

Core Capacity Transit Study: Project Update

CORE CAPACITY
TRANSIT STUDY



March 22, 2017

Outcomes for Today

- Public Outreach feedback
- SF Metro short and medium term recommendation
- Long Term study findings
- Study next steps

Public Outreach

- Two outreach events hosted, one each in San Francisco and Oakland
- Feedback included:
 - Prioritize *comprehensive* short/mid term solutions- e.g. include service and infrastructure with any pricing solutions
 - Long-term projects (e.g. second tube) should work to solve *big regional problems*
 - Optimize technology & traveler information so people can make better choices in real-time
 - Include equity in the discussion

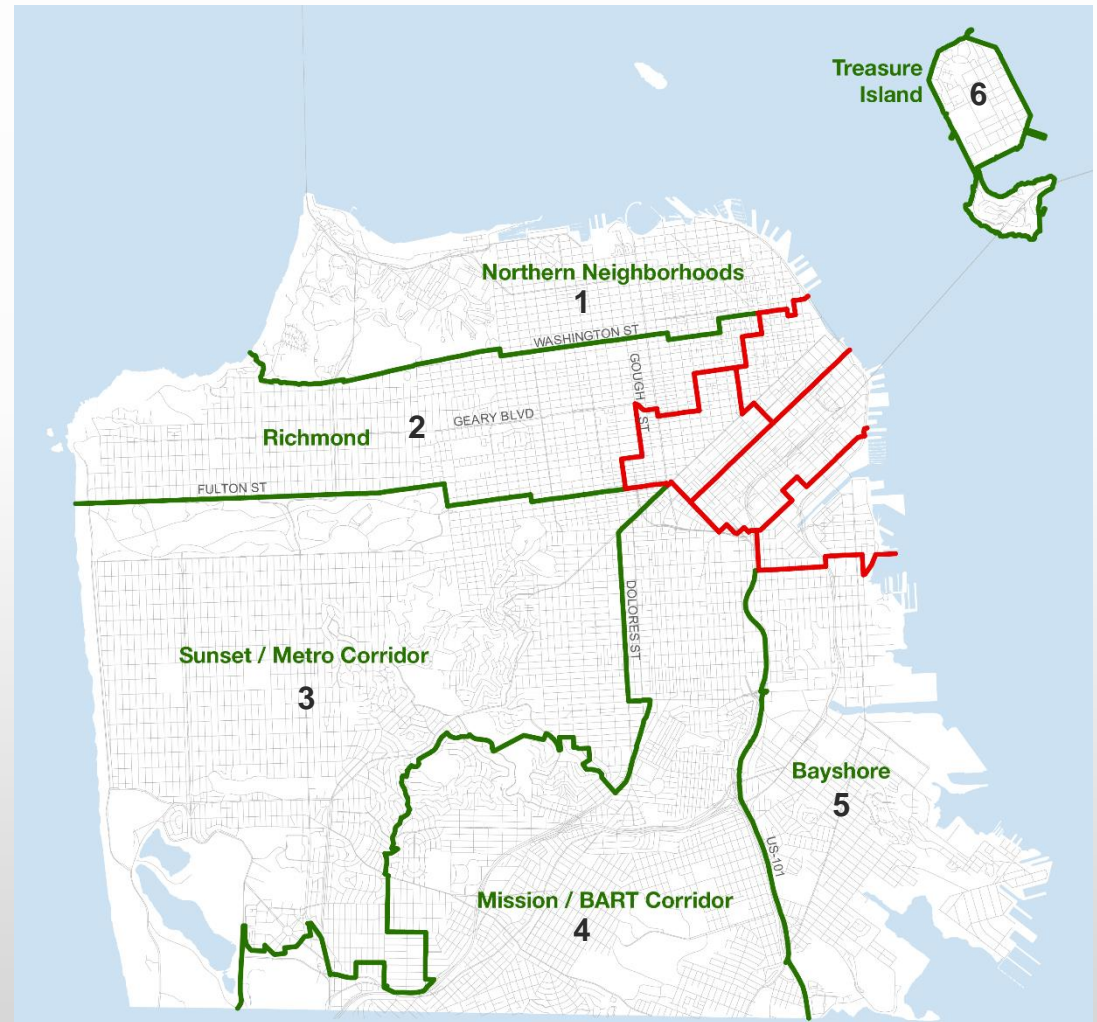


SF Metro

Short and Medium Term Evaluation

SF Metro Corridor Future Growth

- Similar analysis to Transbay, but capacity/demand assessed in 6 sub-areas
- Richmond & Sunset corridors show projected demand above planned capacity
- Other corridors show future planned capacity above projected demand



SF Metro Sunset Corridor Capacity and Demand: Prerequisites

Sunset Corridor



Existing Conditions (Capacity)
Inbound to SF Core
AM Peak Hour

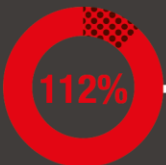
4,550 People in Cars

8,100 People on Transit

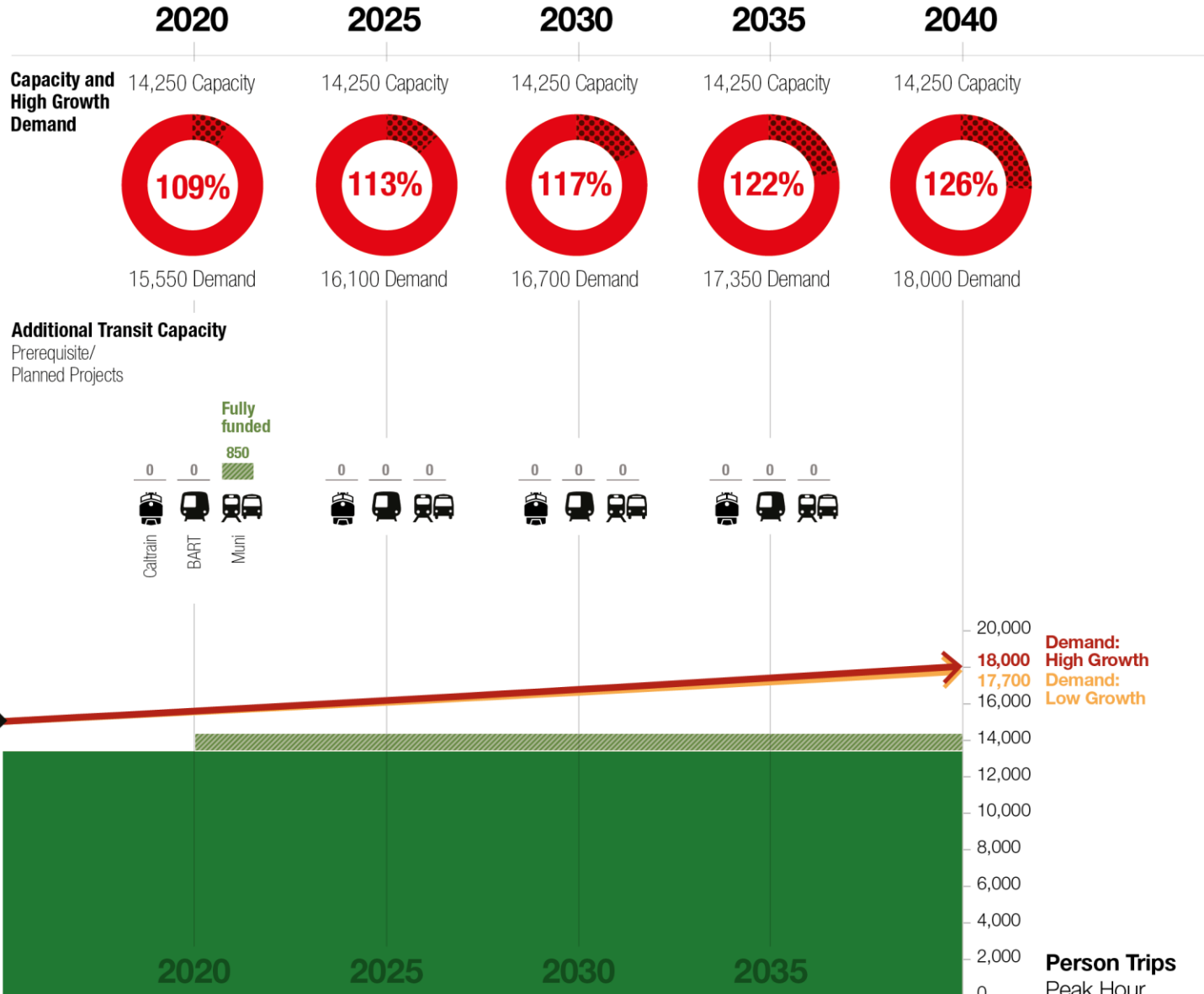
750 People Biking & Walking

2015

13,400 Capacity



14,950 Demand



Demand:
High Growth
Demand:
Low Growth

Person Trips
Peak Hour

Short/Medium-Term Packages



1a

Focus on Improving Train Operations on City Streets

- *Scheduled Capacity: Lengthen trains throughout the system*
- *Realized Capacity: Limit travel-time variability on surface*



1b

Join Trains at Merge Points to Increase Tunnel Capacity

- *Scheduled Capacity: Lengthen trains in core of system*

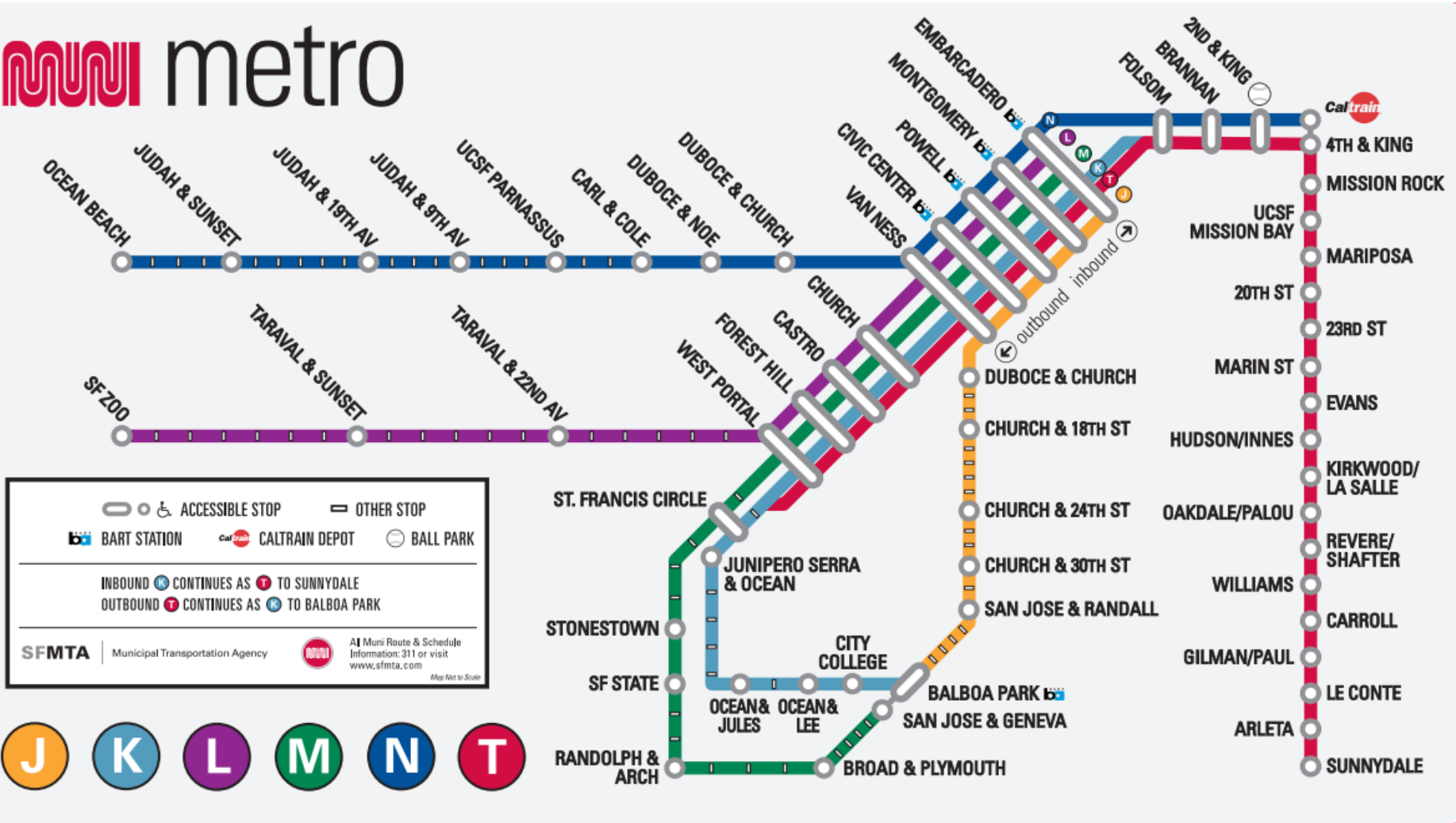


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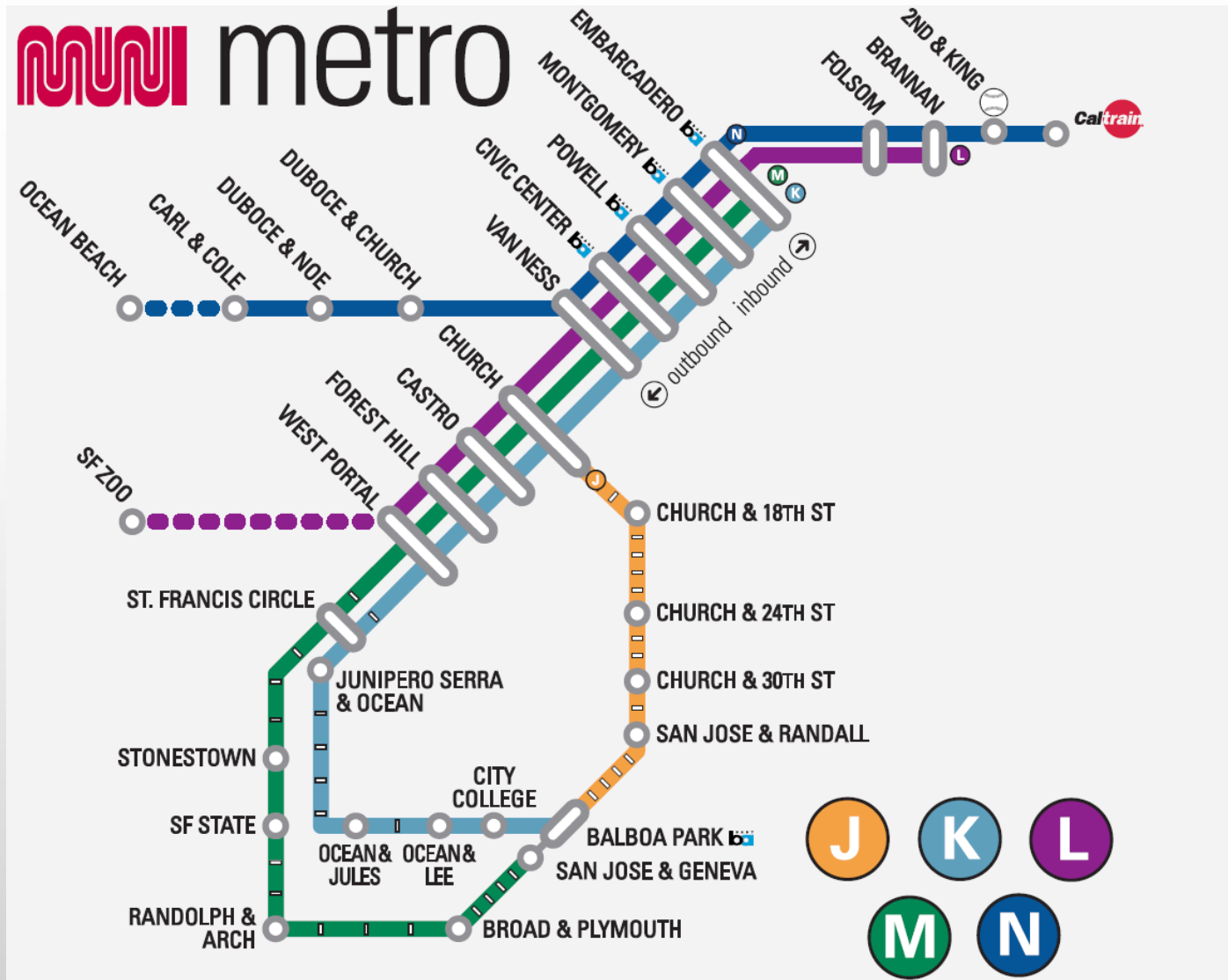
Simplify the Structure of the System

- *Scheduled Capacity: Lengthen trains on key lines*
- *Realized Capacity: Reduce tunnel exposure to surface variability*

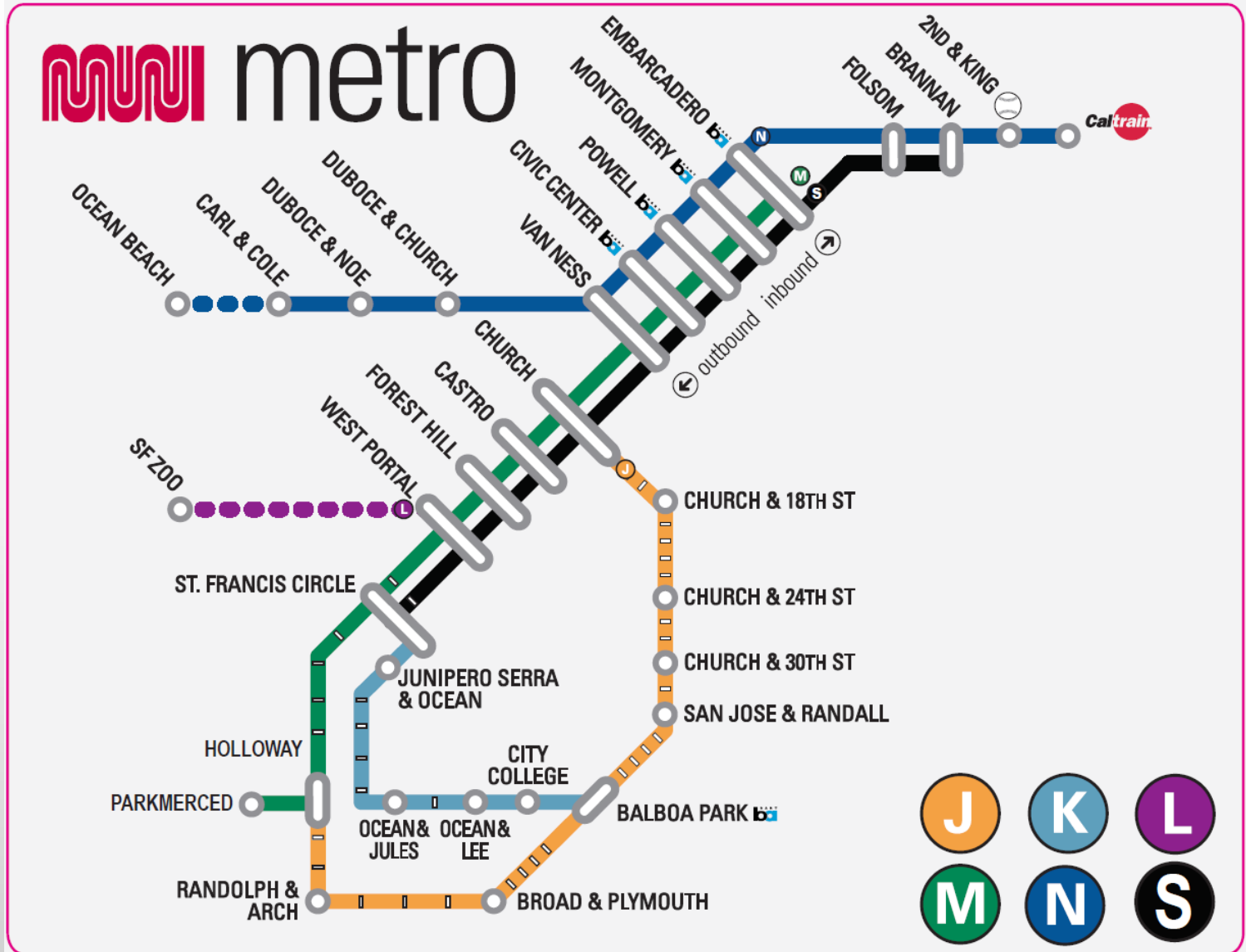
Current System Structure



2a: Restructure – Church Station Transfer



2c: Restructure – Spine-Transfer















Evaluation Results

Metrics

Conclusions

Performance Evaluation

(Relative to baseline/no-build)

	Capacity	Utilization	Reliability	Resiliency
	Peak Hour Person Spaces	Load Factor	Surface Travel Time Variance	Relative Assessment
Package 1a				
Package 2a				
Package 2c				



Lower performing

Higher performing

SF Metro Capacity and Demand w/ Package 1a (Surface Optimization)

Sunset Corridor



Existing Conditions (Capacity)

Inbound to SF Core
AM Peak Hour

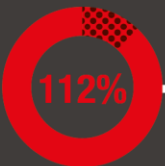
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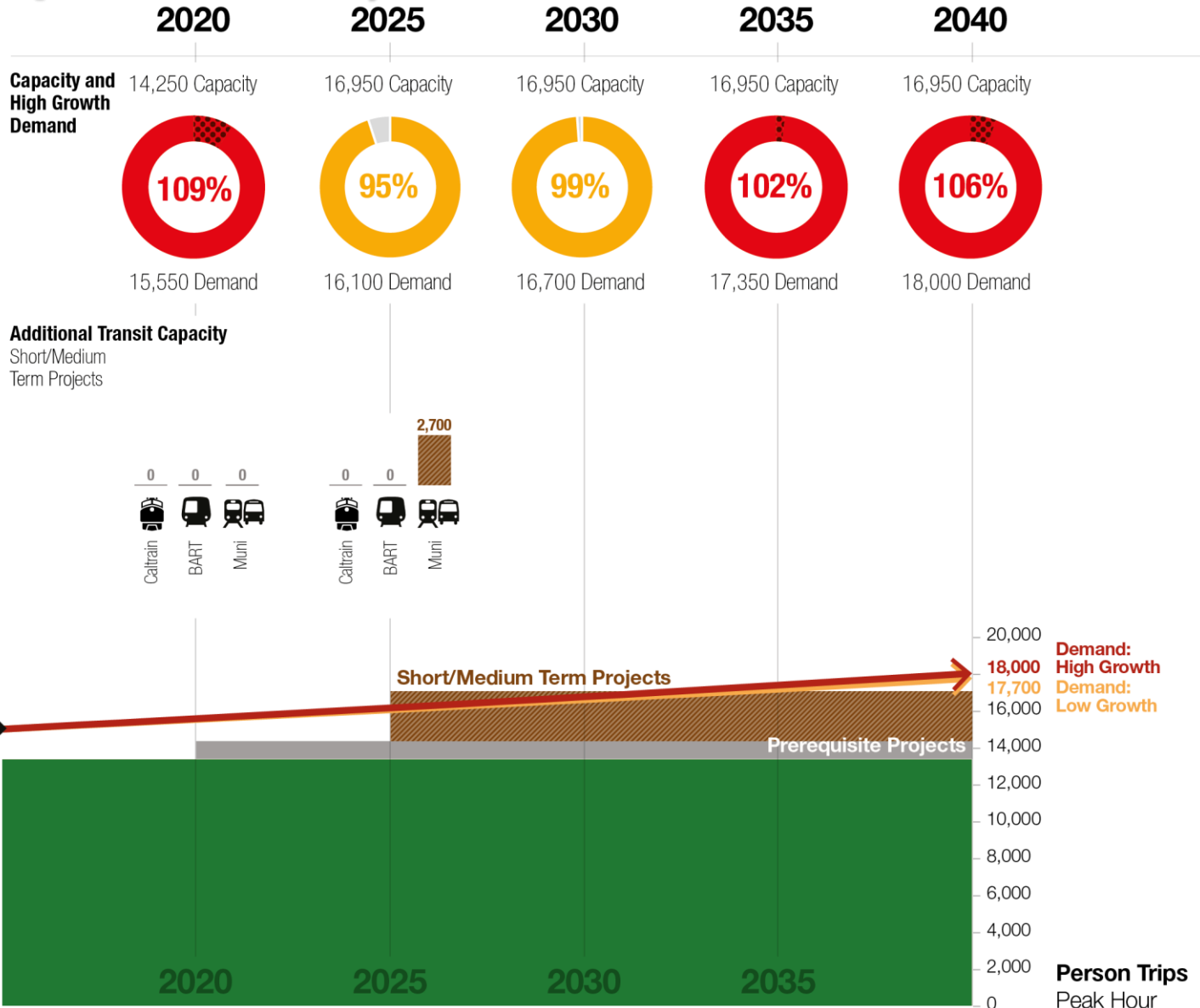
750 People Biking & Walking

2015

13,400 Capacity



14,950 Demand



Totals may not sum due to rounding

Recommended Package 1a: Capital Costs

Improvements		Estimated Cost
<i>Not Fully Funded Prerequisite Projects</i>		
1	SFMTA – Fleet and Yard	\$787M
2	Surface Light Rail Safety & Capacity Project	\$100M
Subtotal Prerequisite Projects		\$887M
<i>Not Fully Funded Recommended Projects</i>		
1	Surface Improvements <ul style="list-style-type: none"> - Station improvements - Roadway improvements - Transit priority traffic control improvements 	\$51M
Subtotal Recommended Projects		\$51M
Total Recommended Package		\$938M

Next Steps

- Investment in pre-requisite projects
- Continued and enhanced implementation of travel time and reliability improvements for light rail lines
- ConnectSF – Citywide identification of long term priorities and key travel corridors

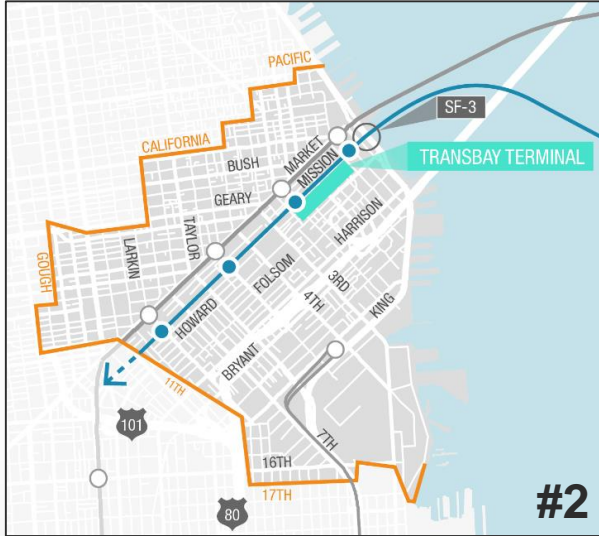
Long Term Summary

Long Term Options

	Long Term Option	Capacity Estimate	Capital Cost Estimate
1	More Bus and Ferry: Maximize Existing Assets <ul style="list-style-type: none"> - +125 buses - +6 ferries 	+13,000	\$600M
2	BART Independent Line (via Mission) <ul style="list-style-type: none"> -28 trains/hour 	+30,000	\$5B - \$12B
3	BART Independent Line (3 rd St. Crossing) <ul style="list-style-type: none"> - 28 trains/hour 	+30,000	\$5B - \$12B
4	BART Merged Line (SOMA/Mission Bay) <ul style="list-style-type: none"> - 12 to 24 trains/hour 	+10,000 – 20,000	\$5B - \$12B
5	Greater Regional Rail Connection <ul style="list-style-type: none"> - 10 to 12 trains/hour 	+12,000 – 18,000	\$5B - \$11B

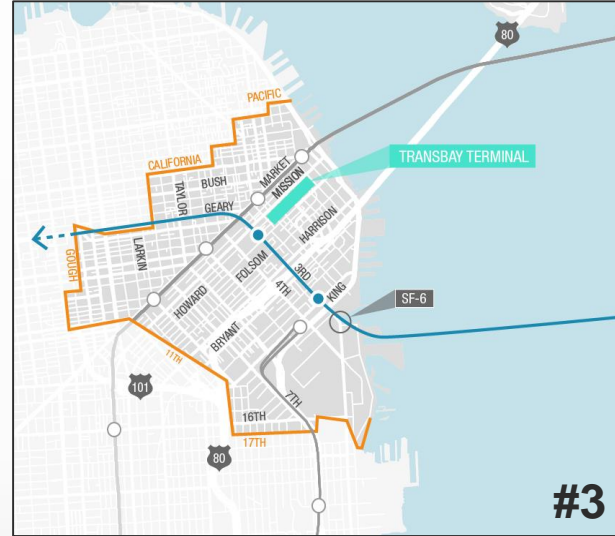
Long Term Options – SF Alignments

BART
Independent
Line – via
Mission St.



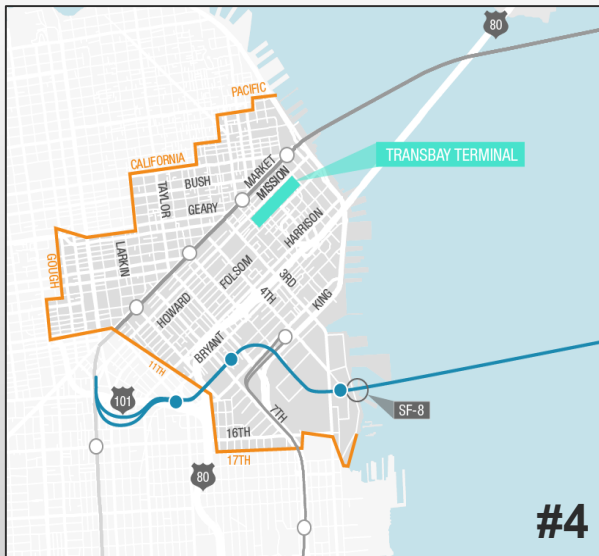
#2

BART
Independent
Line – 3rd St.
Crossing



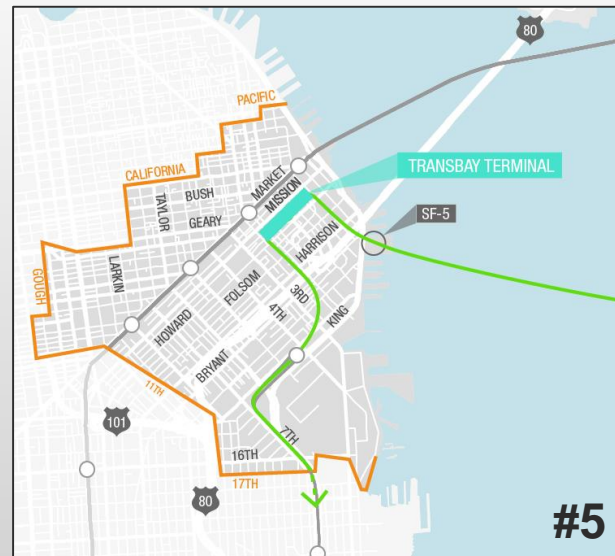
#3

BART
Merged
Line – SOMA/
Mission Bay



#4

Greater
Regional
Rail
Connection



#5

Transbay Capacity and Demand: Short and Medium Improvements

Transbay Corridor

Short and Medium Packages

Estimated transit capacity increases

10,000 People in Cars

29,000 Transit Trips

2,700 AC Transit & WestCAT bus

25,000 BART

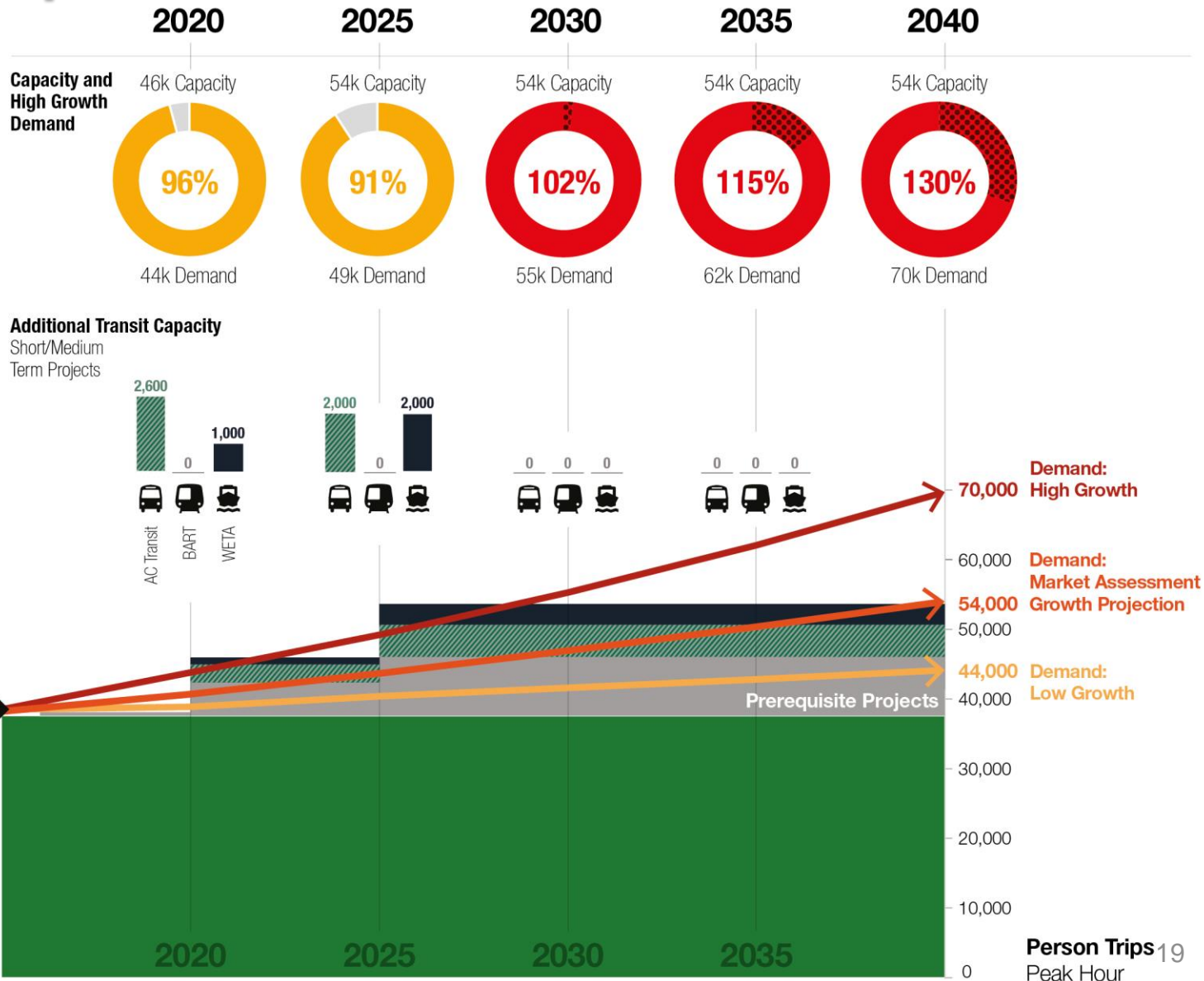
1,300 WETA ferry

2015

37k Capacity



39k Demand



Transbay Capacity and Demand: More Bus and Ferry

Transbay Corridor

Long Term Projects
Estimated transit capacity
increases

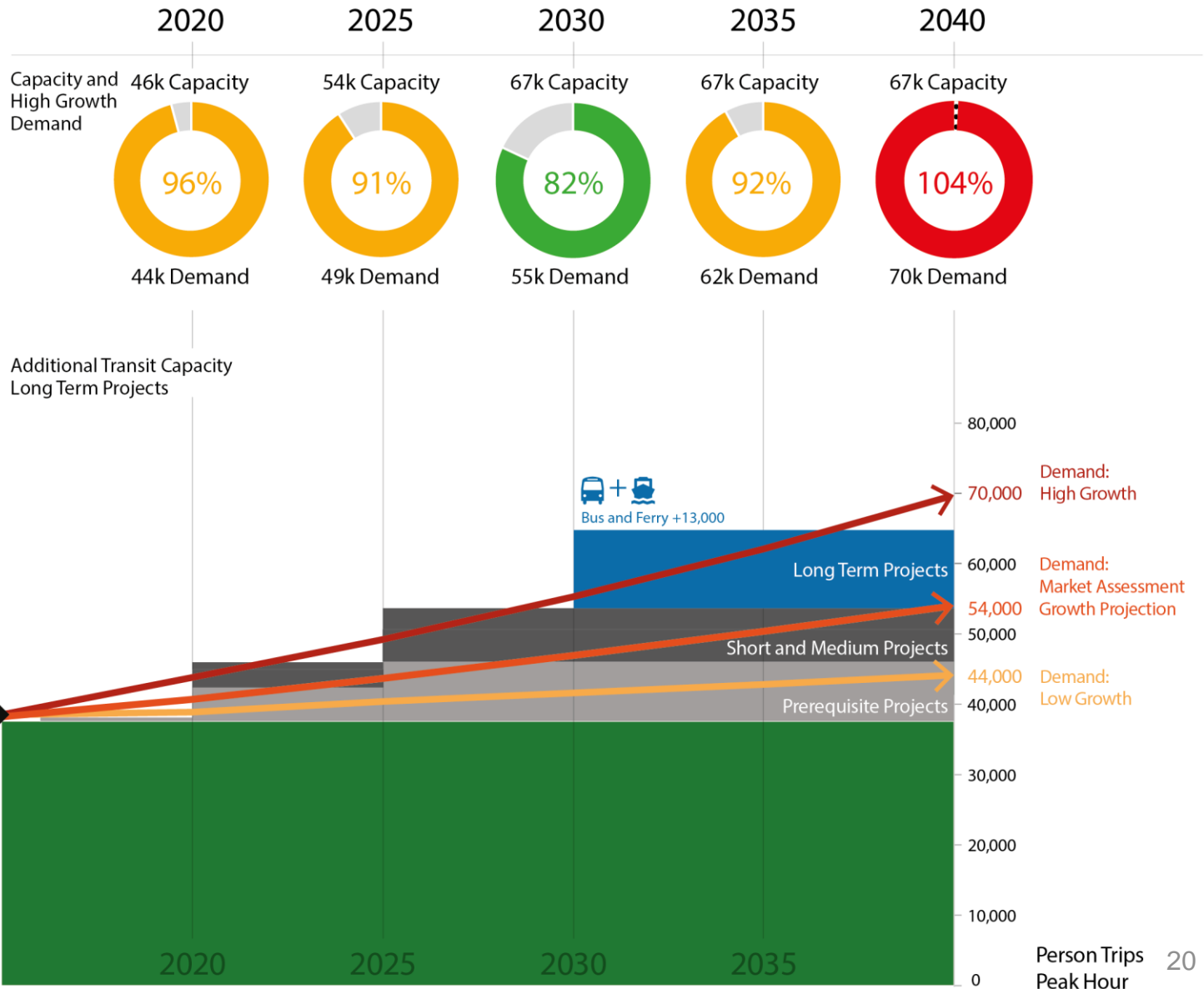
10,000 People in Cars

29,000 Transit Trips

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25,000 BART

1,300 WETA ferry



2015

37k Capacity



39k Demand

Person Trips
Peak Hour 20

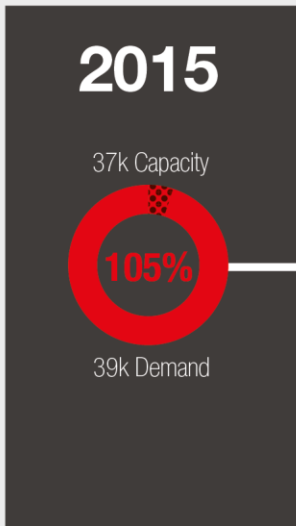
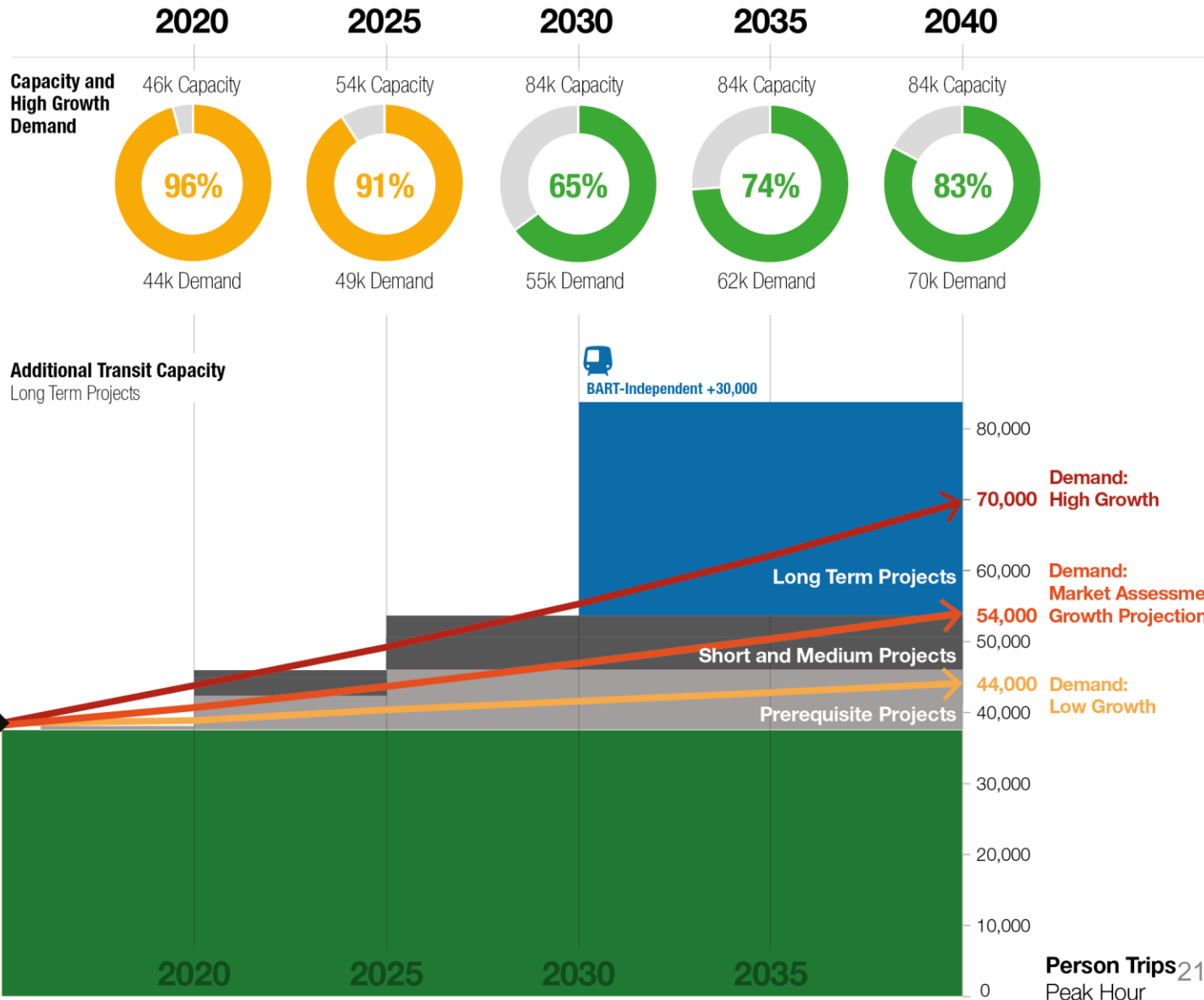
Transbay Capacity and Demand: BART Independent Line

Transbay Corridor

Long Term Projects
Estimated transit capacity increases

10,000 People in Cars
29,000 Transit Trips

2,700 AC Transit & WestCAT bus
25,000 BART
1,300 WETA ferry



Person Trips²¹
Peak Hour

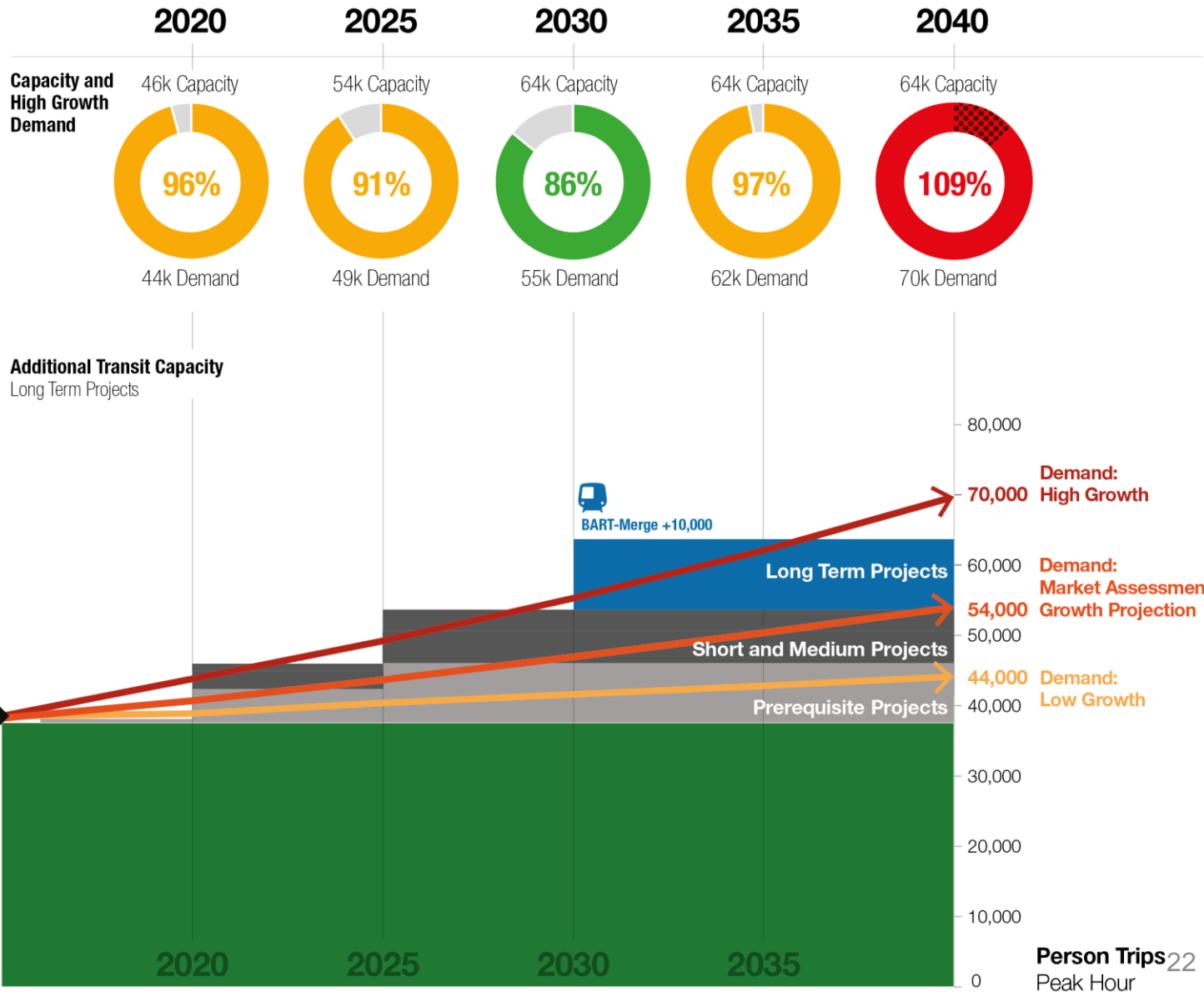
Transbay Capacity and Demand: BART Merged Line

Transbay Corridor

Long Term Projects
Estimated transit capacity increases

10,000 People in Cars
29,000 Transit Trips

- 2,700 AC Transit & WestCAT bus
- 25,000 BART
- 1,300 WETA ferry



2015

37k Capacity

105%

39k Demand

Transbay Capacity and Demand: Greater Regional Rail

Transbay Corridor

Long Term Projects
Estimated transit capacity increases

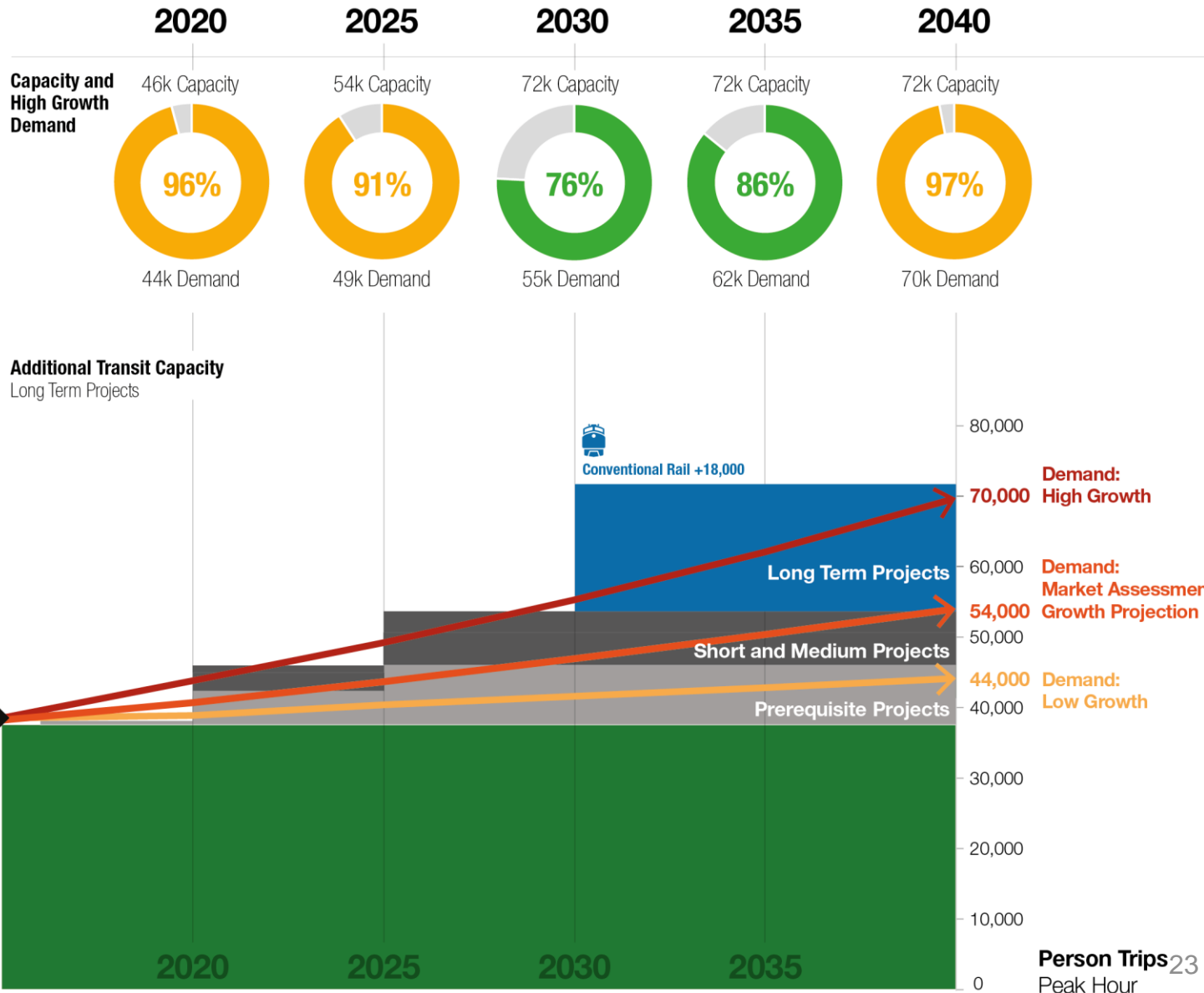
10,000 People in Cars

29,000 Transit Trips

2,700 AC Transit & WestCAT bus

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1,300 WETA ferry



2015

37k Capacity

105%

39k Demand

Person Trips²³
Peak Hour

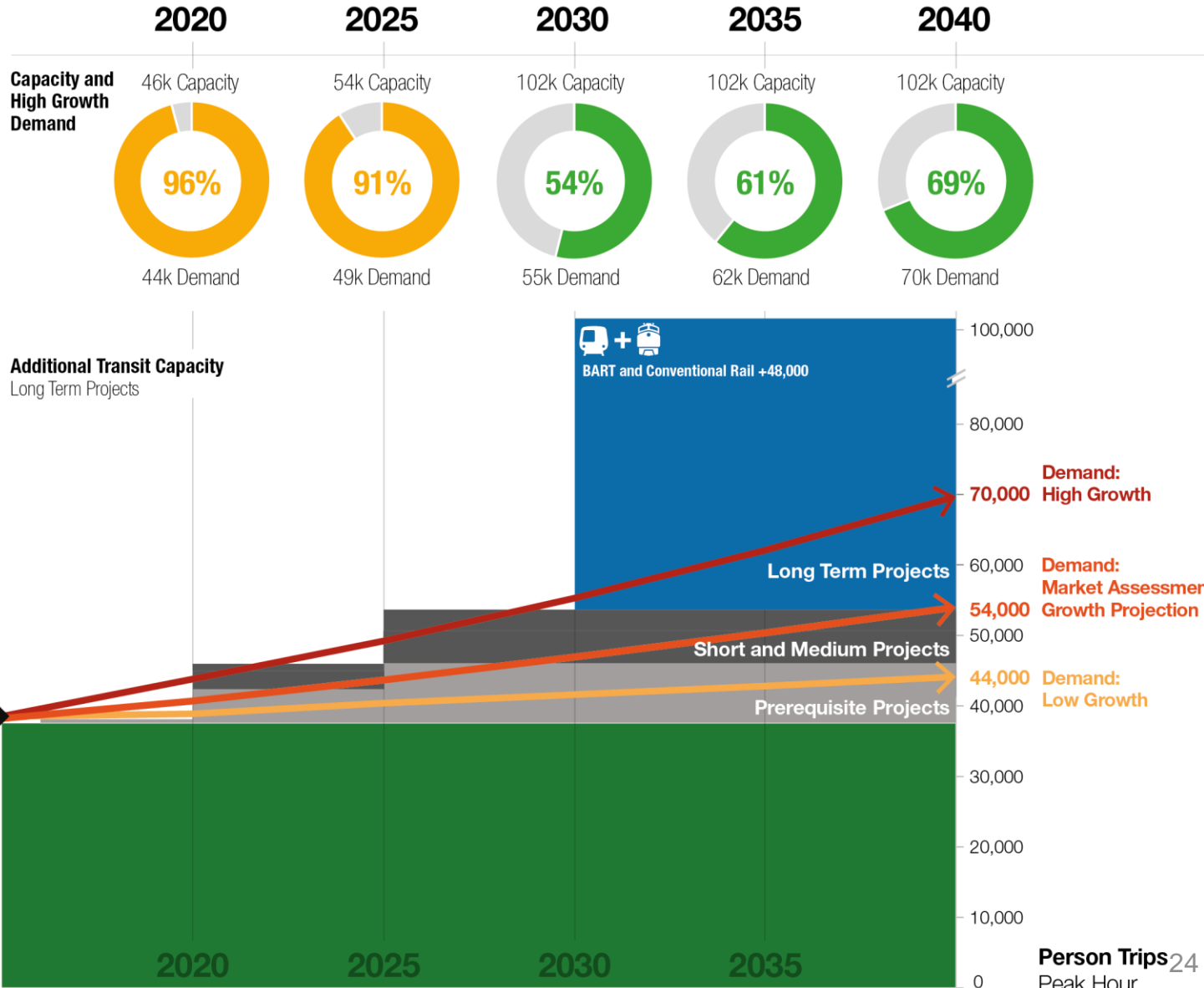
Transbay Capacity and Demand: BART + Conventional Rail

Transbay Corridor

Long Term Projects
Estimated transit capacity increases

10,000 People in Cars
29,000 Transit Trips

2,700 AC Transit & WestCAT bus
25,000 BART
1,300 WETA ferry



Person Trips²⁴
Peak Hour

Long Term Summary

- All options deliver sufficient capacity to meet demand for the medium growth 2040 forecast
- However, two options (bus and ferry option and BART Merged/Breakout Line) do **not** deliver sufficient capacity for the high-growth forecast
- All other rail options provide sufficient capacity for the high growth 2040 forecast
- Recommend a long term project to provide additional transit capacity in the corridor for 2030+

Next Steps

- Develop and issue Final Report
- Second crossing continuation study
 - Includes BART and conventional rail option for analysis
 - Need to Identify study leaders
 - Identify program management role and who does it
 - BART will lead BART portion
 - Responsible entity to lead conventional rail portion needs to be identified/created
 - Extend PMT participation (and new stakeholders)
 - Study anticipated to look at market demand first, then service needed to address demand, then operations and infrastructure
- Key scoping questions
 - Geographic scale: corridor, regional, mega-regional?
 - Institutional governance and other policy considerations
- A scoping effort is needed ASAP to develop a second crossing continuation study framework.
 - Recommend Execs meet again to outline continuation effort

Questions?