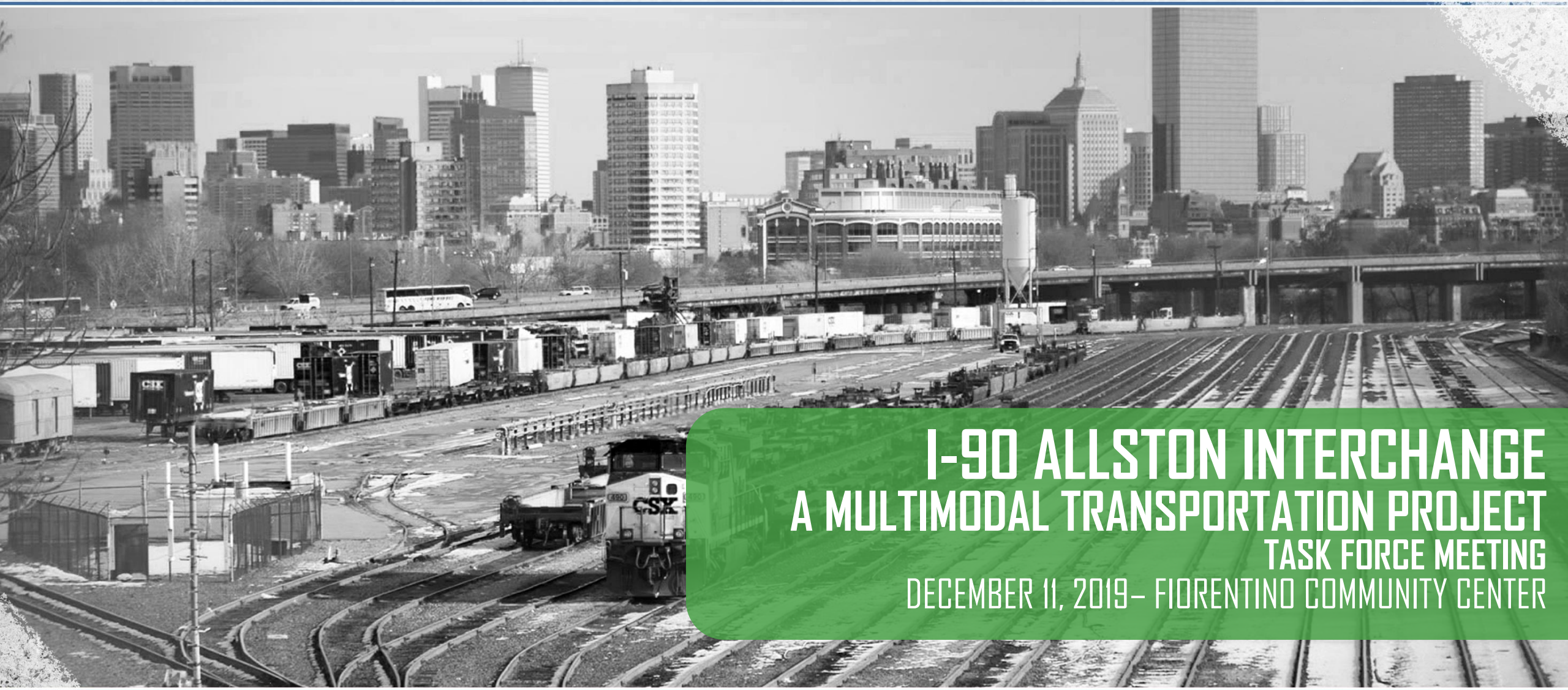


I-90 ALLSTON INTERCHANGE
A MULTIMODAL TRANSPORTATION PROJECT
TASK FORCE MEETING
DECEMBER 11, 2019– FIORENTINO COMMUNITY CENTER

Meeting Agenda

- Welcome & Introductions
- Update on CTPS Modeling
- Overview of Plan Review Sessions
- MEPA/NEPA Update
- Discussion

Meeting Agenda

- Welcome & Introductions
- Update on CTPS Modeling

CTPS Modeling Update

Finalized Land Use Assumptions

- CTPS has been working with MassDOT, MAPC, and other stakeholders to finalize the land use assumptions for the future year no-build and build scenarios (year 2030 and 2040) for input into the regional travel demand model

Calibration of Base Year Model (Statewide)

- CTPS has completed the calibration of the 2018 base year model
- Utilized new traffic count data
- Incorporated new transit data
- Taken advantage of new speed data from INRIX

Future Year Transportation Assumptions & Alternative Analysis

- CTPS has received the highway and transit assumptions
- Analysis of the no-build and build model runs are underway

CTPS Modeling Update - 1

Land Use Assumptions

- MAPC coordinated with Boston, Harvard, and MassDOT to develop these forecasts
- Forecast years of 2030 and 2040 were produced
- Geography is the Transportation Analysis Zone (TAZ)
- Land Use Assumptions included
  - Employment
  - Population
  - Households
  - Group Quarters

CTPS Modeling Update - 2

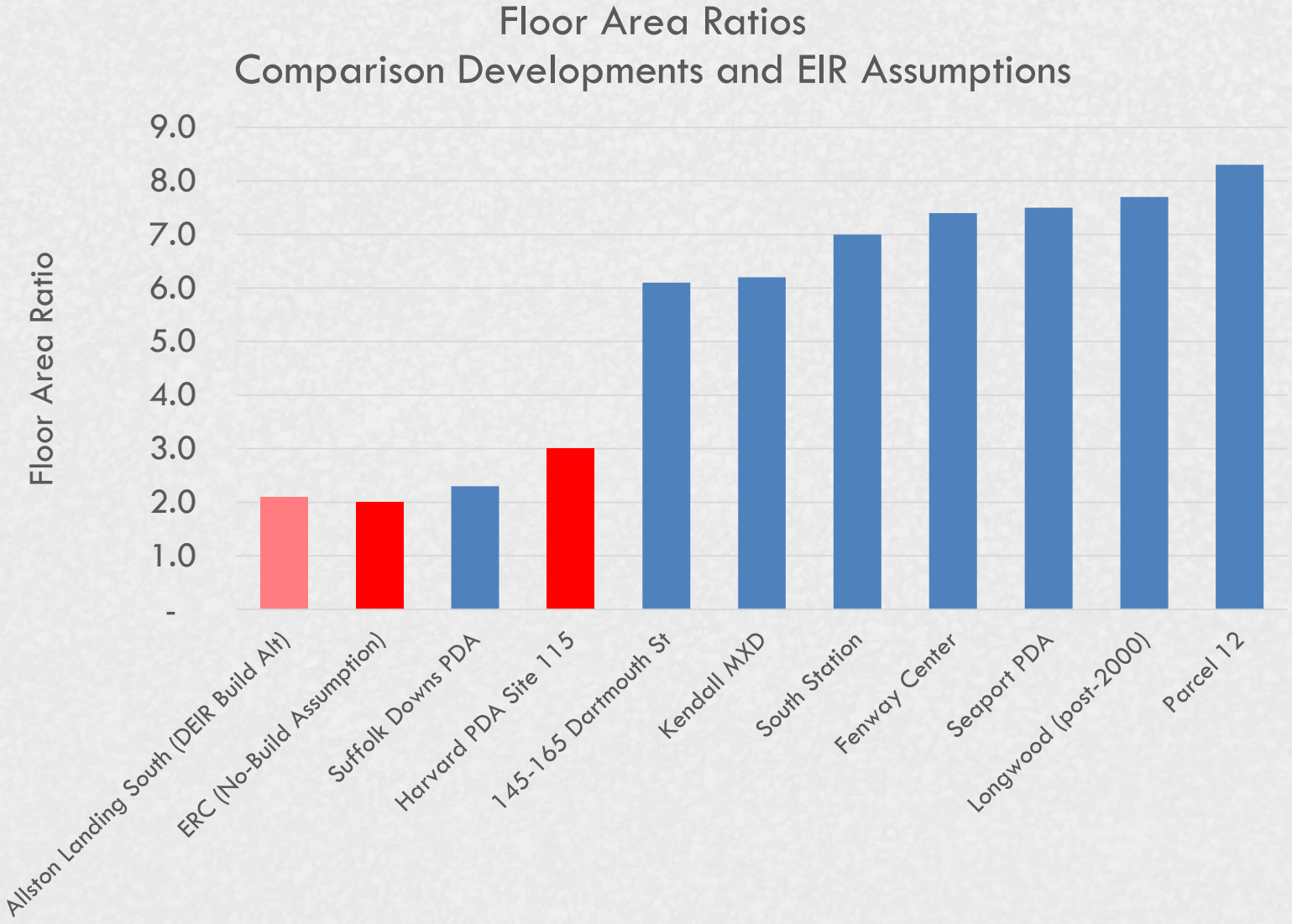
Land use scenario that represents achievement of demonstrated TOD principles and policies:

- Higher densities that concentrate destinations near transit;
- A mix of uses that maximize internal capture;
- High quality, connected transit service;*
- Active transportation network enables non-motorized travel;
- Affordable housing and rental units for “core transit users”;
- Parking policies that disincentivizes auto commuting & frequent auto use.
- Simpler “terra firma” development precedes more complex and expensive air rights development

*Assumes West Station is built concurrent with interchange, no temporary layover facility is established, station configuration facilitates air rights development, and frequent commuter rail and connecting bus services are provided

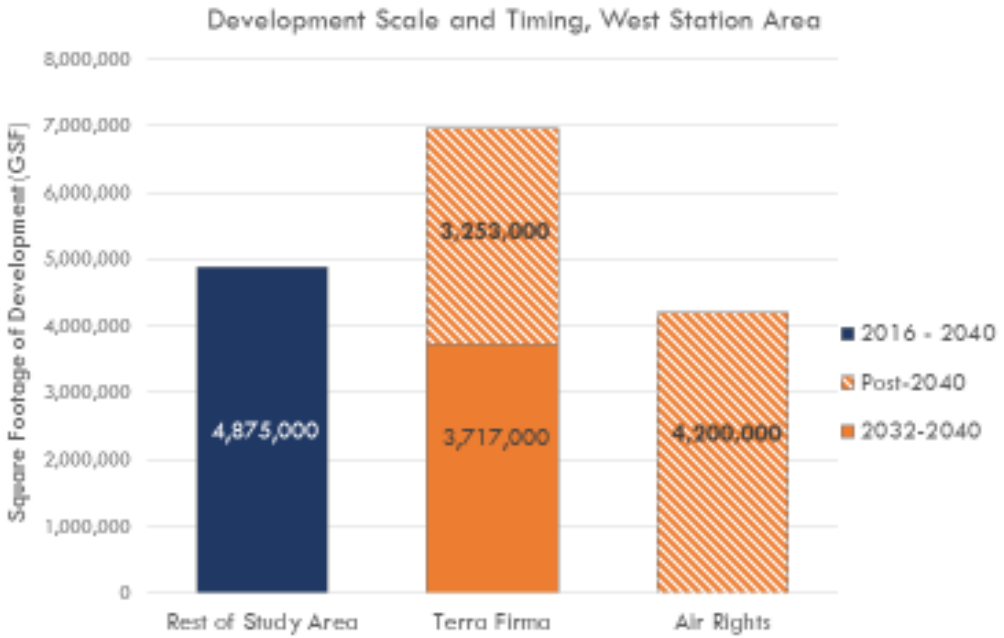
CTPS Modeling Update - 3

Comparable Development District Densities



CTPS Modeling Update - 4

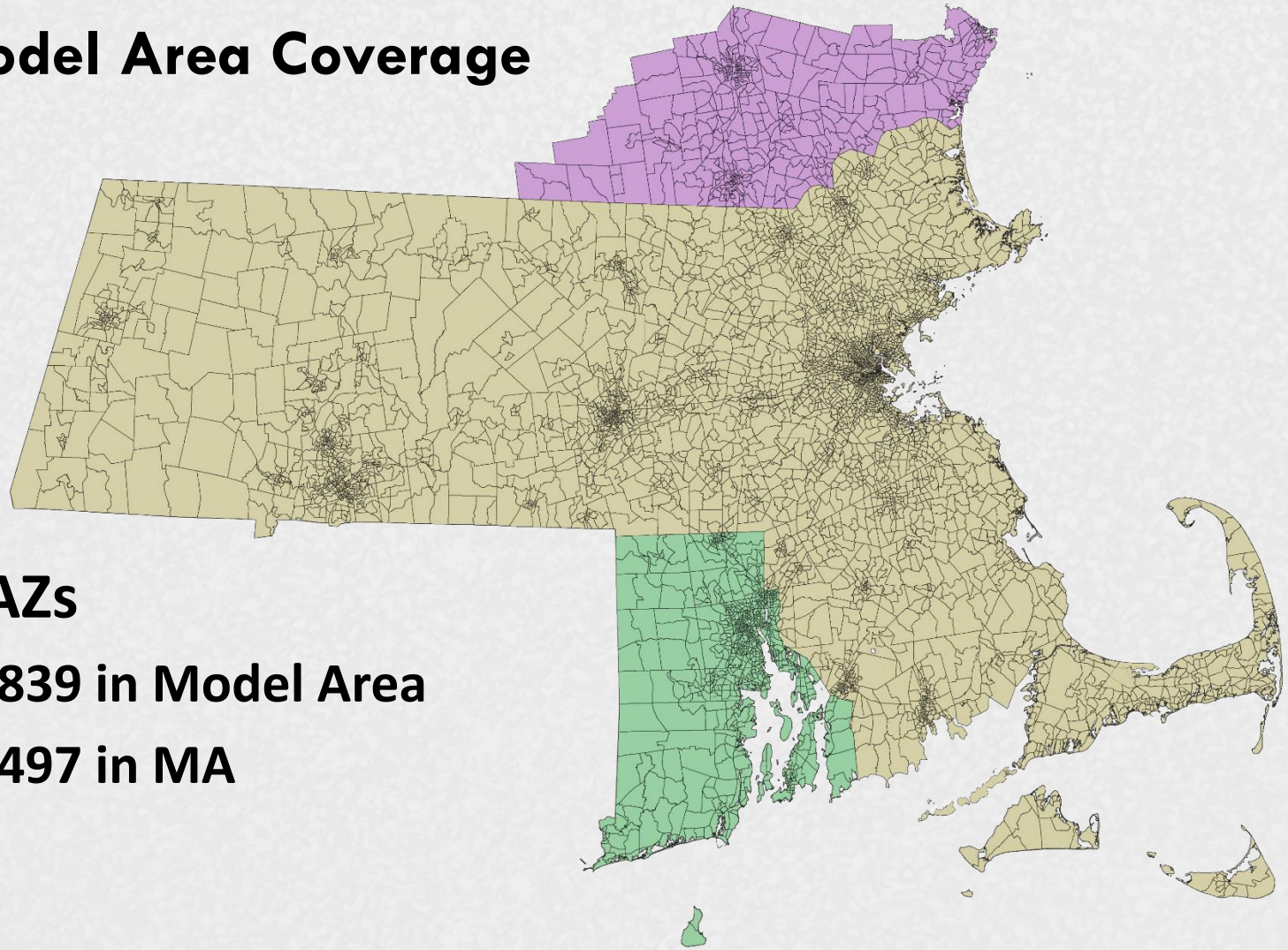
West Station Area Development–Scale and Timing



Approximately 35% of buildout occurs in the 8 years immediately following interchange completion

CTPS Modeling Update - 5

Model Area Coverage



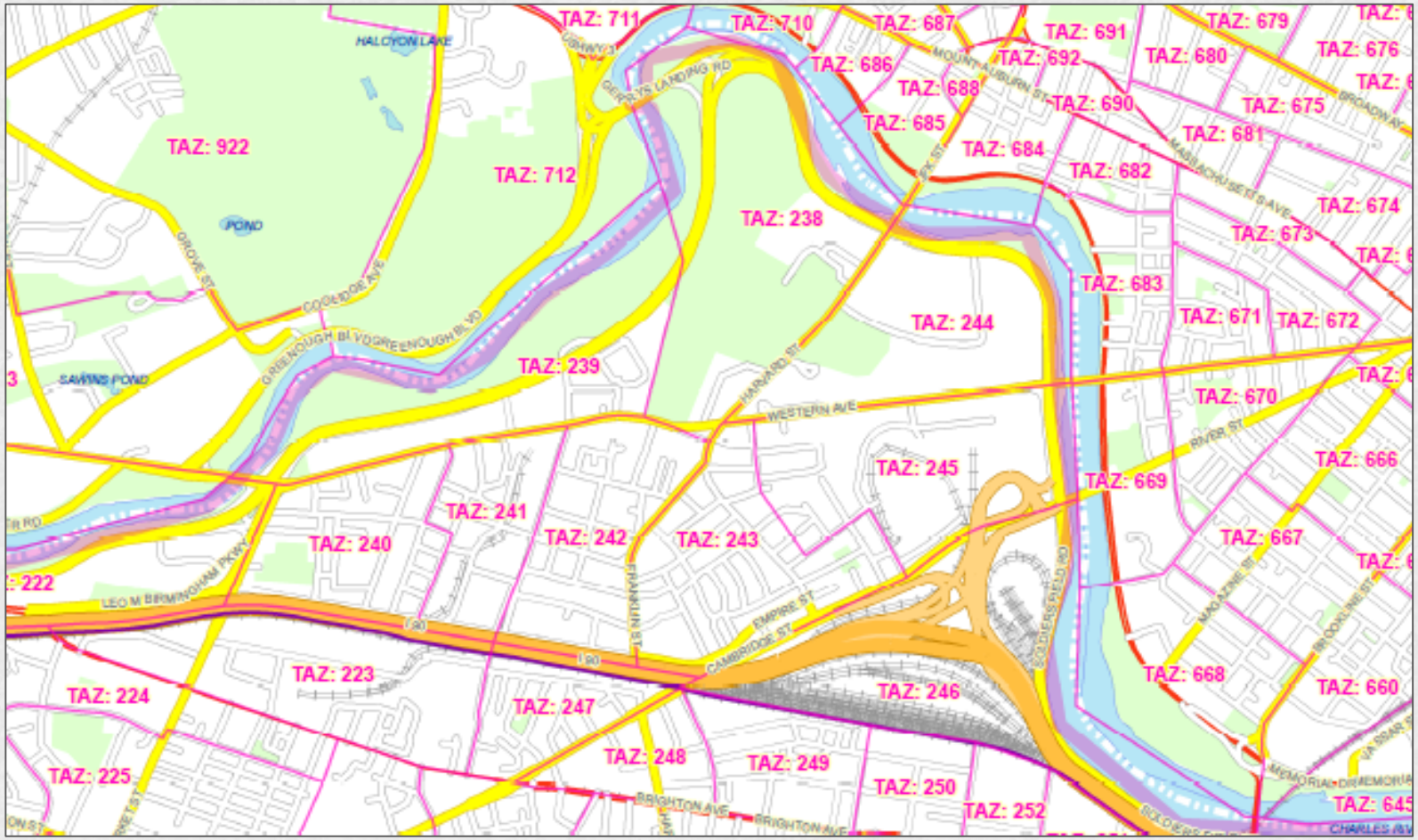
TAZs

5,839 in Model Area

4,497 in MA

CTPS Modeling Update - 6

Project Area TAZs for FEIR Land Use Update



CTPS Modeling Update - 7

Employment Forecasts

Geography	Employment			
	2018	2040 No-Build	2040 Build	Project Delta
STUDY AREA	**2,779**	**9,876**	**15,095**	**5,219**
TAZ 238	635	798	798	-
TAZ 244	1,083	2,929	3,035	106
TAZ 245	474	5,566	6,591	1,025
TAZ 246	587	583	4,671	4,088
BOSTON	613,278	694,848	700,067	5,219
CAMBRIDGE	115,941	128,764	128,764	-

CTPS Modeling Update - 8

Population Forecasts

Geography	Population			
	2018	2040 No-Build	2040 Build	Project Delta
STUDY AREA	**3,646**	**5,776**	**10,719**	**4,943**
TAZ 238	450	1,004	1,120	116
TAZ 244	3,069	2,921	2,946	25
TAZ 245	127	1,851	3,516	1,665
TAZ 246	-	-	3,137	3,137
BOSTON	676,400	825,186	830,778	5,592
CAMBRIDGE	119,087	143,685	143,867	182

CTPS Modeling Update - 9

Trip Generation

Geography	Average Weekday Trip Generation			
	2018	2040 No-Build	2040 Build	Project Delta
STUDY AREA	**26,722**	**61,220**	**117,619**	**56,400**
TAZ 238	6,351	12,601	13,146	545
TAZ 244	21,289	26,413	26,746	333
TAZ 245	1,727	30,965	38,600	7,635
TAZ 246	3,706	3,842	39,127	35,286

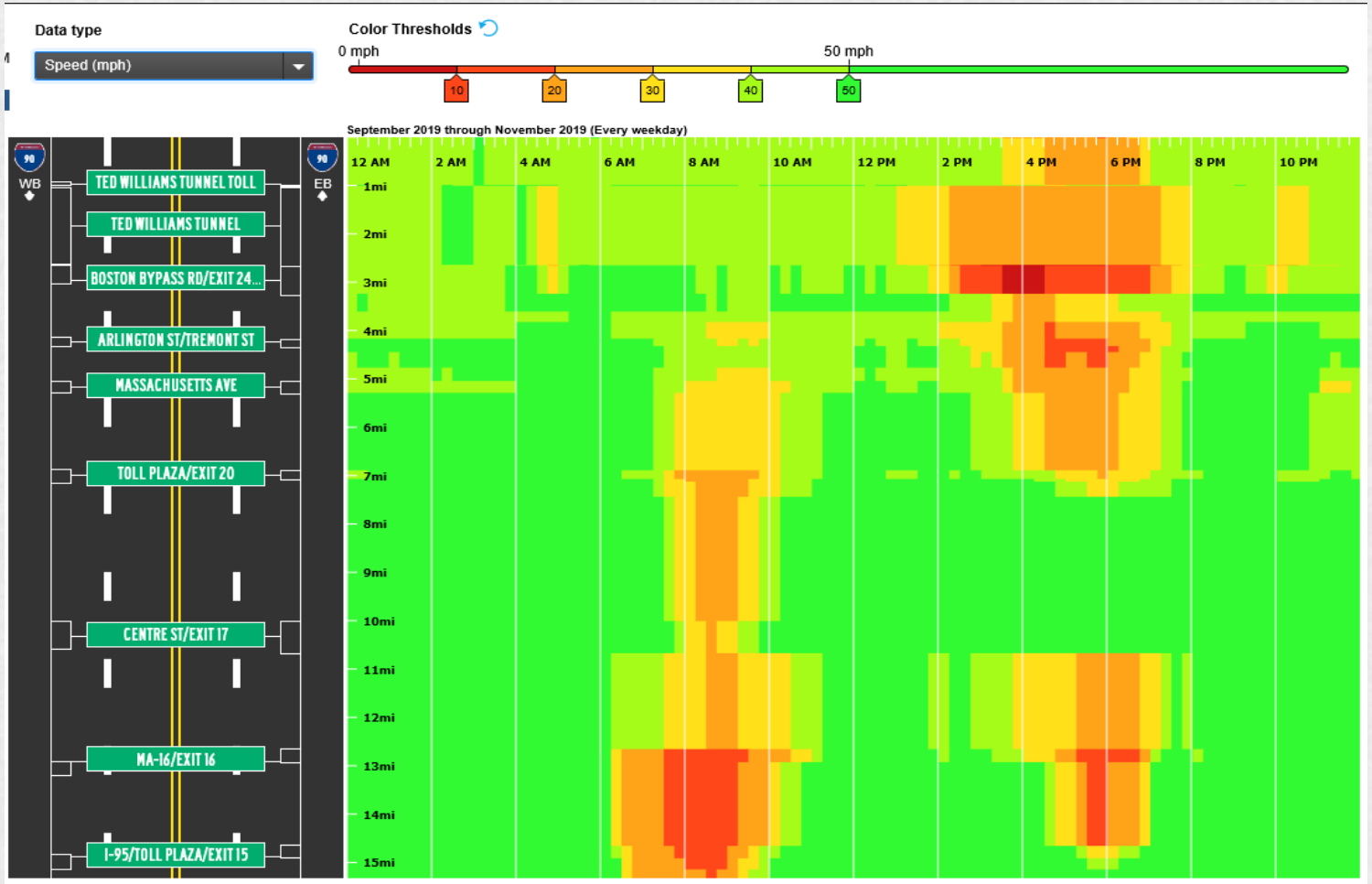
CTPS Modeling Update - 10

Calibration of the Base Year Model

- Traffic Counts
- Congested Speeds
- Origins / Destinations
- Review of Infrastructure
  - Highway Assumptions
  - Transit Assumptions

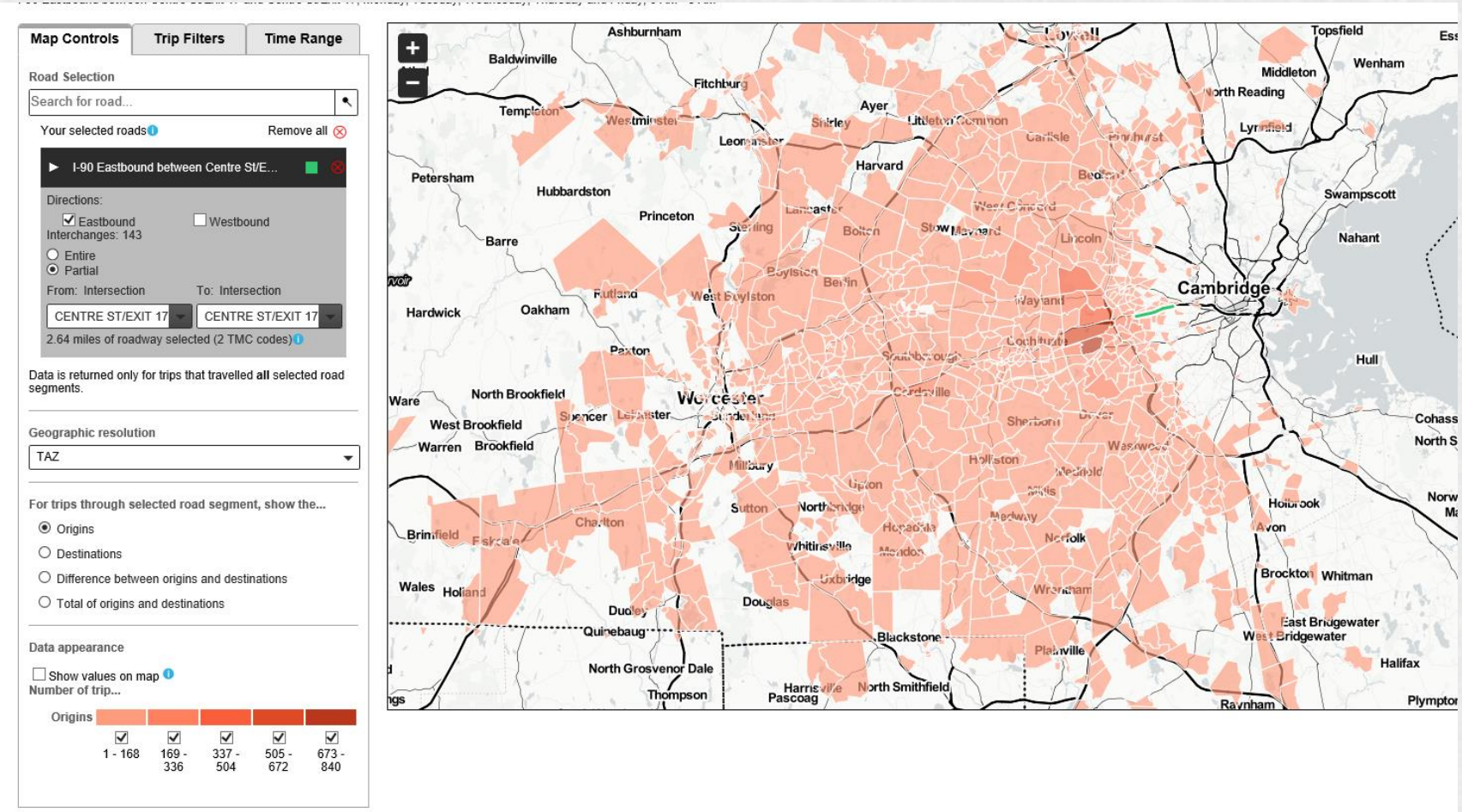
CTPS Modeling Update - 11

Calibration of Base Year Model: INRIX Speed Data



CTPS Modeling Update - 12

Calibration of Base Year Model: AM Eastbound Trip Origins



CTPS Modeling Update - 13

Calibration of Base Year Model: AM Eastbound Trip Destinations

I-90 Eastbound between Centre St/Exit 17 and Centre St/Exit 17, Monday, Tuesday, Wednesday, Thursday and Friday, 6 AM - 8 AM

Map Controls | Trip Filters | Time Range

Road Selection

Search for road...

Your selected roads ⓘ Remove all

I-90 Eastbound between Centre St/E...

Directions:

☑ Eastbound ☐ Westbound

Interchanges: 143

○ Entire
◉ Partial

From: Intersection To: Intersection

CENTRE ST/EXIT 17 CENTRE ST/EXIT 17

2.64 miles of roadway selected (2 TMC codes) ⓘ

Data is returned only for trips that travelled **all** selected road segments.

Geographic resolution

TAZ

For trips through selected road segment, show the...

○ Origins
◉ Destinations
○ Difference between origins and destinations
○ Total of origins and destinations

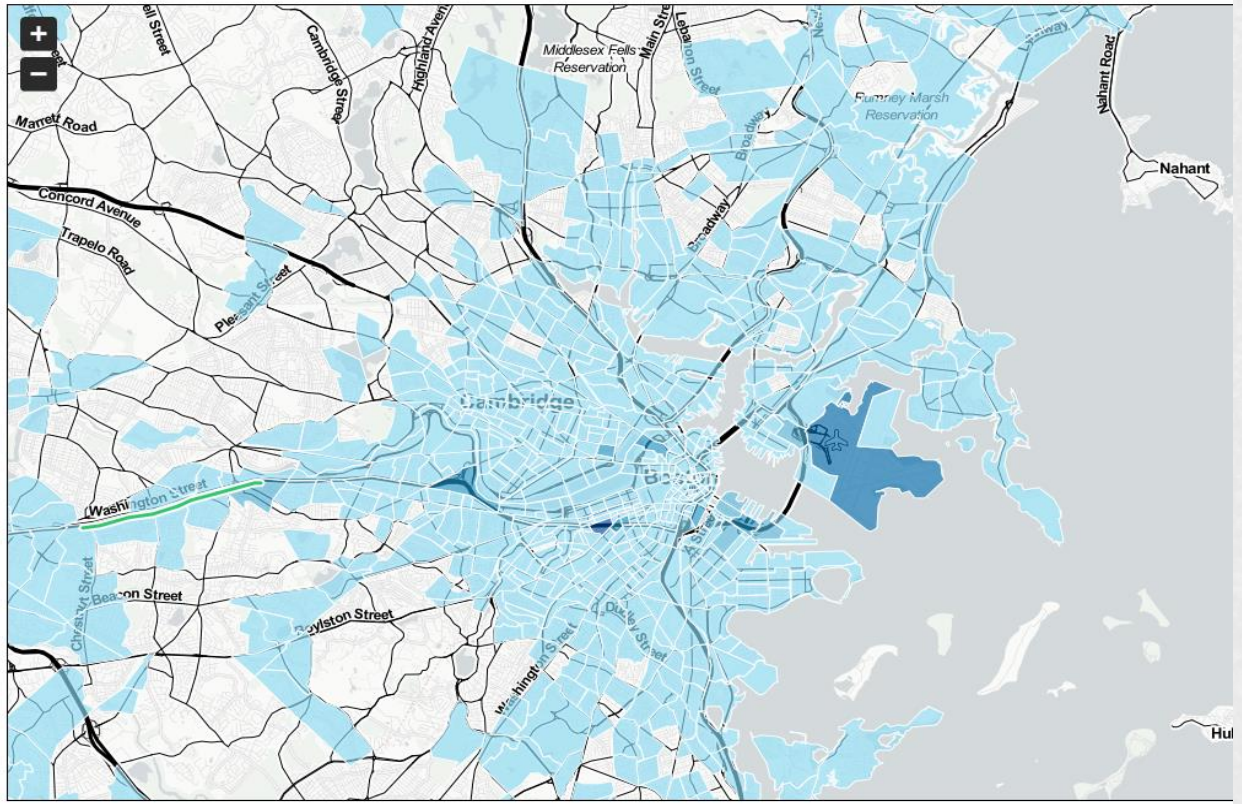
Data appearance

☐ Show values on map ⓘ

Number of trip...

Destinations

☑ 1 - 183	☑ 184 - 366	☑ 367 - 549	☑ 550 - 732	☑ 733 - 915



CTPS Modeling Update - 14

Calibration of Base Year Model: Roadways

	AM Observed	AM Model	Percent Diff	Diff	squares	PM Observed	PM Model	Percent Diff	Diff	squares
I-90 EB, east of Exit 20	6,600	6,660	0.9%	60	3,646	5,130	5,429	5.8%	299	89,118
I-90 WB, east of Exit 20	5,500	5,616	2.1%	116	13,356	5,480	6,036	10.1%	556	309,247
I-90 EB, west of Exit 18	6,230	6,422	3.1%	192	36,842	4,610	5,062	9.8%	452	204,349
I-90 WB, west of Exit 18	5,225	5,155	-1.3%	-70	4,948	4,950	5,413	9.4%	463	214,462
River Street Bridge	1,903	2,054	7.9%	151	22,794	1,540	1,916	24.4%	376	141,038
Western Ave Bridge	1,458	1,585	8.7%	127	16,005	1,839	2,045	11.2%	206	42,312
Western Ave WB, W/SFR	334	389	16.4%	55	2,989	431	605	40.4%	174	30,328
Western Ave EB, W/SFR	453	450	-0.6%	-3	6	548	529	-3.5%	-19	367
Lars Anderson Bridge SB	596	801	34.4%	205	41,970	531	837	57.7%	306	93,758
Lars Anderson Bridge NB	968	1,033	6.7%	65	4,201	1,033	1,204	16.5%	171	29,121
Memorial Drive WB, s/River St	782	877	12.2%	95	9,107	894	1,275	42.7%	381	145,480
Memorial Drive EB, s/River St	1,605	1,677	4.5%	72	5,132	1,122	1,343	19.7%	221	48,865
Cambridge Street overpass EB	1,585	1,491	-5.9%	-94	8,820	1,329	1,540	15.9%	211	44,678
Cambridge Street overpass WB	998	959	-4.0%	-39	1,555	1,380	1,213	-12.1%	-167	27,995
Western Ave EB, w/Spurr St	522	752	44.0%	230	52,808	502	915	82.2%	413	170,198
Western Ave WB, w/Spurr St	547	508	-7.1%	-39	1,505	669	599	-10.5%	-71	4,970
Harvard Ave NB, s/Cambridge	676	448	-33.8%	-228	52,145	407	366	-10.0%	-41	1,673
Harvard Ave SB, s/Cambridge	463	549	18.6%	86	7,388	449	594	32.2%	145	20,909
N. Harvard Street NB, n/Cambridge	395	353	-10.6%	-42	1,770	564	500	-11.3%	-64	4,043
N. Harvard Street SB, n/Cambridge	397	430	8.3%	33	1,093	503	499	-0.8%	-4	17
SUM	54,759	56,076	2.4%	1,317	458,166	53,066	57,562	8.5%	4,496	2,011,535
	1611			1,733,589		1561			20,215,922	
			RMSE	226				**RMSE**	771	
			% RMSE	14%				**% RMSE**	49%	

CTPS Modeling Update - 15

Calibration of Base Year Model: Transit

- Commuter Rail calibrated to the most recent counts
- Green Line was calibrated to most recent counts
- Key Bus Routes (57/57A, 64, 66, 86) calibrated to the most recent counts
- Fares and parking lot capacities updated
- Mode Shares for work trips from ACS

CTPS Modeling Update - 16

Forecasting Assumptions

- 2018 Baseline
- 2030 No-Build
- 2030 Build: New Interchange & Ped/Bike/Transit Malvern Connector & West Station
- 2040 No-Build
- 2040 Build: New Interchange & Ped/Bike/Transit Malvern Connector & West Station

CTPS Modeling Update - 17

Future No-Build Assumptions

- Infrastructure Projects Consistent with the fiscally constrained Boston MPO Long Range Transportation Plan (LRTP) from the summer of 2019
- West Station and Allston Interchange removed from the 2019 LRTP to develop the No-Build
- Land use assumptions pivoted off of the 2019 LRTP
  - Four TAZs adjusted for Harvard Development
  - Regional MPO Totals adjusted to accommodate more labor force to satisfy employment growth around Beacon Yards

CTPS Modeling Update - 18

Future No-Build Better Bus Improvements Package

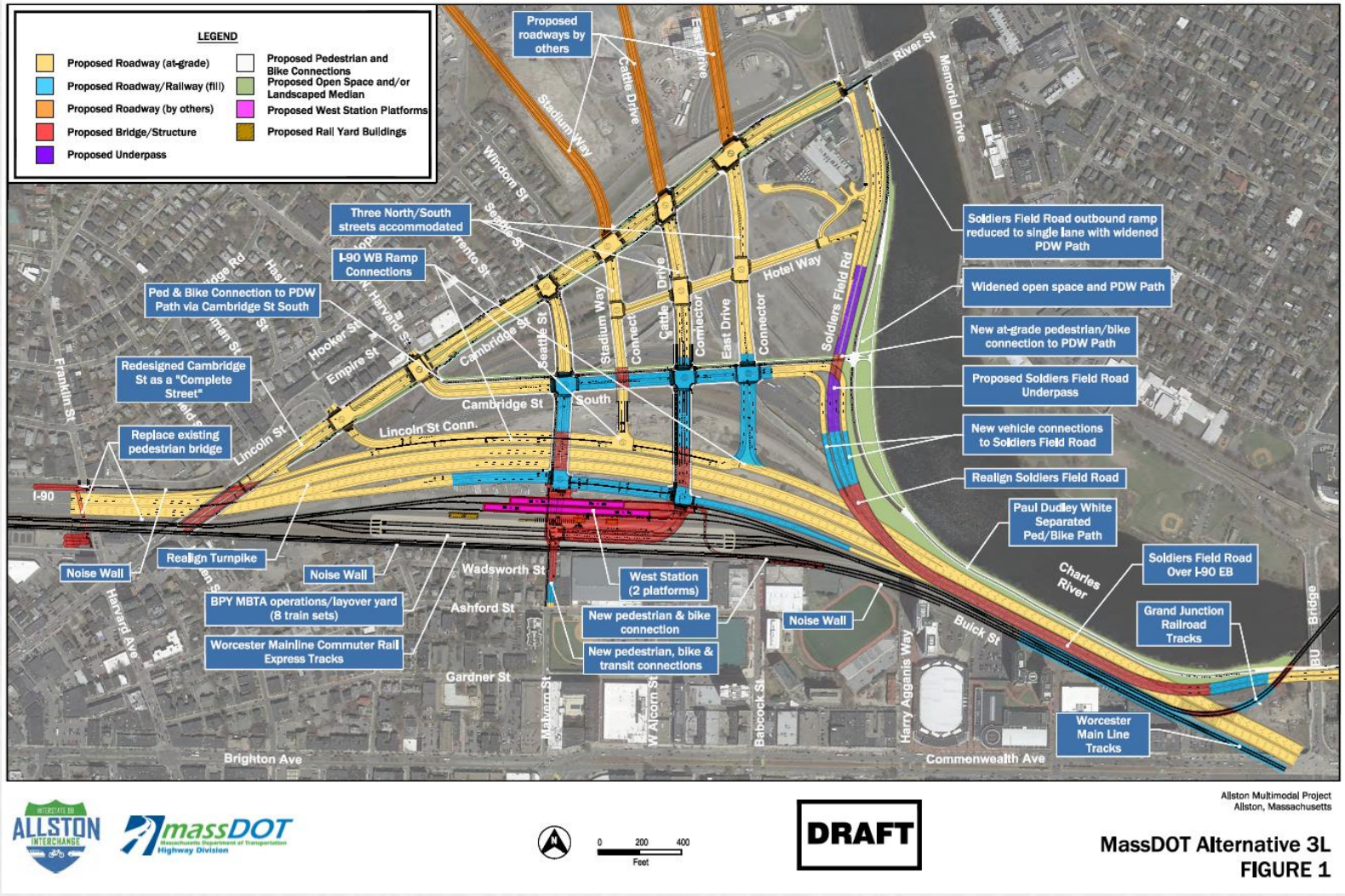
- Routes 1 and CT1: Combine Routes 1 and CT1 into a single route for more frequent, reliable service
- Route 64: Shift route from Hobart to Brooks St for travel time savings in Boston
- Extend midday service to Kendall Square for more connections to Allston/Brighton
- Shift some service from Broadway to Main St for travel time savings in Cambridge
- Route 70: Improve frequency and reliability between Waltham and Central Square
- Route 70A: Modify route to only operate between North Waltham and Waltham Center
- Route 72: Operate with peak-only service
- Route 74 and 75: Operate more direct/faster, more frequent service
- Operate Route 75 to Huron Ave

CTPS Modeling Update - 19

Future Build Assumptions

- Highway Network
- Transit Service (Existing and Proposed)
- Parking Policies

CTPS Modeling Update - 20



CTPS Modeling Update - 21

Future Build Transit Assumptions

- Includes all recommended short-term transit improvements identified in CTPS/MassDOT short-term study
- Assumes potential new shuttle services to West Station for ridership modeling/planning purposes; shuttle operator TBD (generally consistent with DEIR assumptions, with slight adjustments)
- Assumes potential routing adjustments to MBTA Bus Routes 64 and 66 in future scenarios with Malvern Transitway Connector for ridership modeling/planning purposes
- Assumes incorporation of recently approved Better Bus short-term improvements package for the following routes anticipated to impact Project ridership results (Routes 1, CT1, 64, 70, 70A, 72, 74, 75)

CTPS Modeling Update - 22

Future Build Assumptions: Buses

	2016	2030 No Build	2030 Build	2040 No Build	2040 Build
CTPS Short-Term Transit Study Recommendations	N/A	Includes all study recommendations	Includes all study recommendations	Includes all study recommendations	Includes all study recommendations
Harvard-Barry's Corner Shuttle	N/A	AM: Every 10 Min. MD: Every 10 Min. PM: Every 10 Min. NT: Every 20 Min.	N/A	AM: Every 10 Min. MD: Every 10 Min. PM: Every 10 Min. NT: Every 20 Min.	N/A
Harvard-West Station Shuttle	N/A	N/A	AM: Every 10 Min. MD: Every 15 Min. PM: Every 10 Min. NT: Every 20 Min.	N/A	AM: Every 5 Min. MD: Every 15 Min. PM: Every 5 Min. NT: Every 20 Min.
Kendall/Central-West Station Shuttle	N/A	N/A	AM: Every 10 Min. MD: Every 15 Min. PM: Every 10 Min. NT: Every 20 Min.	N/A	AM: Every 5 Min. MD: Every 15 Min. PM: Every 5 Min. NT: Every 20 Min.
Ruggles/LMA-West Station Shuttle	N/A	N/A	AM: Every 10 Min. MD: Every 15 Min. PM: Every 10 Min. NT: Every 20 Min.	N/A	AM: Every 5 Min. MD: Every 15 Min. PM: Every 5 Min. NT: Every 20 Min.
MBTA Bus Route 64	2016 Scheduled Service	Existing Scheduled Service & Better Bus Improvements	All 2030 No Build trips rerouted via Malvern Connector	Existing Scheduled Service & Better Bus Improvements	All 2040 No Build trips rerouted via Malvern Connector
MBTA Bus Route 66	2016 Scheduled Service	Existing Scheduled Service	MD & NT: Existing Service AM & PM: Every 3rd trip rerouted via Malvern Connector	Existing Scheduled Service	MD & NT: Existing Service AM & PM: Every 3rd trip rerouted via Malvern Connector

CTPS Modeling Update - 23

Future Build Assumptions: Commuter Rail

- 2030 and 2040 No-Build and Build Scenario rail headway assumptions are the same
- 2030 and 2040 No Build scenarios would include the same rail service without stops at West Station
- Developed in consultation with MBTA Railroad Operations
- Includes proposed infrastructure upgrades, where appropriate
- Consistent with service levels specified in the MBTA Service Delivery Policy
  Express trains will not serve Boston Landing and West Station
- Local trains serve Boston Landing and West Station
- Does not include Grand Junction service or Rail Vision

Future Build Assumptions: Commuter Rail

No-Build 2040

- Boston Landing provides 23 trains per day Inbound
- Boston Landing provides 22 trains per day Outbound

- Lansdowne provides 28 trains per day Inbound
- Lansdowne provides 26 trains per day Outbound

Build 2040

- Boston Landing 21 trains per day Inbound
- Boston Landing 17 trains per day Outbound

- West Station 9 trains per day Inbound
- West Station 10 trains per day Outbound

- Lansdowne Station 32 trains per day Inbound
- Lansdowne Station 31 trains per day Outbound

CTPS Modeling Update - 25

Build Parking Assumptions

Residential parking ratio:

- 0.3 spaces per unit for terra firma development
- 0.2 spaces per unit for air rights development

Nonresidential parking:

- Approximately 0.4 spaces per 1,000 square feet (1 space per 2,500 square feet)
- Auto commuter parking cost: $22/day

CTPS Modeling Update - 26

Status

- Base Year 2018 is finalized
- No-Build 2040 is being reviewed internally
- Build 2040 is being reviewed internally
- No-Build 2030 is next in line for analysis
- Build 2030 will follow

Meeting Agenda

- Welcome & Introductions
- Update on CTPS Modeling
- Overview of Plan Review Sessions

Plan Review Sessions

- Following the November 13th task force workshop, several members of the task force took MassDOT up on the agency's offer to further review the plans presented during the workshop.
  - Two review sessions took place: November 15th and December 6th
- Conversations were productive – no conclusions were reached, but areas of further study laid out in some areas
- Rail operations was the major topic of discussion, breaking out into 6 sub-topics:
  - Construction impacts on commuter rail
  - The layover facility
  - The position of West Station relative to other elements in the corridor
  - The track set-up through West Station
  - Rail profile
  - Grand Junction Service

Plan Review Sessions – Impacts and Layover

- Construction Impacts:
  - Everyone shares concerns over construction impacts to the Worcester Main Line
  - The project team continues to work on minimizing the period of single-tracking and overlapping impacts to I-90 and WML
  - VHB modeling shows that current service can be maintained with a single track assuming new switches at CP3 and CP4 and improved track geometry between them.
  - This is an area of ongoing discussion and analysis

Plan Review Sessions – Impacts and Layover (continued)

- Layover:
  - The layover facility being carried into the NEPA process:
    - Has four tracks
    - Holds eight consists
    - Provides plug-ins to prevent engine idling
  - The layover facility is needed to support current and future operations.
  - The MBTA's GM has been clear with the Highway Division that layover is needed in Allston.
  - This is even with additional facilities in Readville and at Widdett Circle since moving trains from these locations to serve the Worcester line eats into capacity on other lines for revenue trains.

Plan Review Sessions – West Station's Evolution – Location I

- DEIR West Station:
  - At the southern edge of the site with layover to the north
  - On tangent track to allow trains to pass through without any loss of speed
  - Considered ideal by MBTA rail operations

- Harvard Flip
  - Flips station and layover facility to ease air rights development
  - Allows creation of neighborhood buffer/shared use path where WML express tracks exist
  - Introduces curves/switches which slow trains and complicate yard moves
  - Raised concerns for current and future operations from MBTA

Plan Review Sessions – West Station's Evolution – Location II

- MassDOT Flip
  - A compromise position
  - Does not preclude air rights development
  - Addresses MBTA concerns through a combination of:
    - Higher speed switches
    - Gentler curves
    - Express tracks
  - Does not allow creation of neighborhood buffer beyond noise wall already in the project

West Station – Platforms/Tracks

- West Station needs to be effective:
  - Opening day and in the future
  - For WML and Grand Junction Service
- Current three track approach:
  - Emerged through discussions regarding the various flips
  - Seen by MBTA as capable of supporting current service plan
  - Seen by MBTA as capable of future aspirations: more service, Grand Junction service, electrification, insertion of additional WML tracks further west, etc.
  - Express tracks shift through trains out of the station lessening need for station tracks
  - Eases yard movements
- Station service modeling and design two different things:
  - Modeling must be conducted on fiscally constrained service plans
  - Design can support a range of aspirational futures

Rail Profiles and Grand Junction

- Project team has been modifying rail profiles over the course of 2019
  - Profiles have been modified such that they do not:
    - Cause problems for yard or mainline switches
    - Drive the profile of a potential future Agannis Way crossing
- Grand Junction Service
  - Project still sets up a dual track future with service to West Station, but does not cross the water
  - Included in commuter rail vision scenarios 3, 5, and 6
    - Tracks, signals, street crossings in Cambridge etc. all need further investigation
  - CRA/MIT/State all own portions of the line
  - Plans appear to be emerging by others that would allow two tracks and a path in Cambridge
  - Closure of GJ over SFR could open a window to work in Cambridge as well
  - City of Cambridge funding could be needed to begin work sooner rather than later

Meeting Agenda

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- Discussion