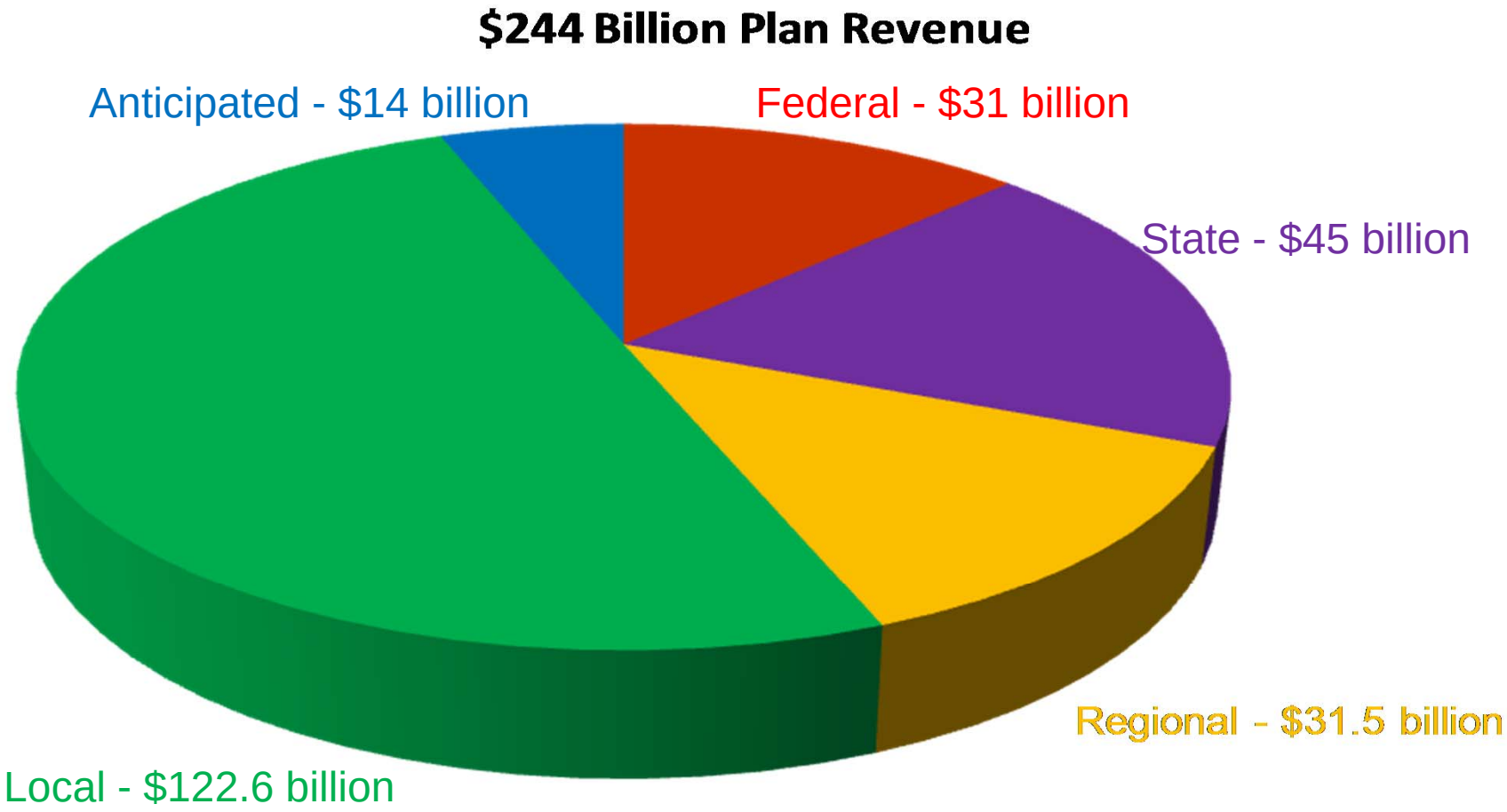
1. **Plan Bay Area Revenue Forecast**
2. **Definitions of T2035 & Core Capacity Transit Networks**

Part Two: Network Assumptions (1.5 hours)

1. **Significant Road & Transit Expansion Projects**
2. **Defining Transit Service Improvements**

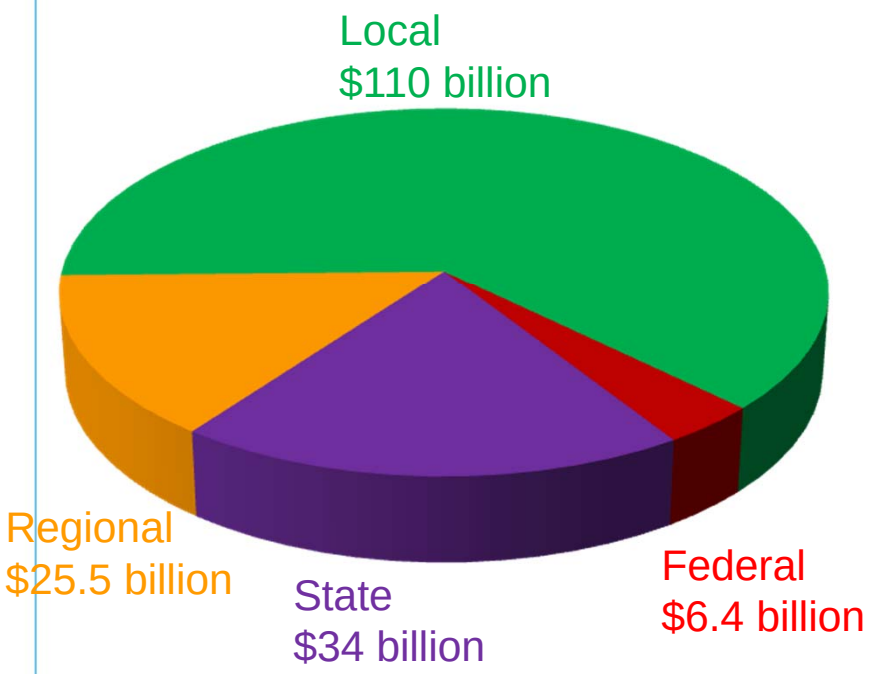
***Group discussion to follow each item**

Plan Bay Area 28-Year Revenue

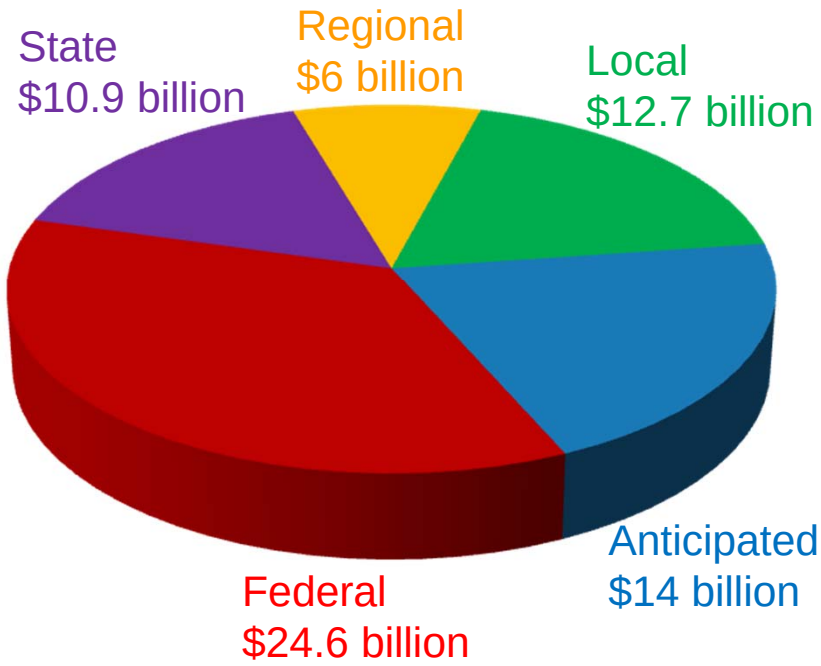


Plan Bay Area
Committed vs. Discretionary Revenue

Committed Revenue
$176 Billion



Discretionary Revenue
$68 billion



5 Scenarios

	Land Use Pattern	Transportation Network
1	Initial Vision Scenario	T2035 Network
2	Core Concentration	Core Capacity Transit Network
3	Focused Growth	Core Capacity Transit Network
4	Constrained Core Concentration	Core Capacity Transit Network
5	Outer Bay Area Growth	T2035 Network

Transportation 2035 Network

Investment Approach

- Keep “fix-it first” maintenance levels at about the same as Transportation 2035 (T2035) (i.e., 80 percent of available funding directed to maintenance)
- Allocate funding to roadways and transit improvements at levels similar to those in T2035 (i.e., 14 percent to transit expansion and 3 percent to roadway expansion)
- Allocate funding to support bike improvements at level similar to those in T2035 (i.e., 2 percent)

Network Approach

- Use 2010 transit and roadway network as base transit network (instead of 2005 network as done for T2035)
- Include Resolution 3434 transit expansion projects (per T2035, only fully funded projects are included in the financially constrained plan)
- Applies to land use options 1 and 5

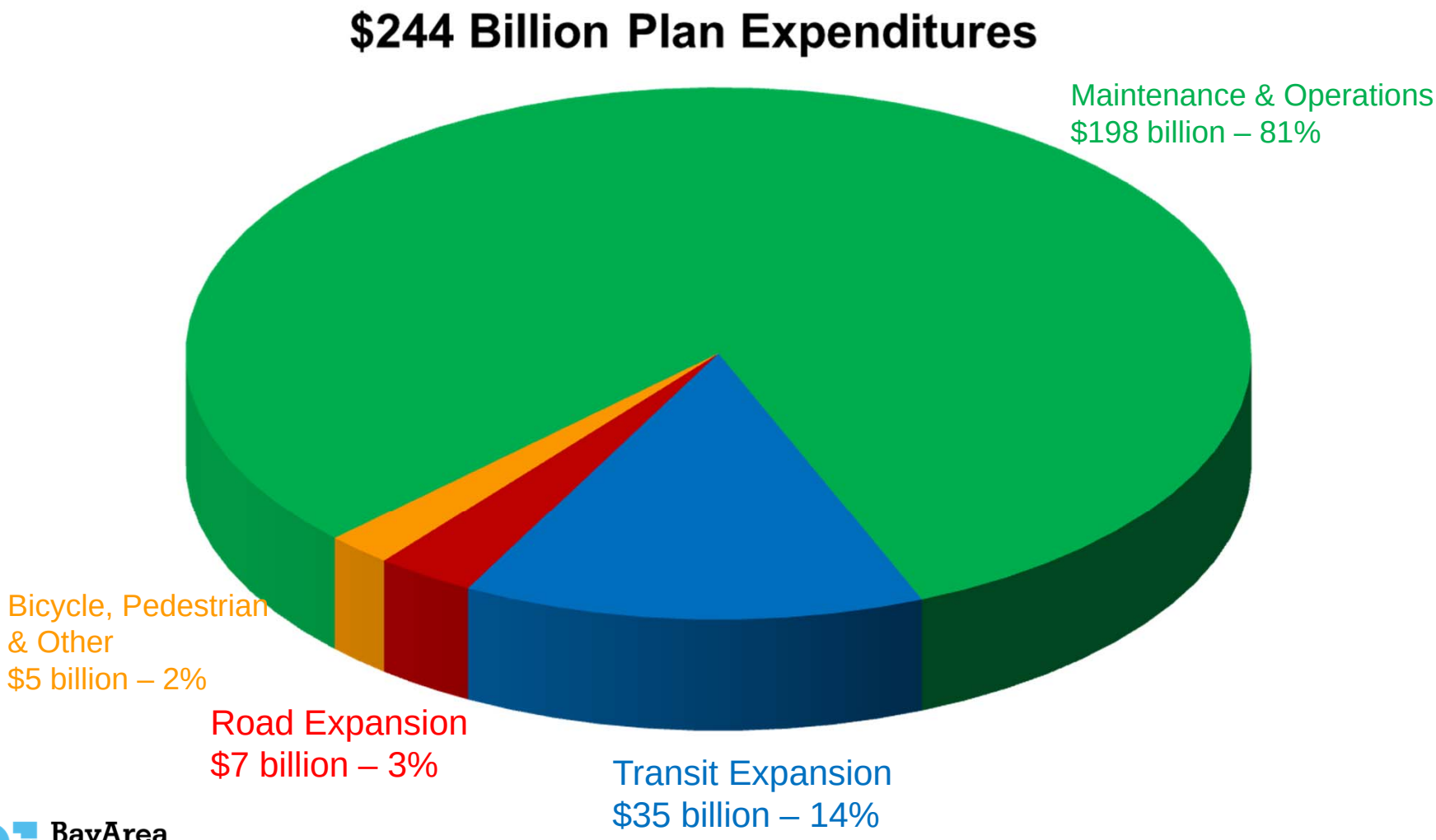
Cost Approach

- Assumes state highway maintenance needs are unmet
- Assumes funds are available to keep local streets and roads pavement conditions in fair condition
- Assume funds are available to cover the cost of existing transit services, and if necessary, transit agencies to increase revenue and improve efficiency
- Assume funds are available to keep transit vehicles in a state of good repair, consistent with the performance target that calls for reducing average transit asset age to 50% of useful life, but for other transit assets a $17 billion need short of ideal state of repair remains

Revenue Approach

- Directs committed funds per T2035
- Directs discretionary funds to priority roadway, transit and bike/pedestrian improvements per T2035

T2035 Network – Investment Strategy



Core Capacity Transit Network

Investment Approach

- **Increase "fix-it-first" maintenance levels from T2035 (i.e., assume about 85 percent to maintenance)**
- **Allocate more funding towards transit core capacity improvements in inner Bay Area – improving commuter rail, express bus, bus rapid transit**
- **Allocate less funding towards roadway improvements – focus funds on Backbone Express Lane Network and Freeway Performance Initiative (FPI)**
- **Prioritize bike/pedestrian funding for improvements in high growth areas identified in Core Concentration land use option**

Transit Network Approach

- **Increase transit service to accommodate household and job growth in PDAs and other transit connected nodes**
- **Prioritize transit service improvements to support growth along established and emerging transit corridors**
- **Corridor transit service would maximize transit use & GHG reductions by servicing PDAs & PDA-like areas that match incomes with appropriate job types, and provide better connectivity in existing and planned major transit corridors**
- **Consider transit service needs of Communities of Concern and aging population**
- **Applies to land use Scenarios 2, 3 and 4**

Cost Approach

- **Assume up to 10% operating efficiencies savings from implementation of a set of TSP recommendations**
- **Assume up to 10% more transit operating revenue from robust yet reasonable assumptions from among the following sources to transit operating: sales tax reauthorizations, bridge tolls, and anticipated funds**

Revenue Approach

a) **Will Not Assume:**
   - Preventative maintenance (PM) for transit operating
   - STIP for maintenance based on CTC's long-standing low-priority status

b) **Assume STP/CMAQ**
   - OneBayArea Grants proposal directs 20% of STP/CMAQ to transit capital rehab consistent with T2035

c) **Assume New Revenues**
   - Sales Tax Reauthorization
   - Bridge Tolls
   - Anticipated Funds

Express Lanes System Proposed for Transportation 2035 Network

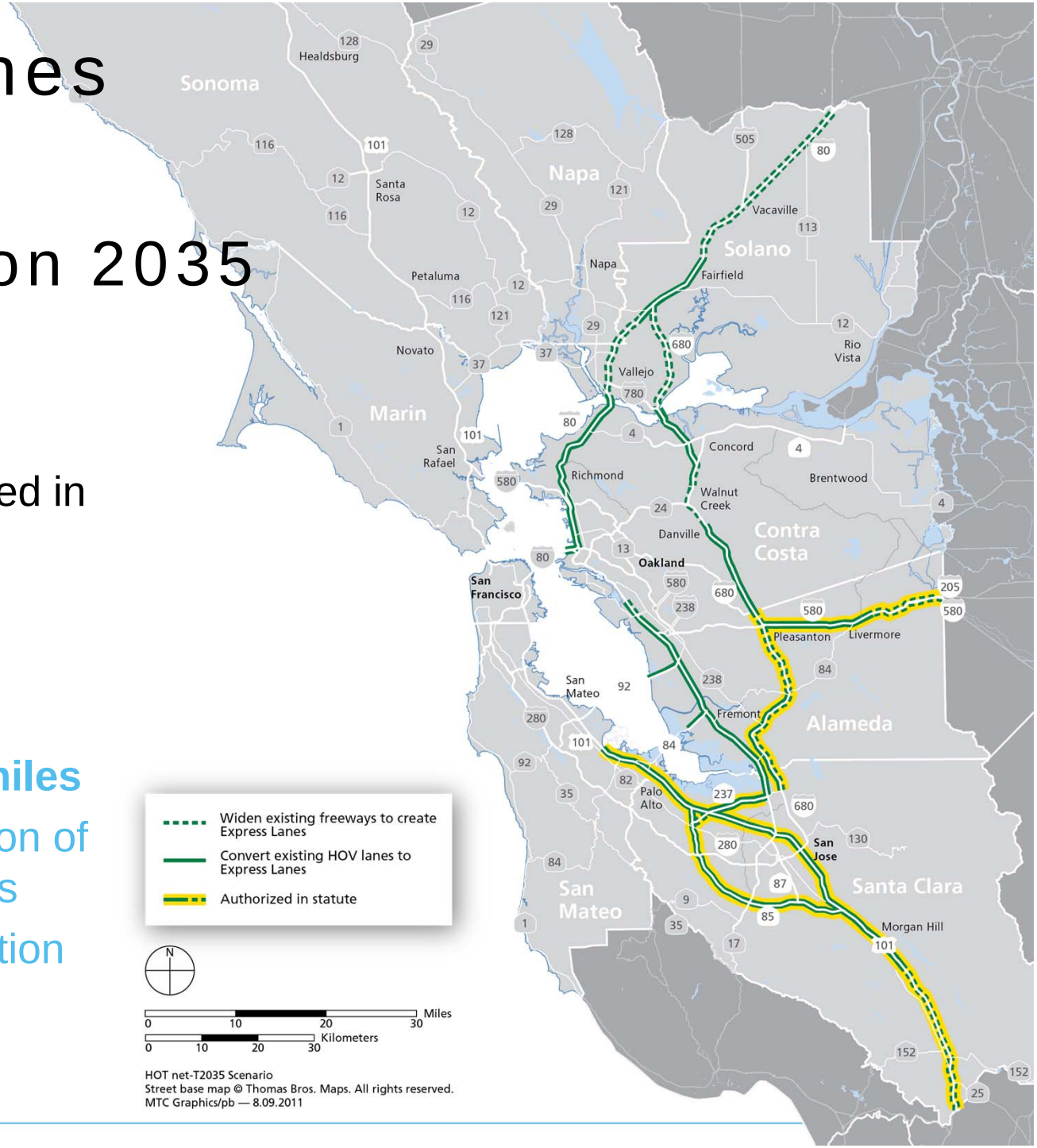
REVISED – August 17, 2011

Composed of

- Corridors authorized in statute
- Proposed CTC Application

Total Mileage: 540 miles

- 340 from conversion of existing HOV lanes
- 200 from construction of new lanes



BayArea Plan

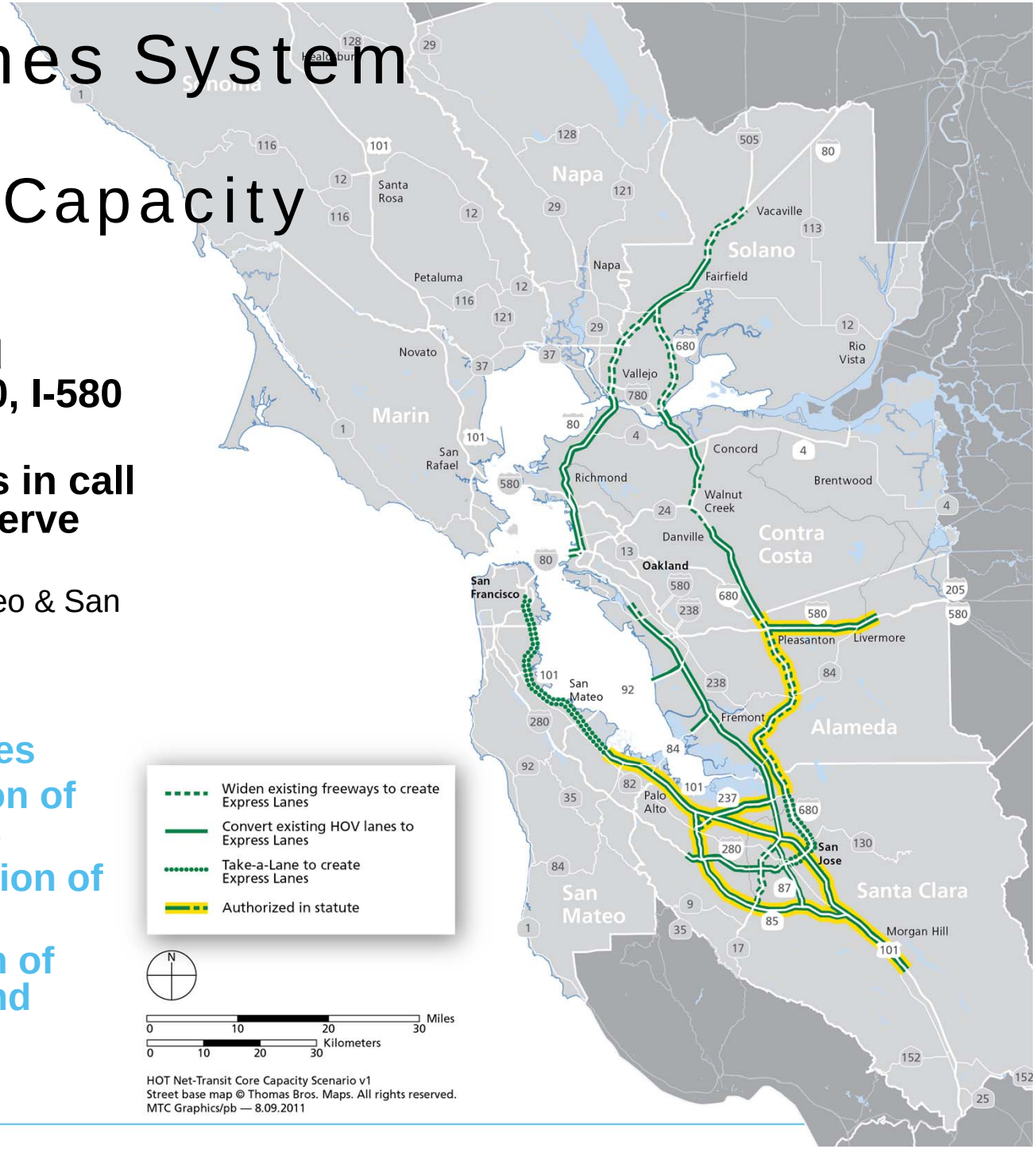
Express Lanes System Proposed for Transit Core Capacity Network

REVISED – August 17, 2011

- **Eliminate outward extensions on I-80, I-580 and US 101**
- **Include submittals in call for projects that serve urban core**
  - US 101 in San Mateo & San Francisco
  - Santa Clara county

Total Mileage: 590 miles

- **390 from conversion of existing HOV lanes**
- **130 from construction of new lanes**
- **70 from conversion of general purpose and auxiliary lanes**



BayArea Plan

Significant Roadway Expansion Projects

Illustrative Uncommitted Projects Only – Not Exhaustive, Subject to Change
REVISED – August 17, 2011

Multi-County

- **Marin-Sonoma Narrows Completion**

Alameda

- **SR 262 Mission Blvd. and Automall Cross Connectors between I-680 and I-880**
- **SR-84 Widening**
- **SR-84/I-680 Interchange Impvts.**
- **I-580/880/80 Distribution Structure Improvements**

Contra Costa

- **I-680/SR-4 Interchange Impvts.**
- **Pacheco Blvd Widening**
- **I-680 Auxiliary Lanes (Sycamore – Crow Canyon)**
- **I-80/San Pablo Dam Road Interchange Impvts.**

San Francisco

- **Harney Way Impvts.**

Napa

- **SR 29 Impvts.**

Santa Clara

- **Central Expressway Widening**
- **Montague Expressway Widening**
- **Various US 101 Interchange Impvts.**
- **Various I-280 Ramp & Aux Lane Impvts.**

Solano

- **I-80/680/12 Interchange Impvts.**

Sonoma

- **SR 116/112 Interchange Impvts.**
- **US 101/Hearn Ave Interchange Impvts.**
- **Forestville Bypass**

Significant Transit Expansion Projects

Illustrative Projects Only – Not Exhaustive, Subject to Change
REVISED – August 17, 2011

Committed Resolution 3434 Projects

- **Transbay Terminal Phase 1**
- **SMART Initial Operating Segment (San Rafael to Santa Rosa)**
- **BART Oakland Airport Connector**
- **BART Extension to Warm Springs**
- **eBART (Hillcrest Station only)**
- **Third Street LRT Extension to Chinatown via Central Subway**
- **BART Extension to Warm Springs**
- **BART Extension to Berryessa**

Uncommitted Resolution 3434 Projects

- **Transbay Terminal Phase 2 (Caltrain Downtown Extension)**
- **Dumbarton Rail Corridor Phase 1**
- **Caltrain Express Service Phase 2b**
- **Caltrain Electrification**
- **Capital Corridor Phase 2 Enhancements**
- **BRT Service on Telegraph/International/14th St. Corridor**
- **BRT Service on Grand-MacArthur Corridor**
- **ACE Service Improvements**
- **Tri-Valley Transit Access: ROW, BRT, WB Off-Ramp Impvts to Connect I-580 Dublin/Pleasanton BART**
- **BRT Service on Van Ness Avenue**
- **BART Extension to Santa Clara/San Jose**
- **BRT Service in Santa Clara-Alum Rock Corridor & Phase 2 conversion of BRT to LRT**
- **Capitol Avenue LRT Extension from Alum Rock Transit Center to Eastridge Transit Center**
- **Various WETA Ferry Service**

Other New Uncommitted Transit Projects

- **BART Metro Program**
- **BART Bay Fair Connection**
- **SF Transit Performance Initiative**

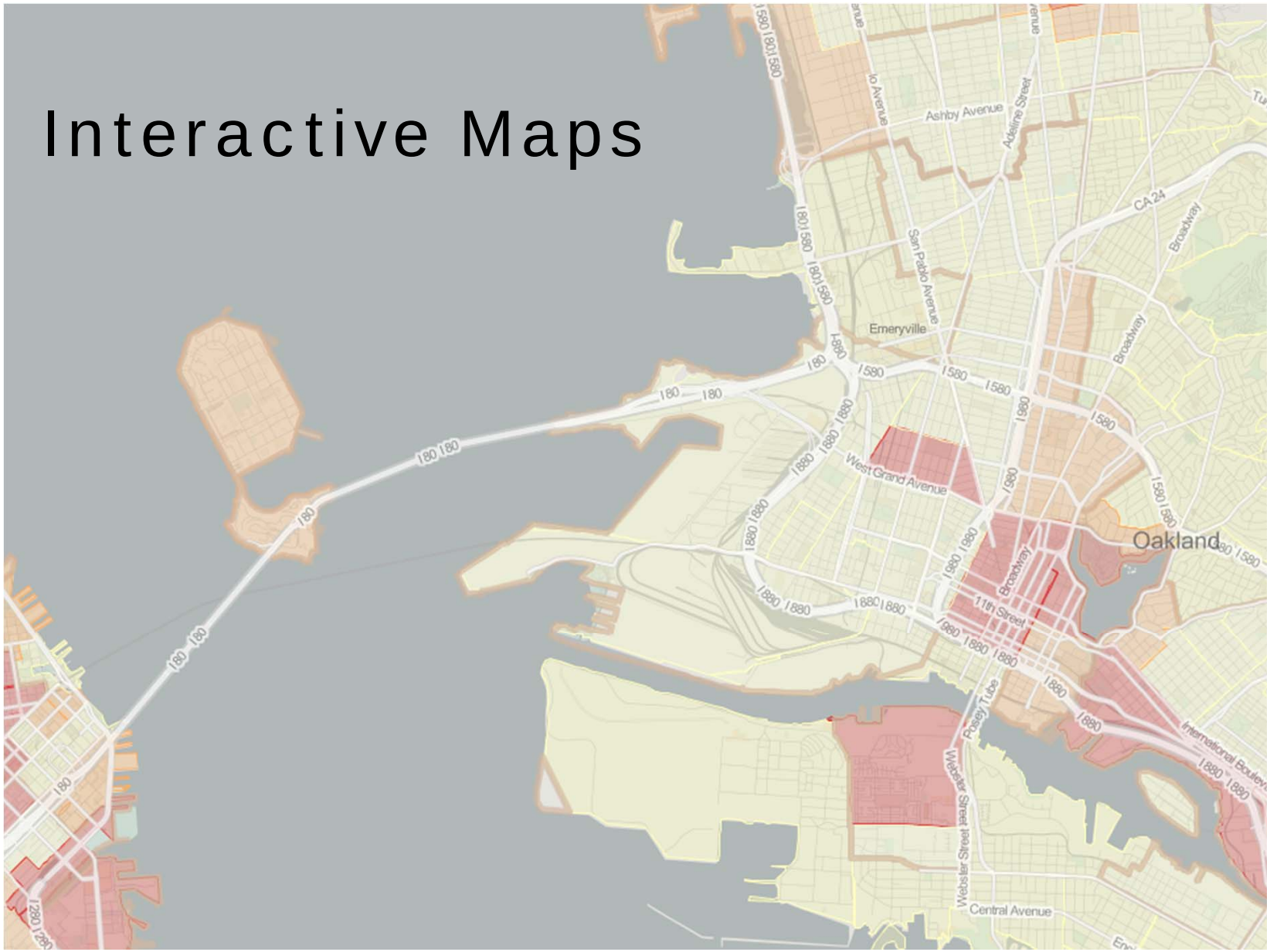
Approach to Adding Transit Service

- **Purpose**
  - Respond to the land use pattern …
  - … in an equitable manner
- **Overview of large land use changes**
  - Low income commute demand
- **Overview of large changes in transit demand**
  - Special case of BART
  - Other operators
  - Your thoughts
- **Equity considerations**
  - Restoration of recently reduced service – which routes?
  - Your thoughts

Land use changes

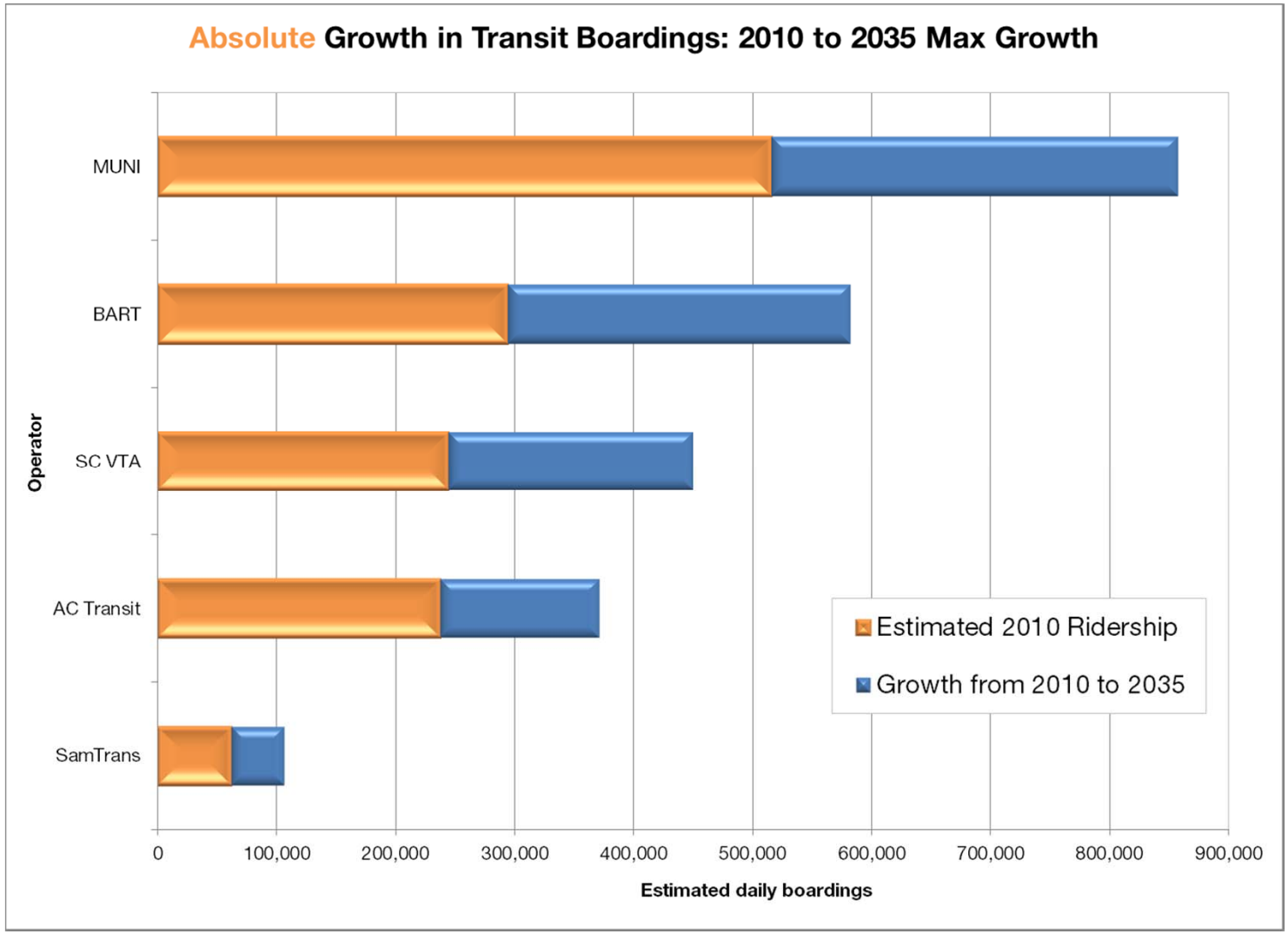
Scenario	Households	Population	Jobs	Employed residents	Workers per hh
2010	2,700,000	7,300,000	3,300,000	3,200,000	1.18
Proj. 2009, Year 2035	3,300,000	9,000,000	5,100,000	4,800,000	1.46
Initial Vision (Scenario 1), Year 2035	3,600,000	9,400,000	4,500,000	4,300,000	1.21
"Maximum Growth", Year 2035	3,600,000	9,400,000	4,700,000	4,500,000	1.27

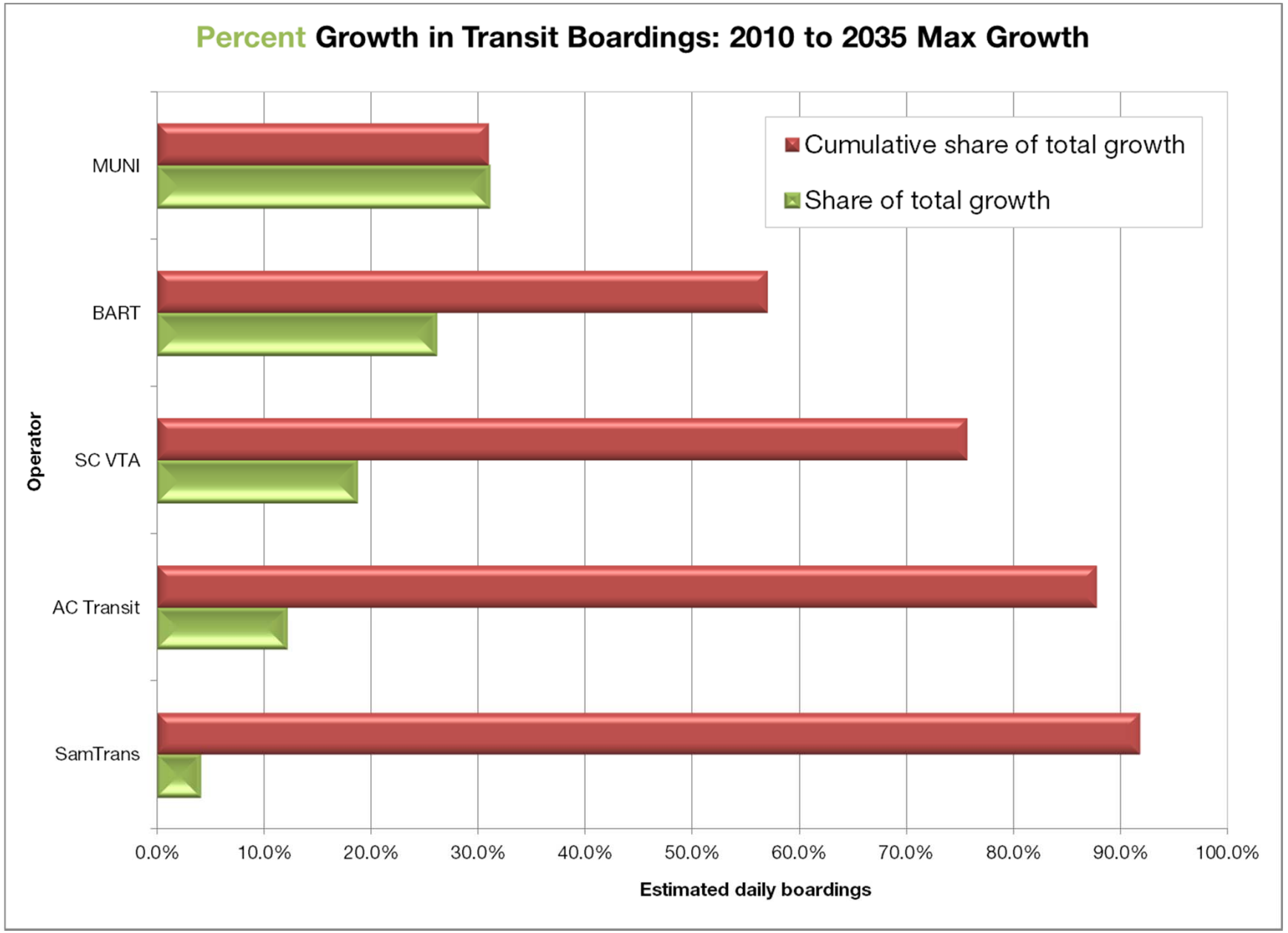
Interactive Maps



BayArea Plan

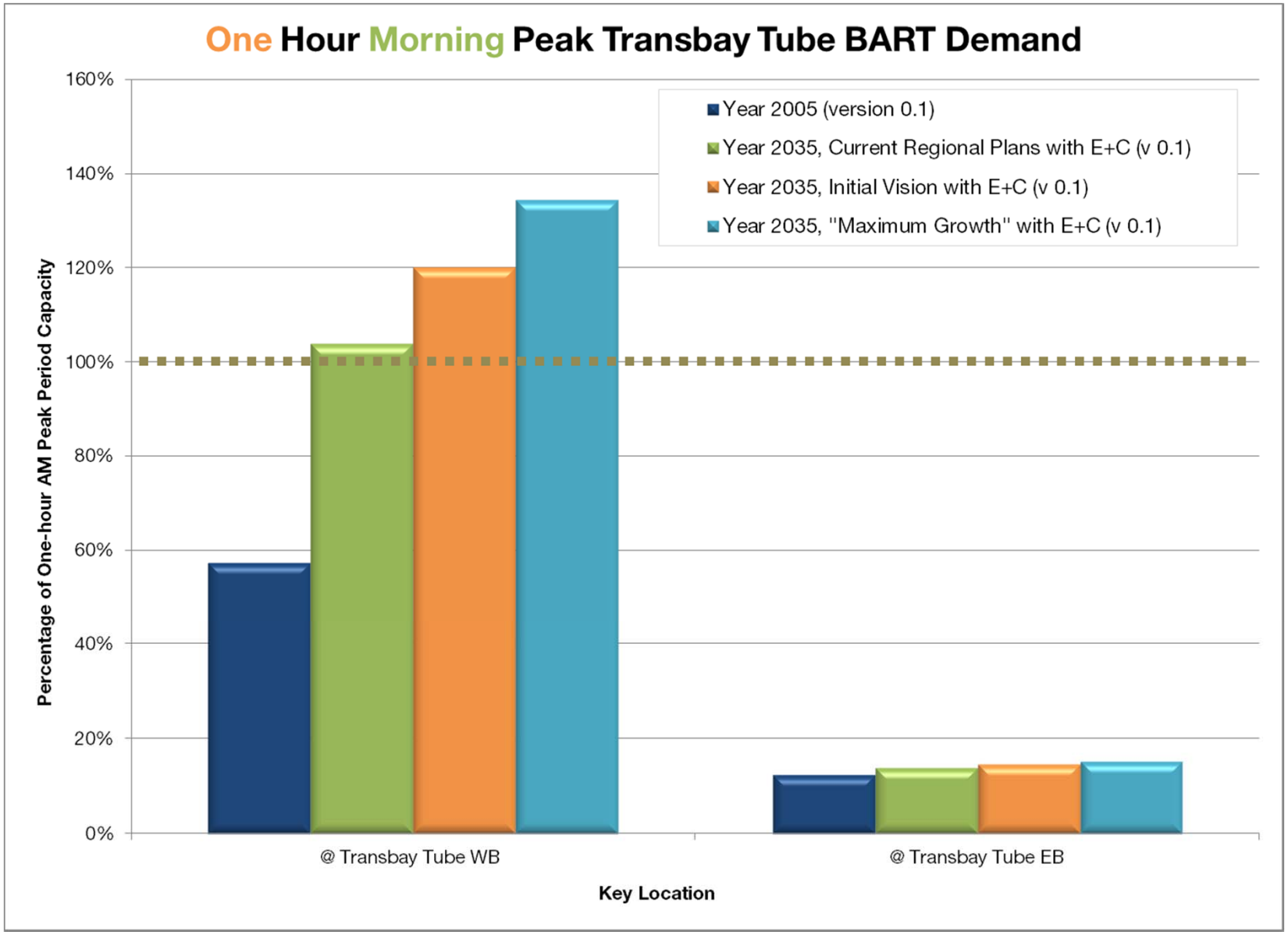
Growth in Transit Ridership Demand (No Build)

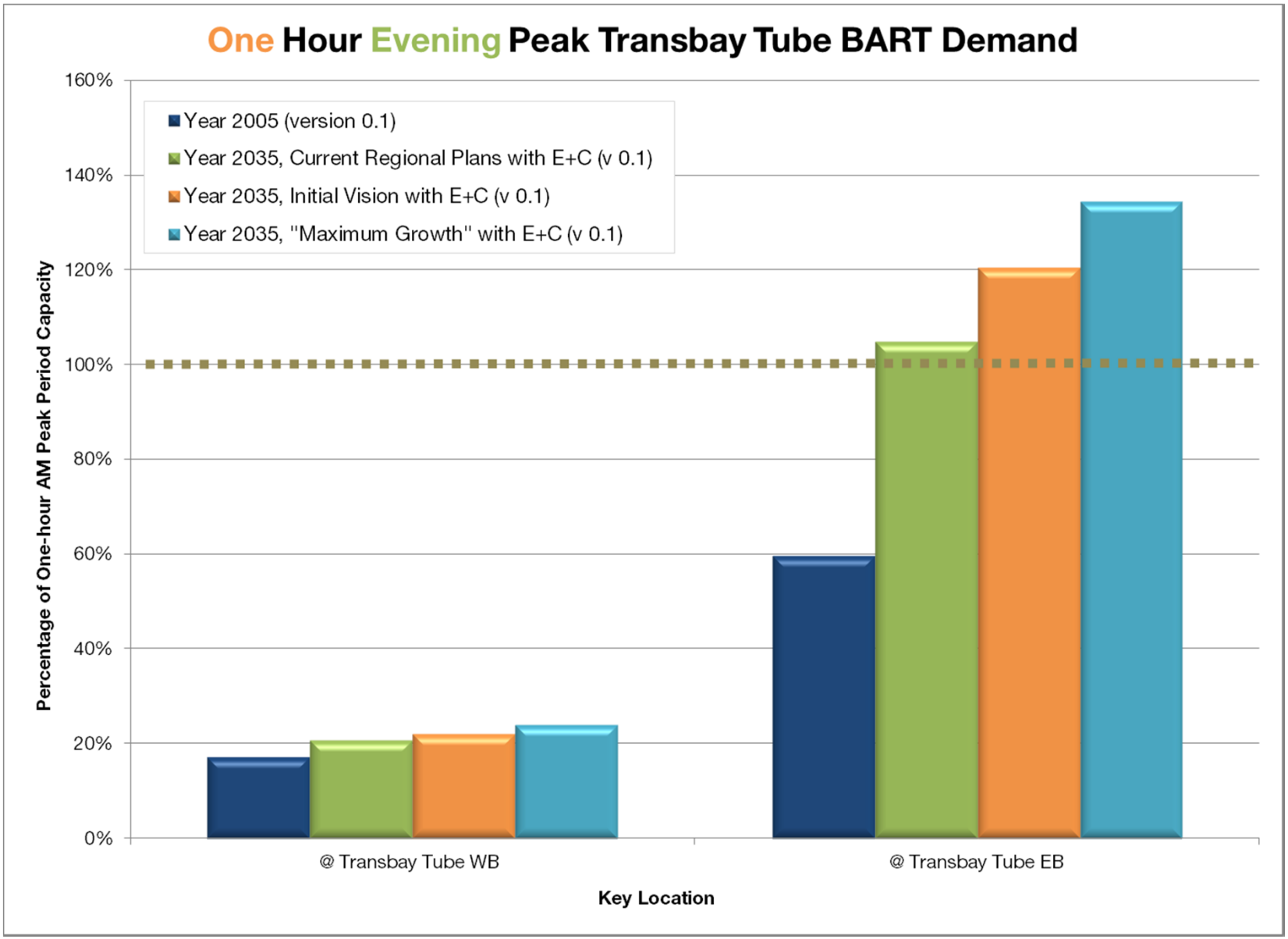


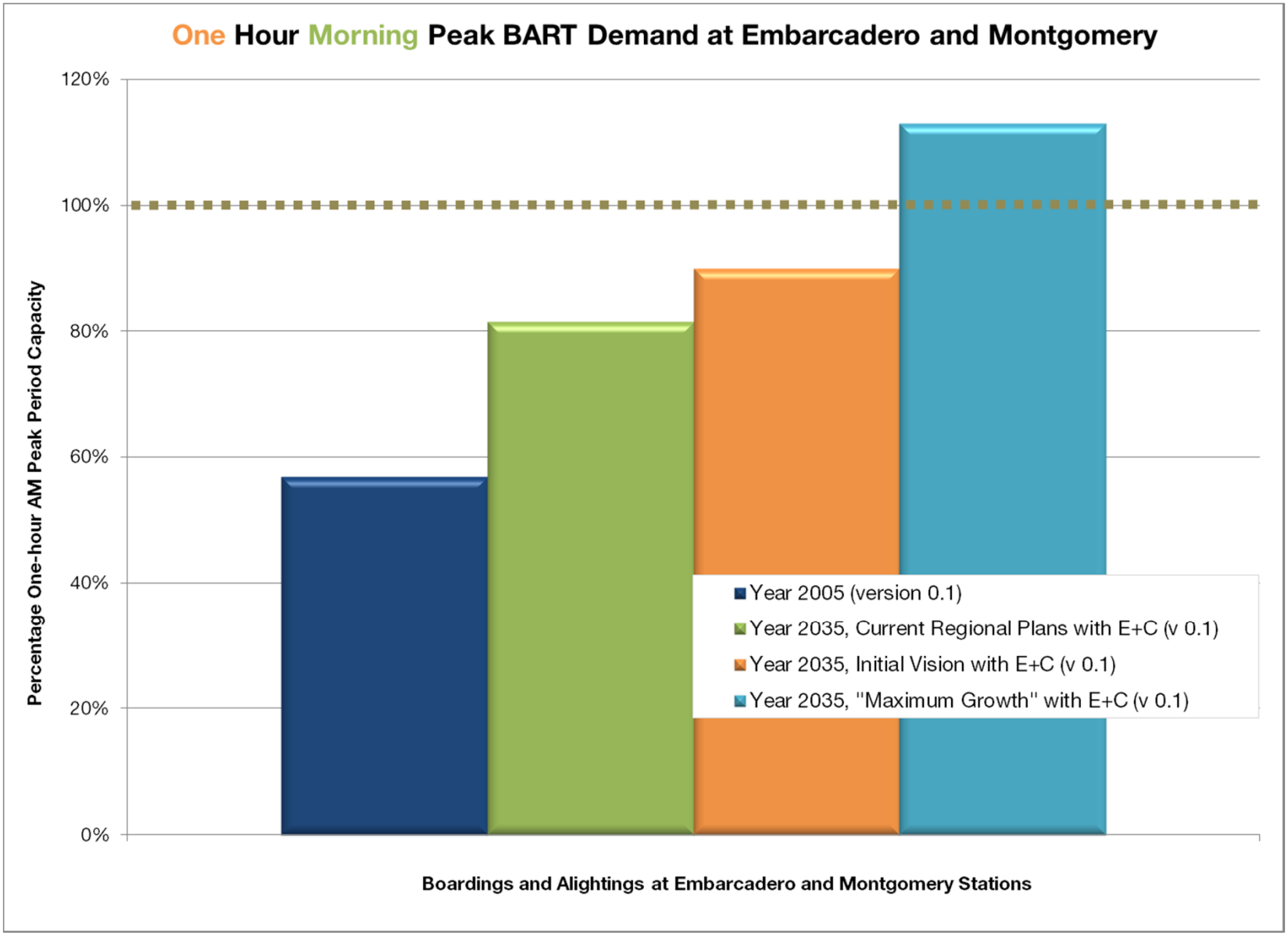

Percent Growth in Transit Boardings: 2010 to 2035 Max Growth
Cumulative share of total growth
Share of total growth
MUNI
BART
SC VTA
AC Transit
SamTrans
Operator
0.0%
10.0%
20.0%
30.0%
40.0%
50.0%
60.0%
70.0%
80.0%
90.0%
100.0%
Estimated daily boardings

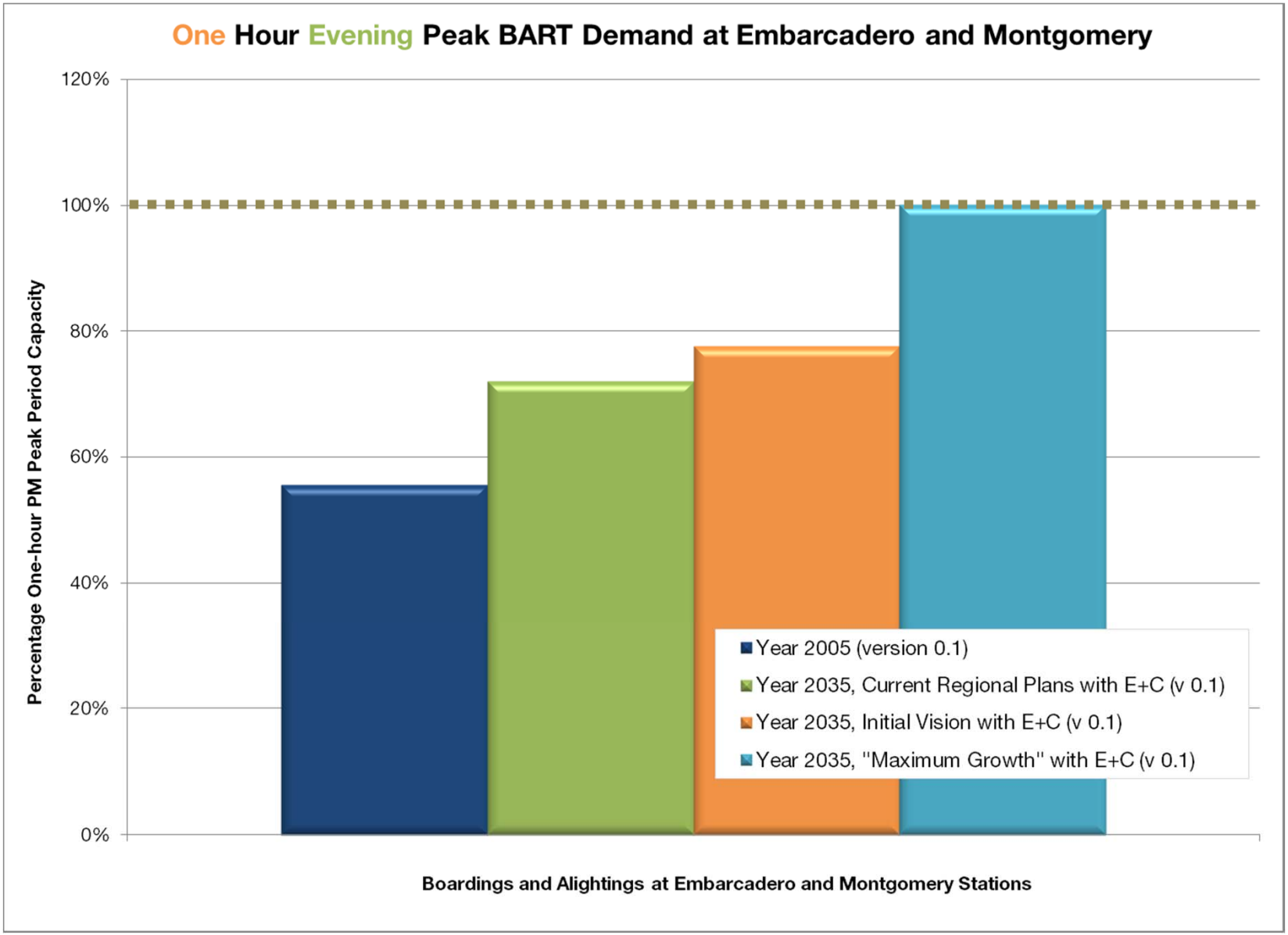
BART by Route

Route	Growth in daily boardings (2010 to 2035)	AM Route-level Utilization	PM Route-level Utilization
SFO to Pittsburgh/Bay Point	44,000	0.37	1.35
Pittsburgh/Bay Point to SFO	35,000	1.41	0.34
Daly City to Dublin/Pleasanton	27,700	0.28	0.67
Richmond to Millbrae	27,200	1.38	0.41
Dublin/Pleasanton to Daly City	25,200	0.89	0.25
Berryessa to Daly City	24,700	1.10	0.26
Millbrae to Richmond	24,600	0.48	1.16
Daly City to Berryessa	21,500	0.30	0.84
Richmond to Berryessa	21,500	0.39	0.30
Berryessa to Richmond	20,300	0.35	0.31


One Hour Morning Peak Transbay Tube BART Demand
160%
140%
120%
100%
80%
60%
40%
20%
0%
Percentage of One-hour AM Peak Period Capacity
Year 2005 (version 0.1)
Year 2035, Current Regional Plans with E+C (v 0.1)
Year 2035, Initial Vision with E+C (v 0.1)
Year 2035, "Maximum Growth" with E+C (v 0.1)
@ Transbay Tube WB
@ Transbay Tube EB
Key Location


One Hour Evening Peak Transbay Tube BART Demand
160%
140%
120%
100%
80%
60%
40%
20%
0%
Year 2005 (version 0.1)
Year 2035, Current Regional Plans with E+C (v 0.1)
Year 2035, Initial Vision with E+C (v 0.1)
Year 2035, "Maximum Growth" with E+C (v 0.1)
Percentage of One-hour AM Peak Period Capacity
@ Transbay Tube WB
@ Transbay Tube EB
Key Location


One Hour Morning Peak BART Demand at Embarcadero and Montgomery
120%
100%
80%
60%
40%
20%
0%
Percentage One-hour AM Peak Period Capacity
Year 2005 (version 0.1)
Year 2035, Current Regional Plans with E+C (v 0.1)
Year 2035, Initial Vision with E+C (v 0.1)
Year 2035, "Maximum Growth" with E+C (v 0.1)
Boardings and Alightings at Embarcadero and Montgomery Stations


One Hour Evening Peak BART Demand at Embarcadero and Montgomery
120%
100%
80%
60%
40%
20%
0%
Percentage One-hour PM Peak Period Capacity
Year 2005 (version 0.1)
Year 2035, Current Regional Plans with E+C (v 0.1)
Year 2035, Initial Vision with E+C (v 0.1)
Year 2035, "Maximum Growth" with E+C (v 0.1)
Boardings and Alightings at Embarcadero and Montgomery Stations

SF MUNI Local by Route

Route	Growth in daily boardings (2010 to 2035)	AM Route-level Utilization	PM Route-level Utilization
108EB (Treasure Island)	7,716	0.57	5.50
108WB (Treasure Island)	6,852	4.42	0.79
14OUT (Mission)	6,817	0.61	1.80
38LIN (Geary)	6,634	1.83	0.92
22IN (Fillmore)	6,405	1.02	1.22
8XOUT (Bayshore Express)	6,379	0.68	1.19
22OUT (Fillmore)	6,140	1.12	1.15
1OUT (California)	5,764	1.20	1.74
38LOUT (Geary)	5,676	0.90	1.06
8XIN (Bayshore Express)	5,500	1.31	0.62

SF MUNI Metro by Route

Route	Growth in daily boardings (2010 to 2035)	AM Route-level Utilization	PM Route-level Utilization
T	18,378	0.62	0.67
T-	16,515	0.81	0.41
N_JUDAH-	10,093	0.38	0.86
N_JUDAH	9,935	1.00	0.36
F_MARKET-	7,576	0.15	0.23
M_OCEAN-	7,394	0.31	0.87
M_OCEAN	6,554	1.06	0.30
L_TARAV-	4,741	0.21	0.66
F_MARKET	4,560	0.18	0.10
L_TARAV	4,077	0.81	0.22

Santa Clara VTA Local by Route

Route	Growth in daily boardings (2010 to 2035)	AM Route-level Utilization	PM Route-level Utilization
523VTA- (New route)	13,550	0.63	1.76
523VTA (New route)	12,960	1.79	1.06
KINGBRT (New route)	10,014	1.50	0.62
22VTA (Palo Alto to East Rdg)	9,050	1.41	3.14
22VTA- (East Rdg to Palo Alto)	5,905	2.87	1.56
66VTA (Kaiser to Milipitas)	5,867	1.05	1.10
66VTA- (Milipitas to Kaiser)	5,504	1.06	1.04
77VTA (East Rdg to Great Mall)	4,083	0.88	0.58
68NBVTA (Gilroy to Diridon)	3,736	0.94	0.61
68SBVTA (Diridon to Gilroy)	3,473	0.61	0.89

Santa Clara VTA LRT by Route

Route	Growth in daily boardings (2010 to 2035)	AM Route-level Utilization	PM Route-level Utilization
900LRT- (Almdn to Mtn View)	25,439	0.61	0.98
900LRT (Mtn View to Almdn)	25,198	1.19	0.64
901LRT (Snta Thrsa to Alm Rk)	9,793	0.88	0.78
903LRT- (Tasman Exp)	8,749	0.86	0.19
901LRT- (Alm Rk to Snta Thrsa)	7,725	0.81	0.80
903LRT (Tasman Exp)	7,716	0.19	0.77
902LRT- (Winchester to St Jm)	-7,063	0.31	0.44
902LRT (Winchester to St Jm)	-7,392	0.45	0.28

AC Transit Local by Route

Route	Growth in daily boardings (2010 to 2035)	AM Route-level Utilization	PM Route-level Utilization
1WBAC (Bayfair to Berkeley)	6,312	1.84	1.61
1RWBAC (International Rapid)	5,990	1.68	1.33
1EBAC (Berkeley to Bayfair)	5,702	1.23	1.58
1REBAC (International Rapid)	4,881	1.00	1.42
51ASBAC (Rckrdge to Frtvle)	4,185	1.21	0.87
72R- (San Pablo Rapid)	3,490	1.11	0.59
51ANBAC (Frtvle to Rckrdge)	3,269	0.82	0.97
18EBAC (Albany to Downtown)	3,138	0.45	0.61
72R (San Pablo Rapid)	3,035	0.54	1.12
51BAC (Rckrdge to Berkeley)	3,022	0.97	0.71

SamTrans by Route

Route	Growth in daily boardings (2010 to 2035)	AM Route-level Utilization	PM Route-level Utilization
390- (Palo Alto to Daly City)	5,606	3.44	1.66
390 (Palo Alto to Daly City)	4,885	1.63	2.23
391NB (Redwood City to SF)	3,063	1.43	1.26
391SA (Redwood City to SF)	2,288	1.84	1.12
122- (S SF BART to Stnstwn)	2,185	0.54	0.79
120- (Colma to Templeton)	1,953	0.42	0.72
130- (S SF to Daly City)	1,839	0.96	0.68
292S (SF to Hillsdale)	1,824	1.81	0.74
120 (Colma to Templeton)	1,799	0.95	0.36

Questions

General

- **Is the overall approach reasonable?**
- **How important is the variability of significant road expansion projects (other than Express Lanes projects) among transportation networks?**
- **What are the trade-offs between service increases vs. transit capital rehab?**

Equity Considerations

- **Is the low-income commute demand fully addressed?**
- **What are the trade-offs between restoring recently reduced services vs. demand-based increases?**

Next Steps

- **Continue to review land use and transportation assumptions with partner agencies, advisors, and stakeholders (including Policy Advisory Council, Regional Advisory Working Group, & Equity Working Group) – next meeting is August 31**

- **Finalize land use and transportation network assumptions and start modeling and technical assessment – early September**

- **Release results and start public outreach - October**