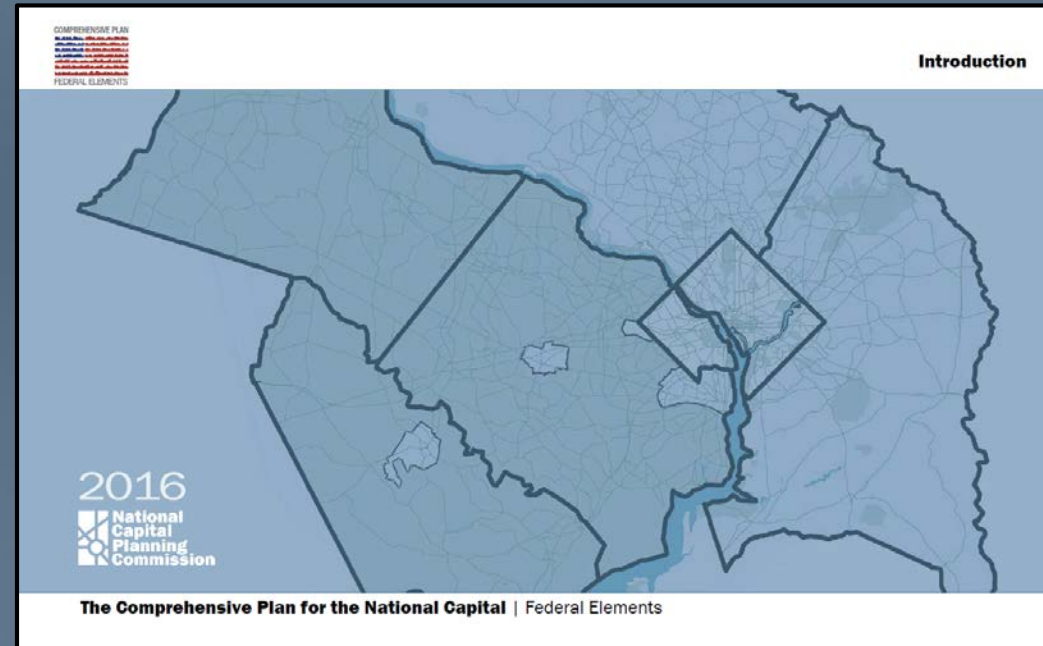


National Capital Region Federal Parking Study

An Accessibility-Based Approach
for Federal Facilities Parking Policies

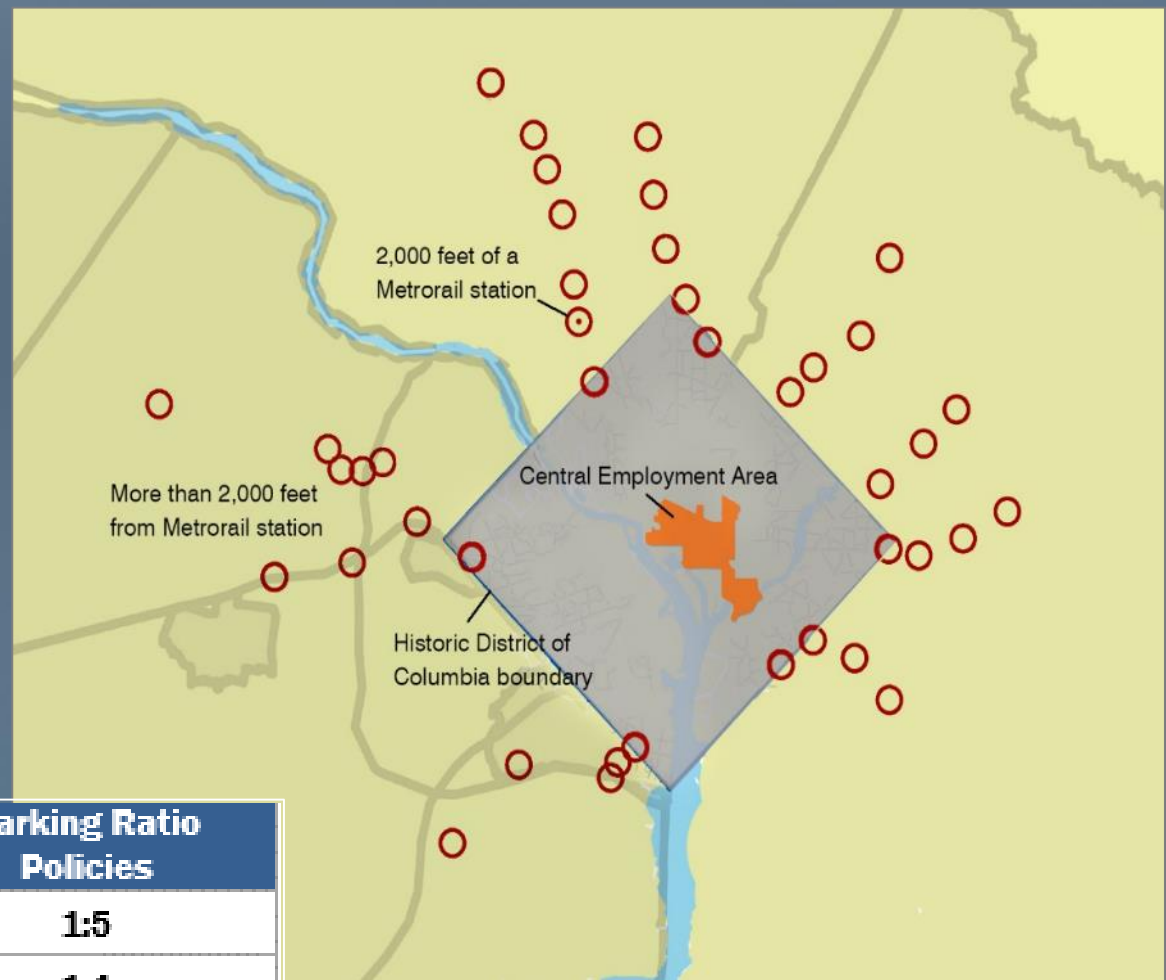
TPB Technical Committee Presentation
December 1, 2017





Comprehensive Plan



Comprehensive Plan

- Current Parking Ratio Policy



Zone Location	Parking Ratio Policies
 Central Employment Area	1:5
 Historic District of Columbia Boundary	1:4
 Suburban Washington within 2,000 feet of a Metrorail station	1:3
 Suburban Washington more than 2,000 feet from a Metrorail station	1:15 - 1:2 (site dependent)

Study Approach

Literature Review

Assess the transportation literature and industry best practices

Local Parking Comparison

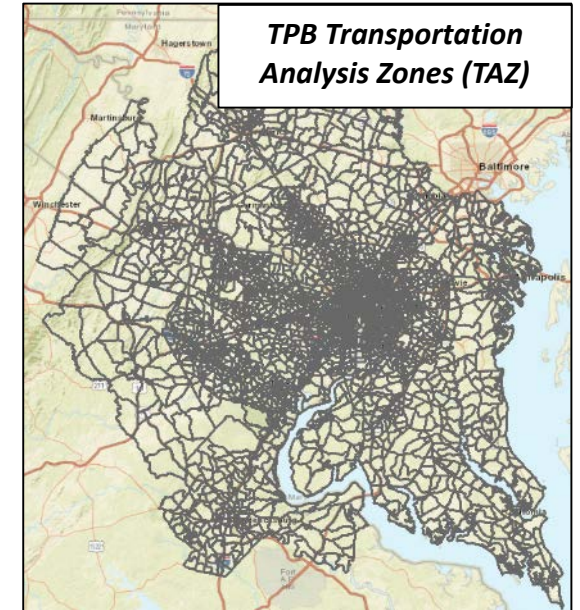
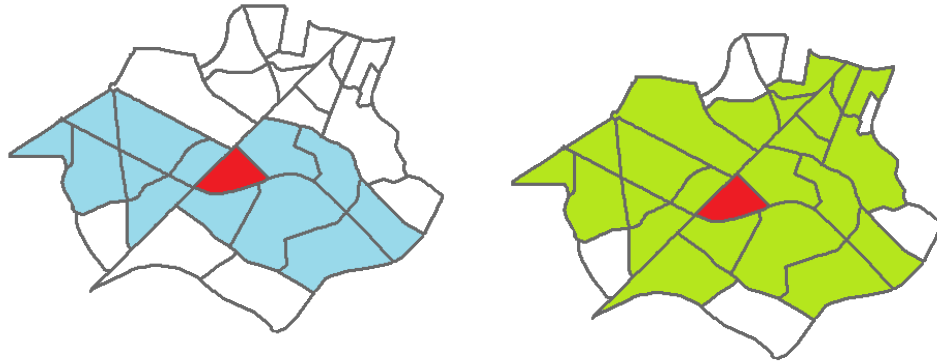
Consider local approaches to parking policy

Modeling Analysis

Assess NCPC policies in light of the regional transportation model (2016 and 2030)

Modeling Analysis - Accessibility Ratio

Calculate the **transit-shed** and **drive-shed** of a **TAZ/federal facility**

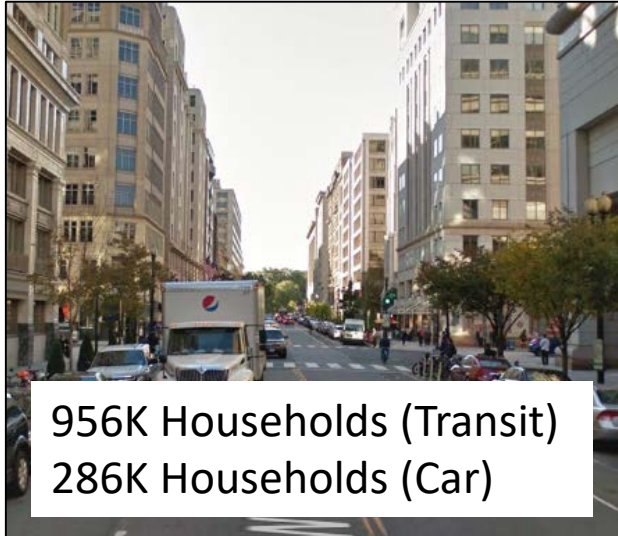


$$\text{Accessibility Ratio} = \frac{\text{HH accessible by transit}}{\text{HH accessible by car (SOV)}}$$

- **Ratio under 1:** more homes can reach a particular location by car than by taking transit
- **Ratio over 1:** transit provides access to more homes than driving

Modeling Analysis - Accessibility Ratio

Metro Center



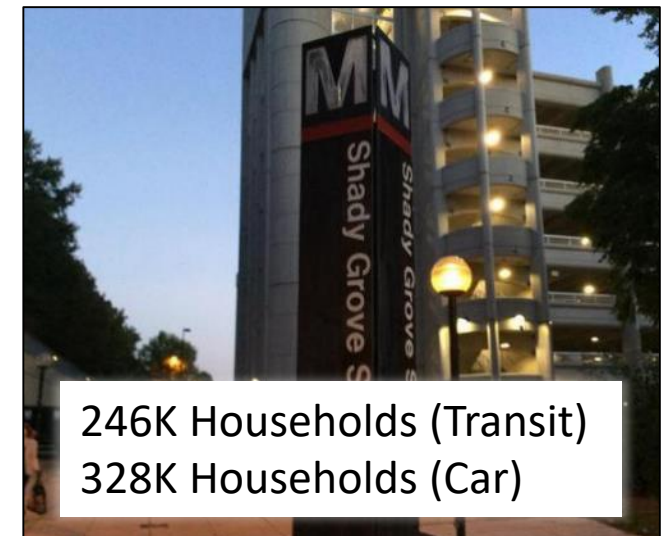
vs.

Takoma



vs.

Gaithersburg



Accessibility Ratio = 3.34

0.87

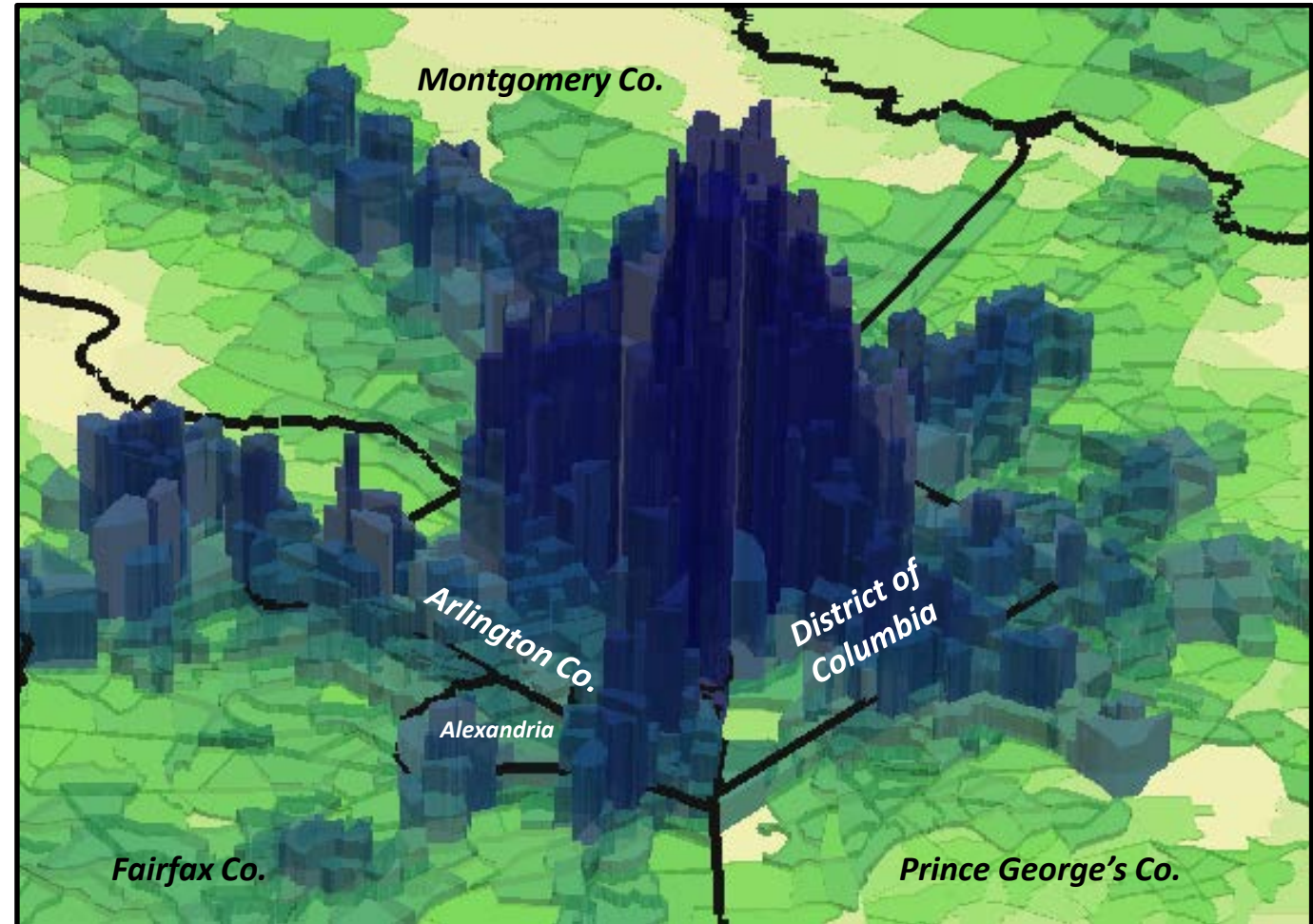
0.75

$$\text{Accessibility Ratio} = \frac{\text{HH accessible by transit}}{\text{HH accessible by car (SOV)}}$$

- **Ratio under 1:** more homes can reach a particular location by car than by taking transit
- **Ratio over 1:** transit provides access to more homes than driving

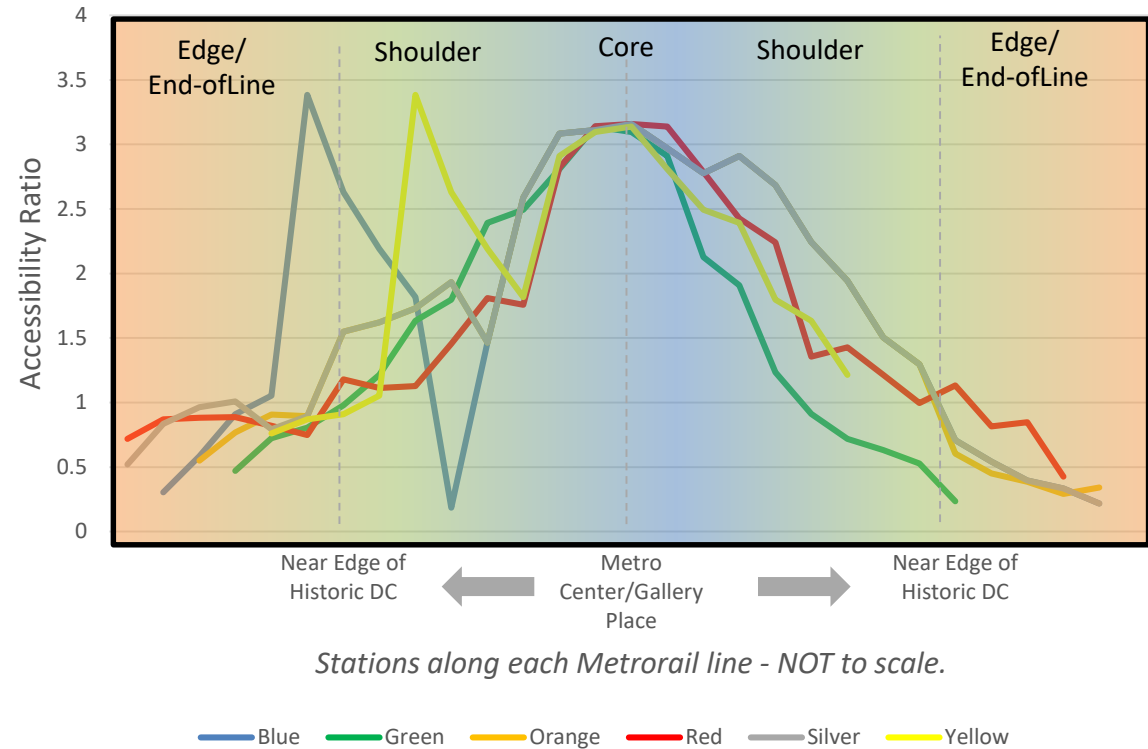
Modeling Analysis – What are the (Transit) Accessibility levels?

- very high in the core
- moderate radiating along Metrorail
- relatively limited elsewhere



Accessibility Along the Metrorail System

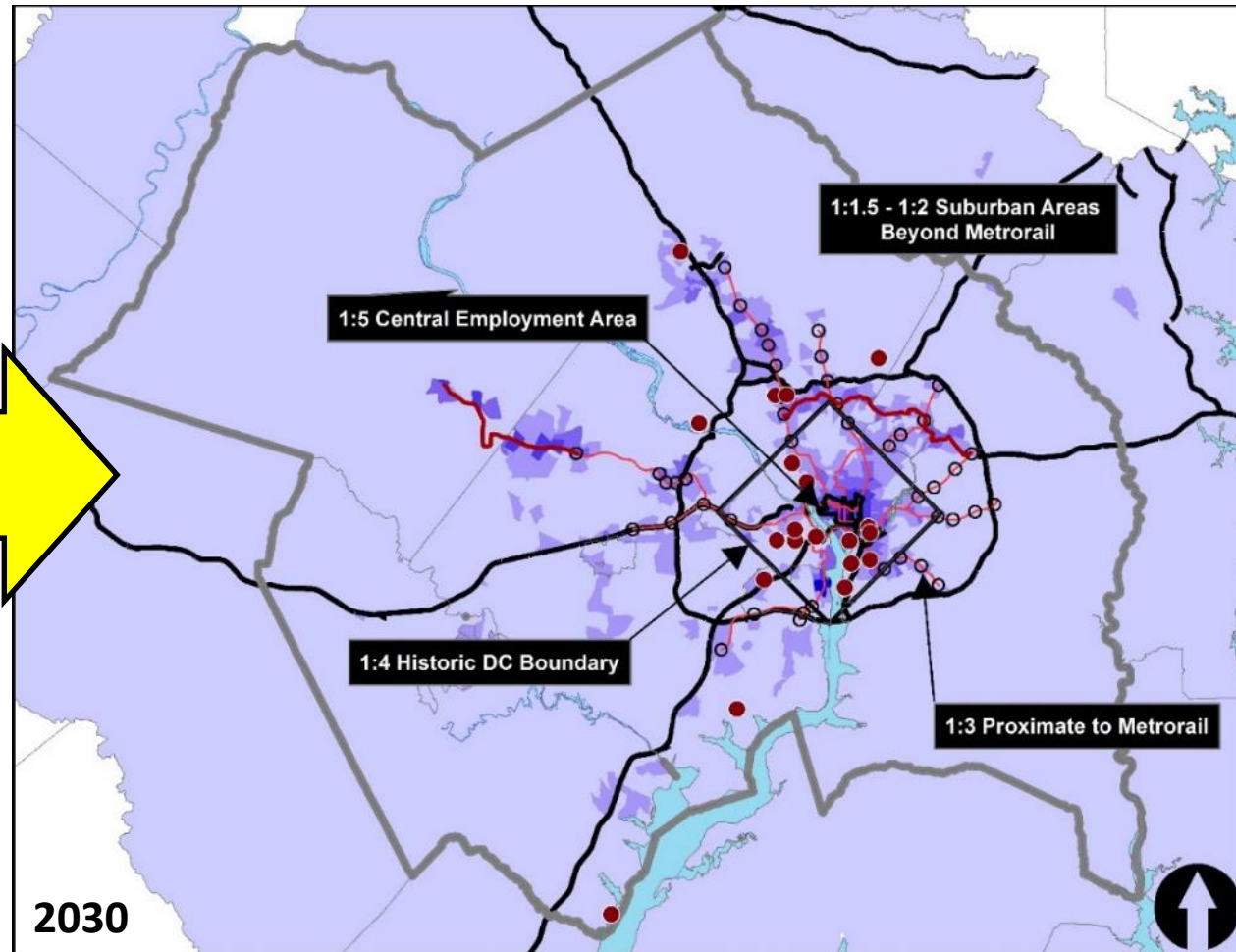
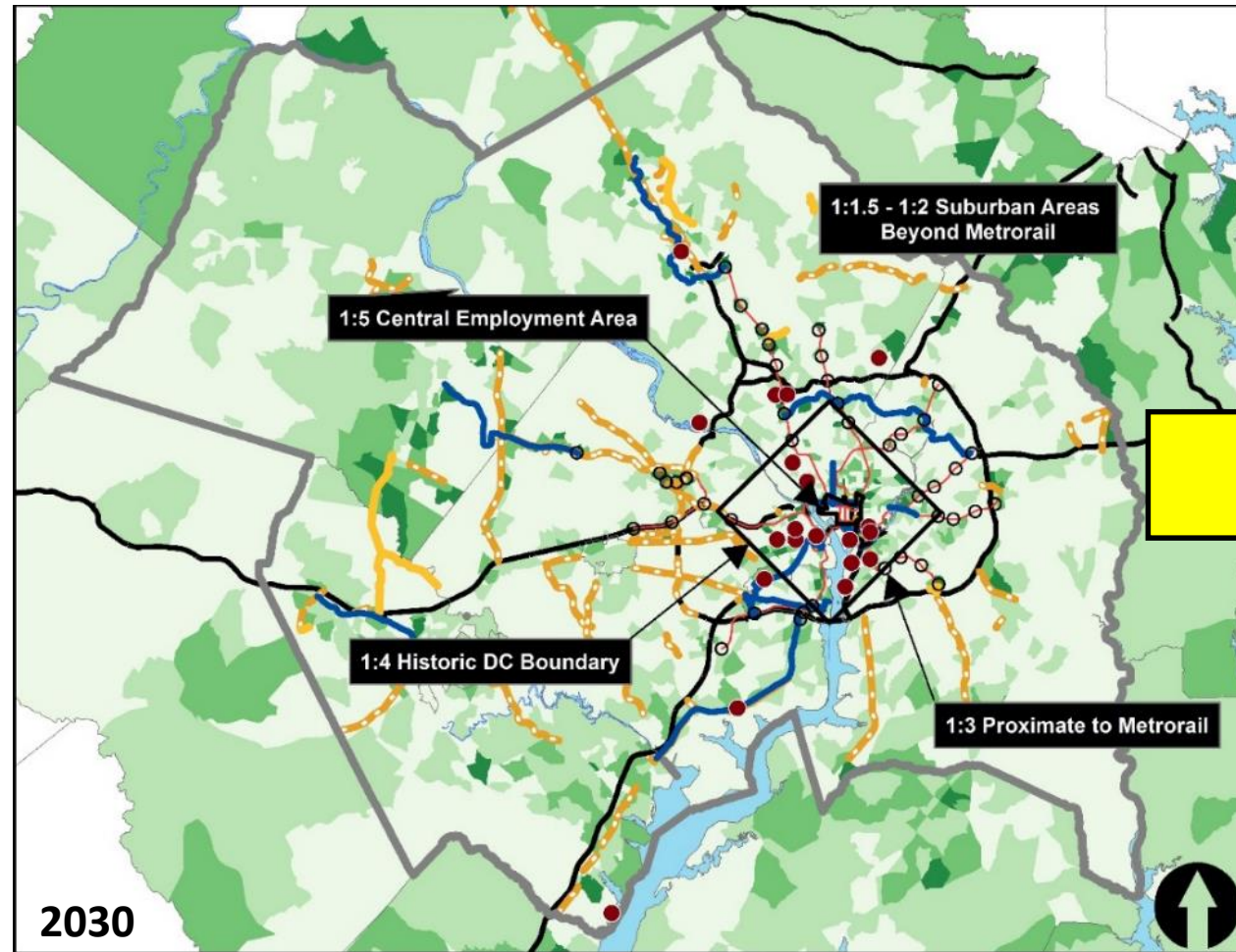
- Accessibility generally declines away from Metro Center/Gallery Place.



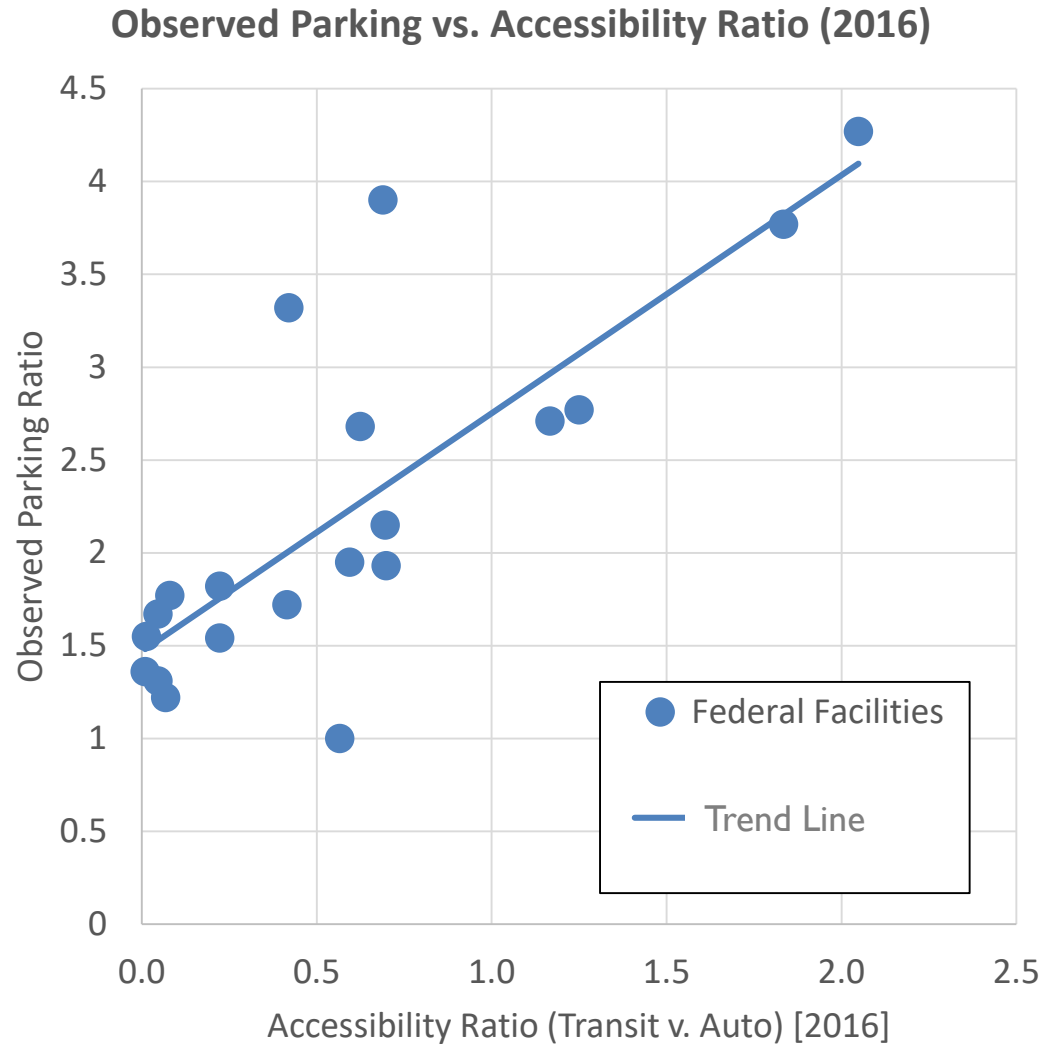
Modeling Analysis – A Changing Region

Anticipated regional growth, highway/transit projects, congestion by 2030...

... will improve accessibility in the Downtown core and near new transit capacity.



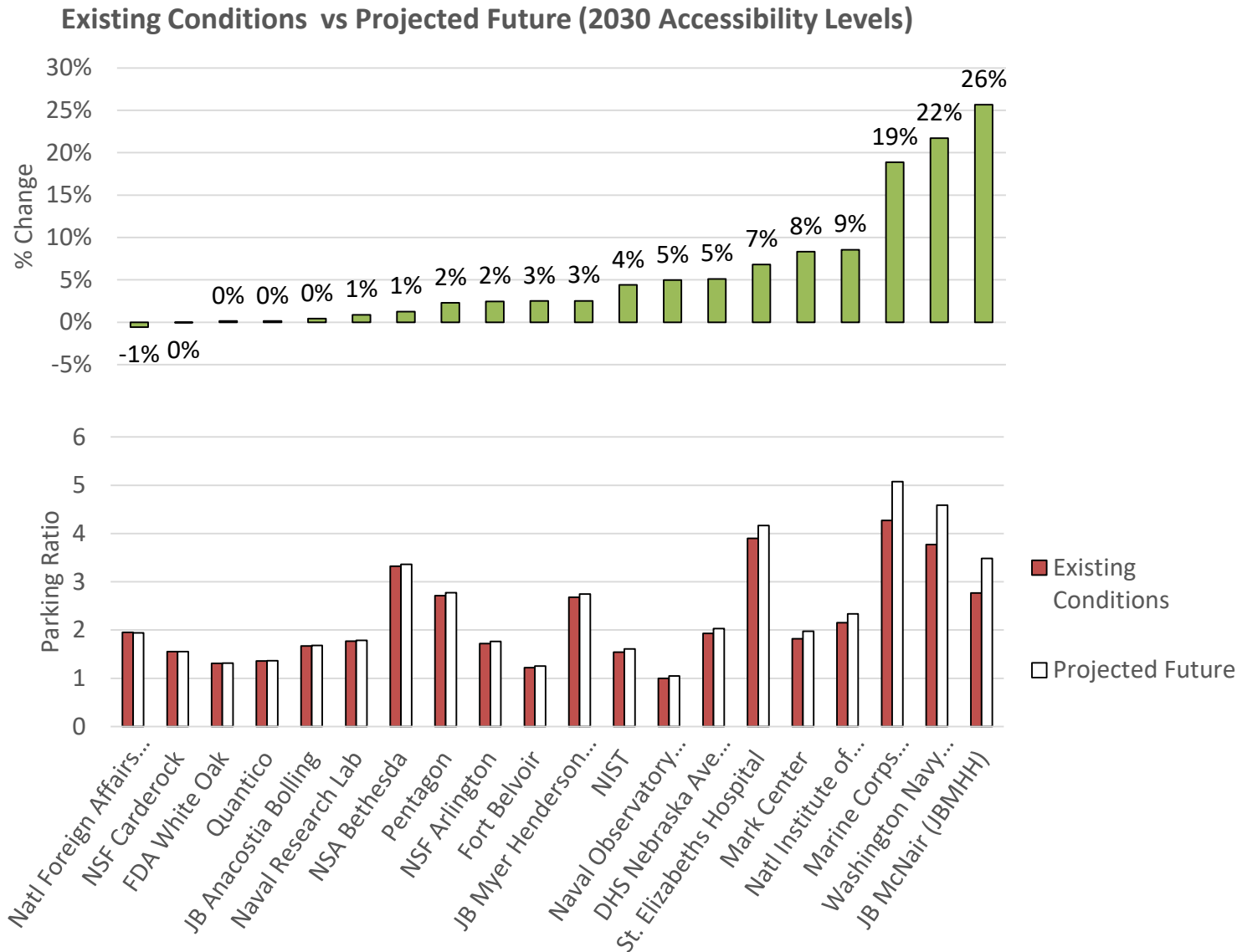
Modeling Analysis Observation # 2: Accessibility Predicts Parking



Accessibility ratio predicts 62% of the variation in parking supply at facilities

(92% without outliers - NSA-Bethesda, St. Elizabeths, and Naval Observatory)

Projected Changes Accessibility/Parking Changes at Individual Federal Facilities

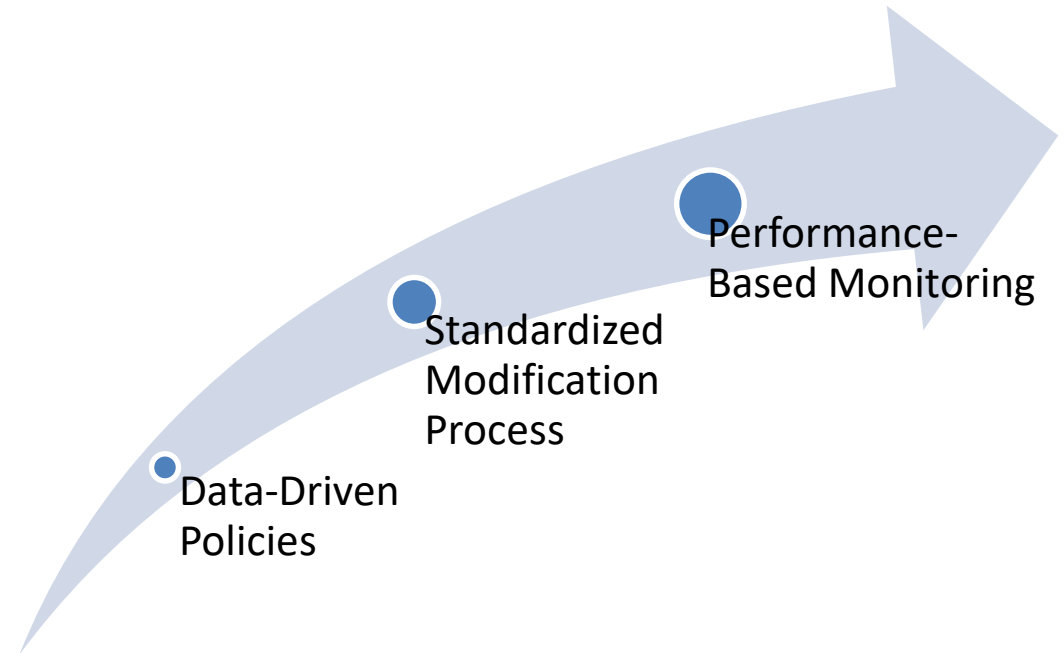


- ❑ The MWCOC model shows significant accessibility increases for centrally located facilities by 2030.
- ❑ More modest increases in suburban facilities.

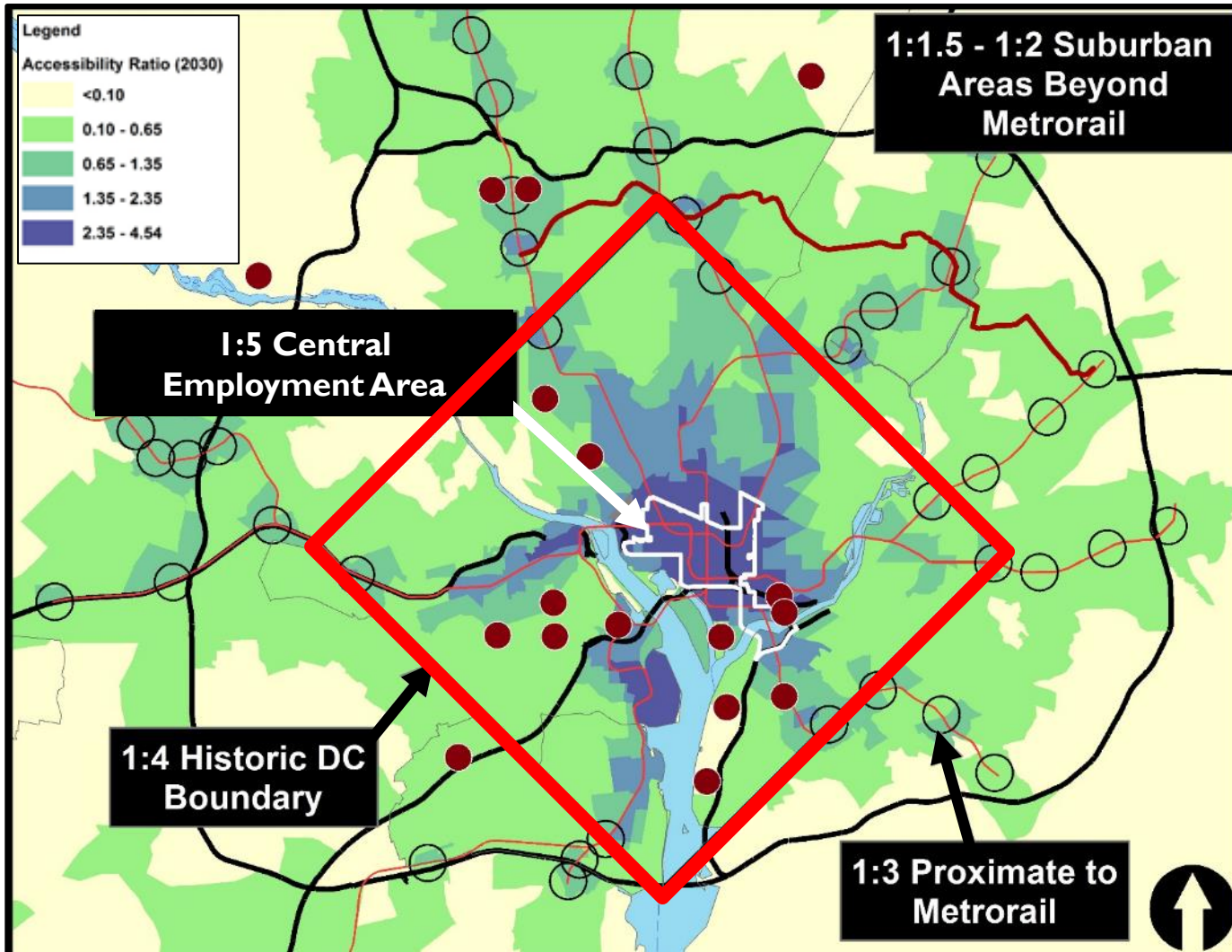
Study Recommendations

The study indicates that NCPC's parking policies and processes could be improved with:

1. **Data-Driven Policies:** Align parking ratio policies more closely with regional accessibility.
2. **Standardized Modification Process:** Develop a transparent and equitable process to modify parking ratio policies.
3. **Performance-Based Monitoring:** Conduct continuous follow-up with facilities on their parking inventories.



Recommendation # 1: Data-Driven Policies



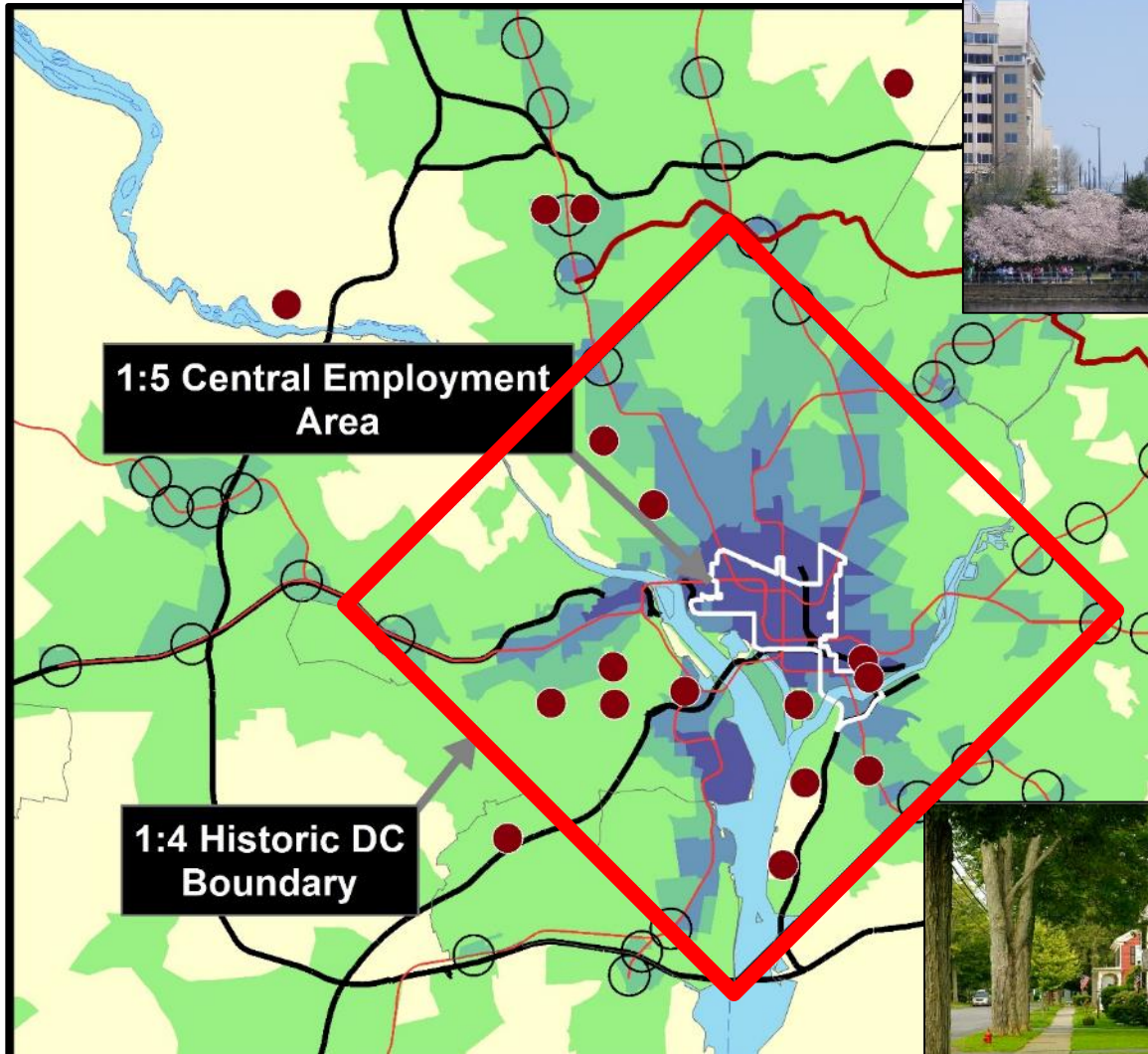
Ratios should better align with regional accessibility (2016 and 2030).

- ❑ The majority of facilities in the Historic DC Boundary Zone (1:4) provide twice as much parking as the underlying policy.
- ❑ Policies should be both aspirational *and* realistically achievable.

Parts of 1:4 zone should be “broken off” and combined with suburban zones.

Predicted parking Ratios for the Region (Rounded up to even ratios).

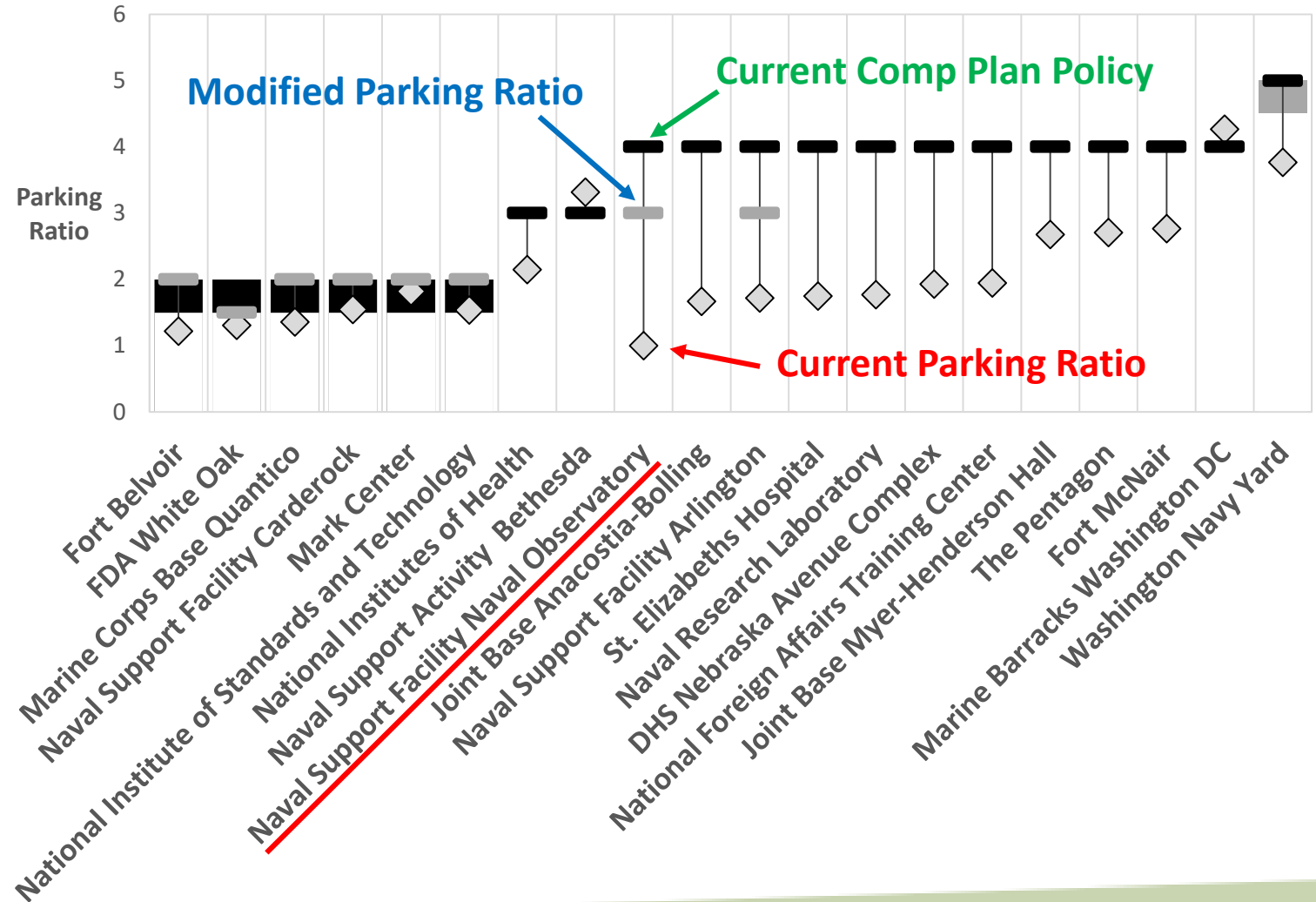
Recommendation # 1: *Data-Driven Policies*



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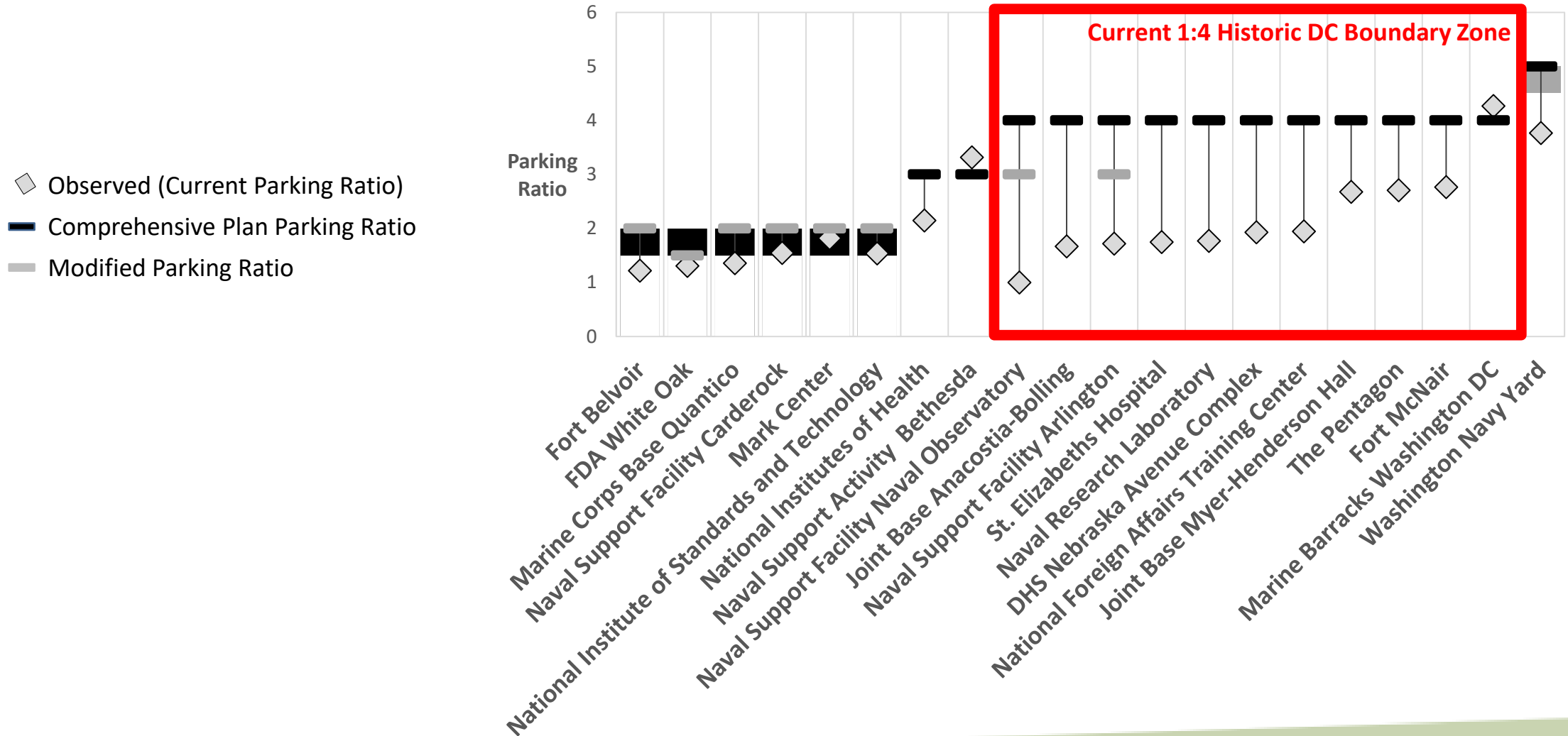
Comparison of Current and Comprehensive Plan Parking Ratios

- ◊ Observed (Current Parking Ratio)
- Comprehensive Plan Parking Ratio
- Modified Parking Ratio



Recommendation # 1: *Data-Driven Policies*

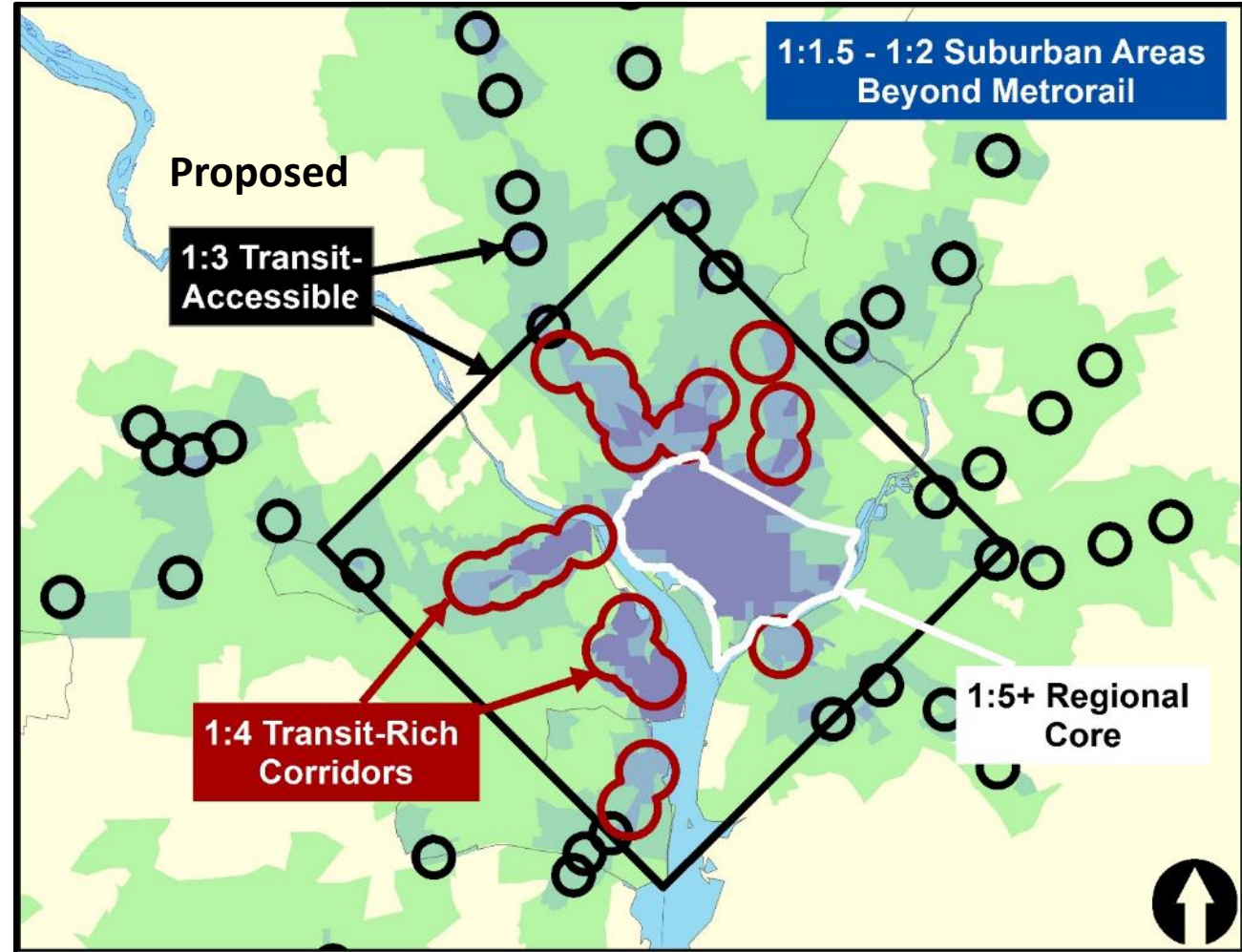
Comparison of Current and Comprehensive Plan Parking Ratios



Recommendation # 1: *Data-Driven Policies*

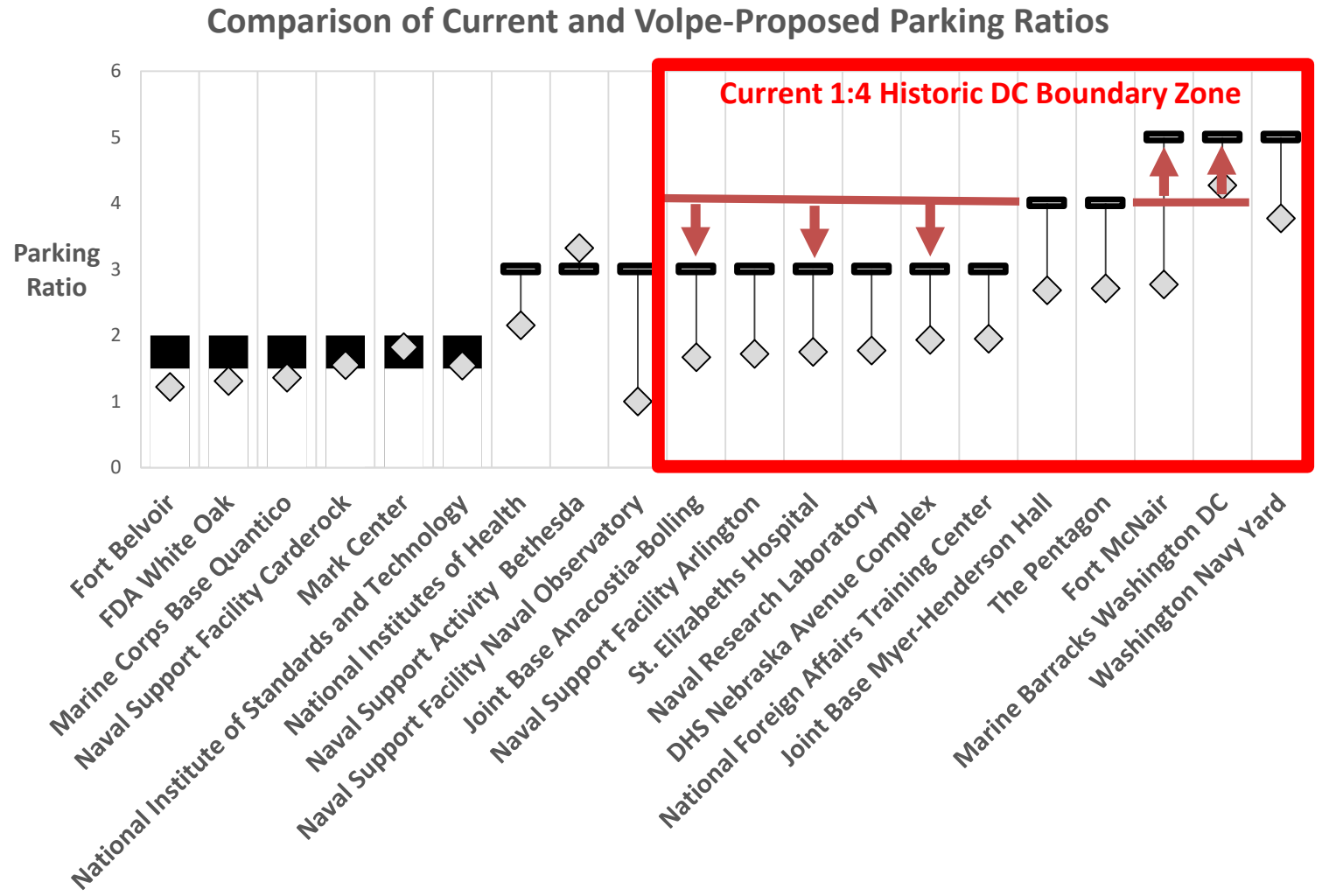
Focus the 1:4 zone around transit-rich corridors and expand the 1:5 zone:

- ❑ 1:5+ – Regional Core
- ❑ 1:4 – Transit-Rich Corridors
- ❑ 1:3 – Transit-Accessible
- ❑ 1:1.5-2 – Suburban Areas Beyond Metrorail



Recommendation # 1: Data-Driven Policies

- ❑ Data-driven zones encompass similarly-situated facilities.
- ❑ Policies remain aspirational but more possible with additional TDM strategies.
- ❑ Anticipate accessibility improvements at core facilities.



INPUT

Step 1: Select a Master Planned Facility
Click on the cell to the right and choose from the drop down menu that appears. If you want to assess a facility not on the list, select CUSTOM.

Step 1B: Provide CUSTOM TAZ Breakdown
If you selected CUSTOM from the drop down, specify facility TAZs and the weights for each TAZ. These should correspond to how much of the facility is located within each TAZ. Up to 6 custom TAZs can be specified.

TAZ	Weight (Percentage)

Step 2: Select Shuttle Services

Metrorail Station	Shuttle Travel Time [min]

To assess the impact of potential shuttles on facility behavior, select up to three shuttle connections by:

(a) selecting a Metrorail station from the dropdown menu

(b) adding an estimated shuttle travel time between the Metrorail station you have selected and the facility (This can be taken from Google Maps "Depart At", etc.)

Step 3: Add Facility Specific Details

Observed (Current) Parking Ratio	
Employee Population	
Observed (Current) Parking Supply	
Current Telework Percentage	
Target Telework Percentage	
Current Alternate Work Schedule Percentage	
Target Alternate Work Schedule Percentage	
Current Average Hoteling	
Target Average Hoteling	

NOTE: Telework, AWS, and Hoteling adjustments rely on both Employee Population and Current Parking Supply. If one or both are missing, no adjustment will be made.

Telework: Percent of Employee population who telework at least once per week

Alternate Work Schedule: Percent of employee population who use AWS

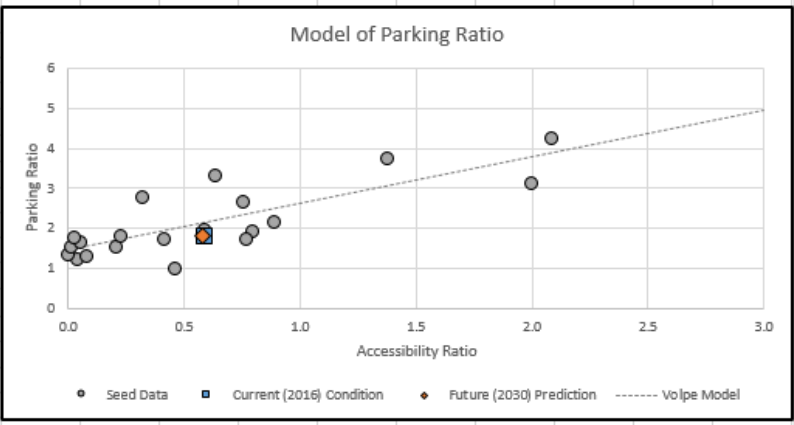
Hoteling: Average daily number of visiting hoteling staff

OUTPUT

Selected Facility	National Foreign Affairs Training Center	
Parking Ratio	Current (2016)	1.82
	Current with Adjustments	2.23
	Future (2030)	1.82
	Future with Adjustments	1.82
Modified Ratio Policy	2	
Comp Plan Ratio Policy	1.5 - 2.0	
Proposed Policy	1.5 - 2.0	

TAZ Weightings		
	1537	83.3%
	1538	9.2%
	1529	7.1%
	1530	0.3%

Accessibility Ratio	Current	0.59
	Future	0.58



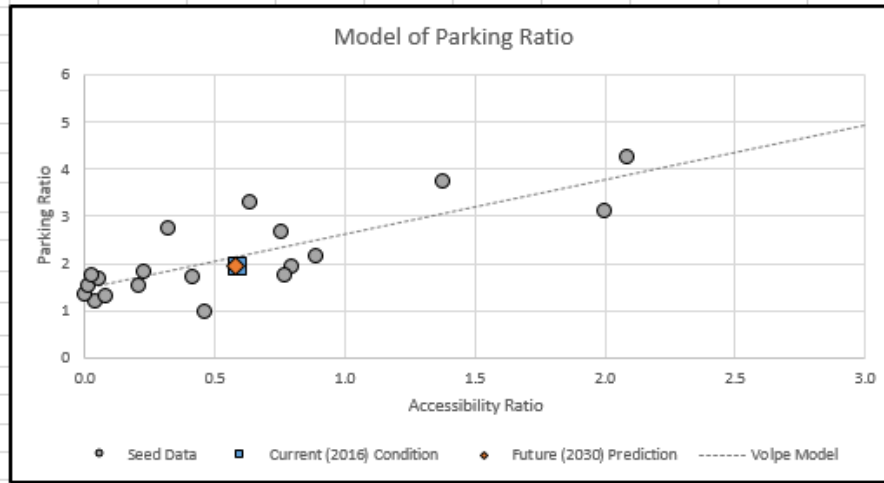
Shuttle Services		
Metrorail Station	Lines Served	Travel Time

Current Telework Percentage	
Target Telework Percentage	
Current Alternate Work Schedule Percentage	
Target Alternate Work Schedule Percentage	
Current Average Hoteling	
Target Average Hoteling	

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Target Average Hoteling															

OUTPUT

Selected Facility	National Foreign Affairs Training Center	
Parking Ratio ¹	Current (2016)	1.95
	Current with Adjustments	
	Future (2030)	1.95
	Future with Adjustments	
Modified Ratio Policy ²	N/A	
Comp Plan Ratio Policy ³	4	
Proposed Policy ⁴	3	



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Shuttle Services		
Metrorail Station	Lines Served	Travel Time

Current Telework Percentage	
Target Telework Percentage	
Current Alternate Work Schedule Percentage	
Target Alternate Work Schedule Percentage	
Current Average Hoteling	
Target Average Hoteling	

Accessibility Ratio	Current	0.59
	Future	0.58

¹ - 4 possible parking ratio values can be presented
 Current: Either observed based on TMP for a known facility, an input value from the left pane, or the modeled value given input TAZs
 Current with Adjustments: The "Current" value modified by shuttle, telework, alternate work schedule, and/or hoteling parameters.
 Future: Modeled value for 2030
 Future with Adjustments: Modeled value for 2030 modified by shuttle, telework, alternate work schedule, and/or hoteling parameters.

² - Modified Ratio Policy: Intermediate policy set by NCPC for certain facilities.

³ - Comp Plan Ratio Policy: Policy ratio for a facility according to location, defined by current NCPC zones.

⁴ - Proposed Policy: Policy ratio for a facility according to location, defined by zones defined in Parking Study.

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National Foreign Affairs Training Center

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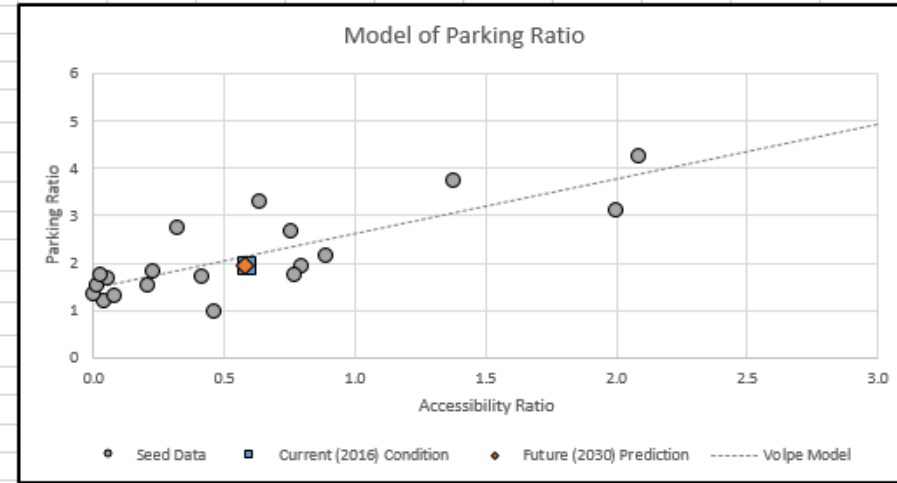
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Hoteling: Average daily number of visiting hoteling staff

OUTPUT	
Selected Facility	National Foreign Affairs Training Center
Parking Ratio ¹	Current (2016) 1.95
	Current with Adjustments 2.55
	Future (2030) 1.95
	Future with Adjustments 2.54
Modified Ratio Policy ²	N/A
Comp Plan Ratio Policy ³	4
Proposed Policy ⁴	3



TAZ Weightings		
	1537	83.3%
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Shuttle Services		
Metrorail Station	Lines Served	Travel Time
Ballston-MU	O, S	5

Current Telework Percentage	
Target Telework Percentage	
Current Alternate Work Schedule Percentage	
Target Alternate Work Schedule Percentage	
Current Average Hoteling	
Target Average Hoteling	

Accessibility Ratio	Current	0.59
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