

Capital Needs Early Warning System

Tracking short-range, regional development to forecast demand on Metrorail station and line capacity

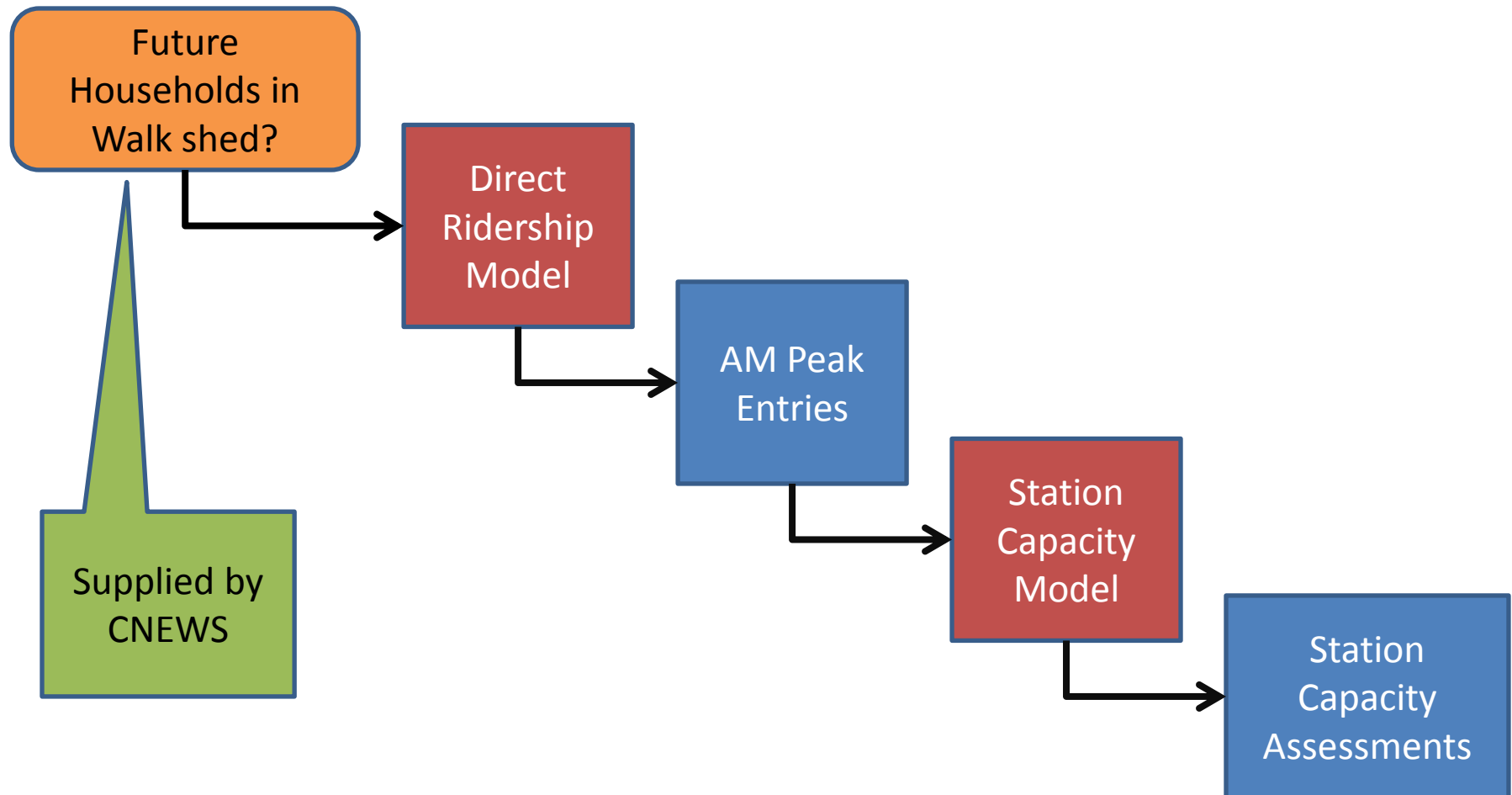


When will a station need increased capacity?

- Metrorail is a mature system
- Capacity improvements for core systems are addressed by Metro 2025
- Currently there is no way to assess future station capacity needs

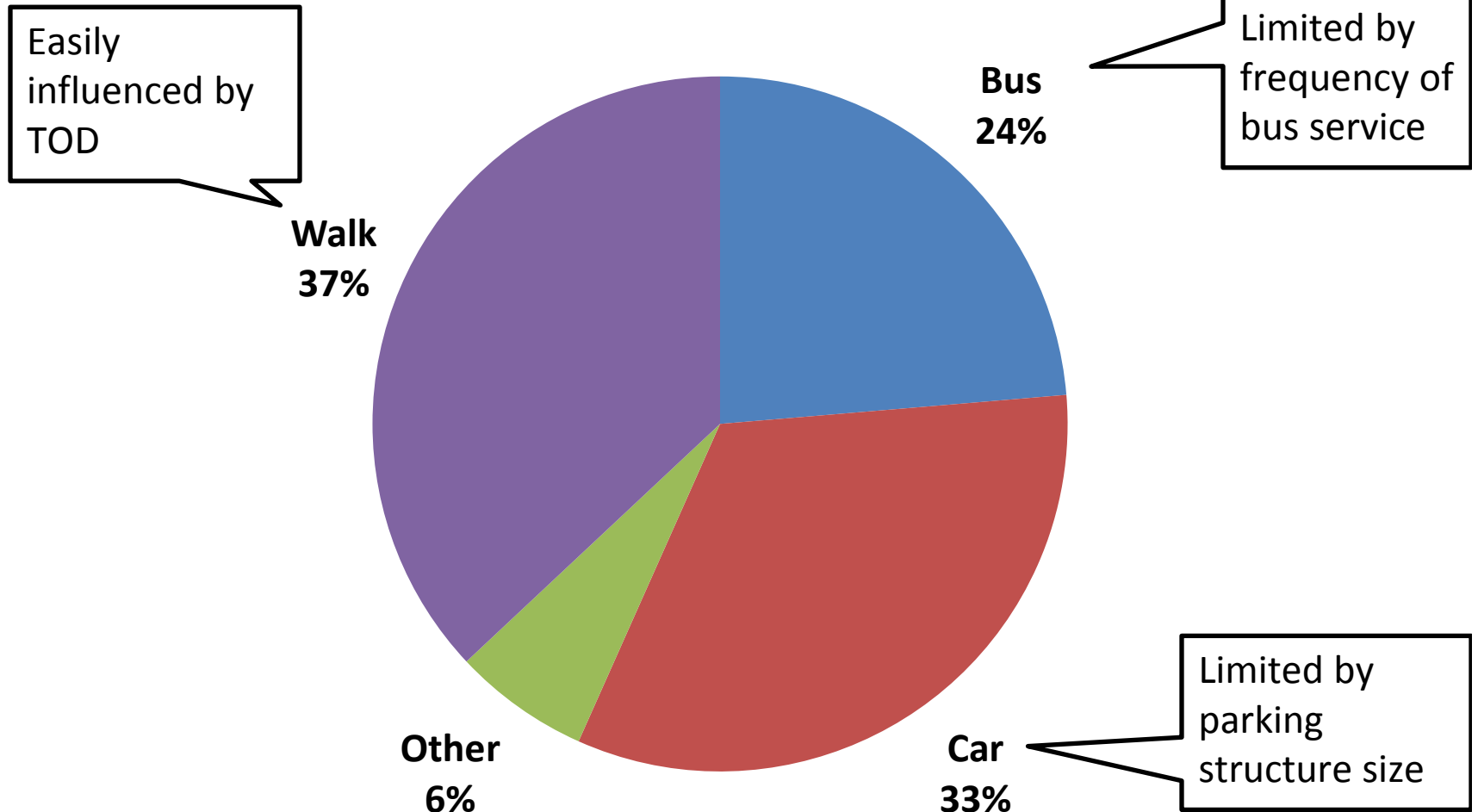
Station Capacity Tool Under Way

- CNEWS supplies crucial input



Non-Core Stations Impacted by Residential Development

AM Peak Mode of Access



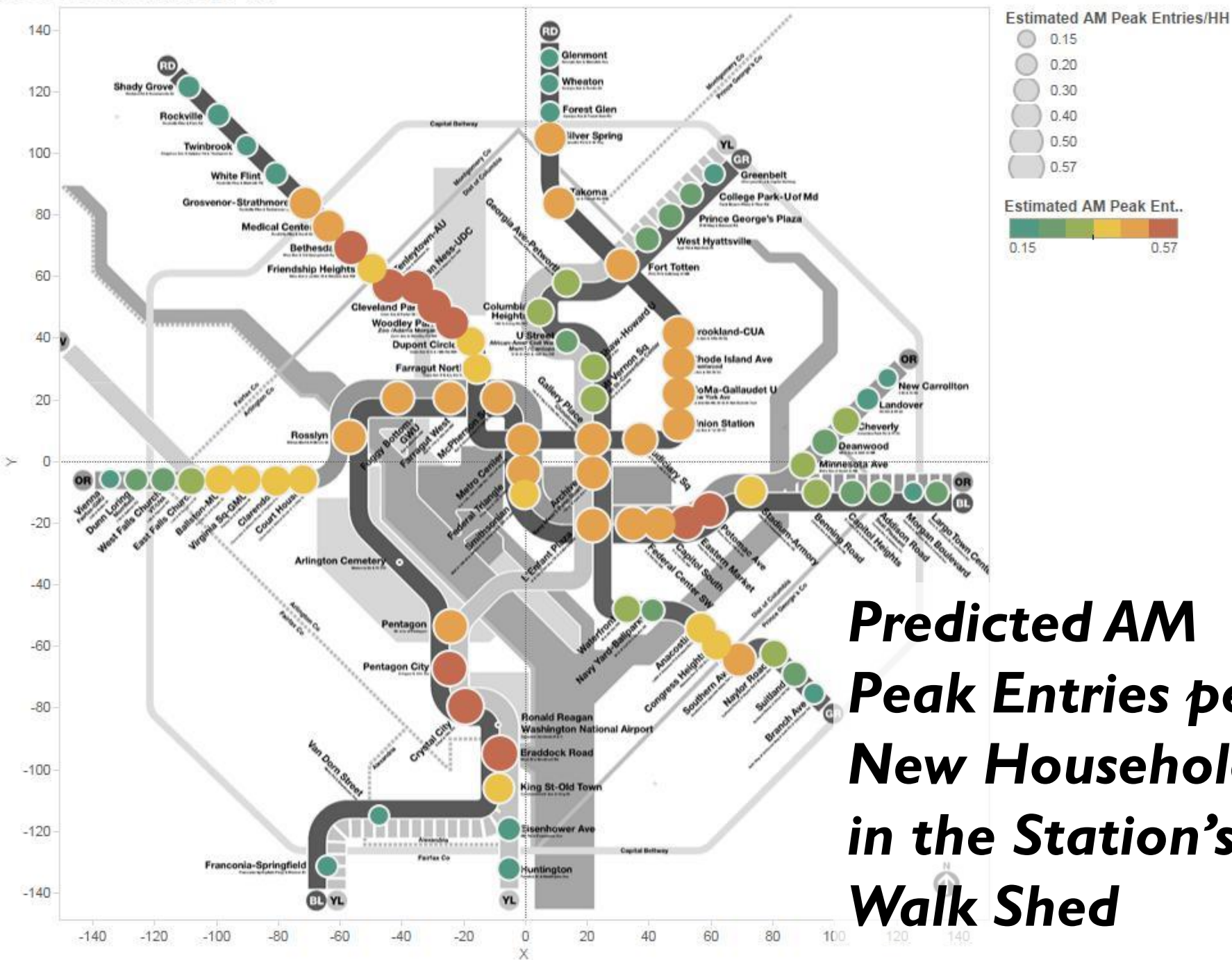
Households in Walk Shed Drive Walk-Access Ridership

Each contains households in walk shed

Variables that Explain AM Peak Walk Ridership

Independent Variable	Coefficient	t-stat
Households in the Walk Shed	.14	2.65
Access to Jobs – compared to driving	.25	4.13
Rail Frequency	.16	4.97
Median Income	.005	3.49
Intersection Density	-3.72	-1.24
Constant	136	1.15
<i>r-squared: 0.84</i>		

Predicted AM Entries per HH



Project-level Data Needed to Forecast Station-Level Capital Needs

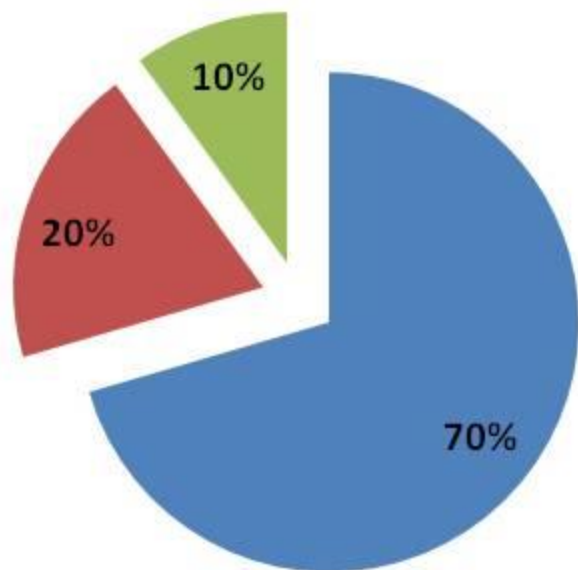
Cooperative Forecast is a good start, but:

- TAZs are large compared to walk sheds
- 5-Year period can mask urgency
- Forecasts are based on zoning which can be amended/exempted on a per-project basis

Majority of Walk Access Within 1/2 Mile

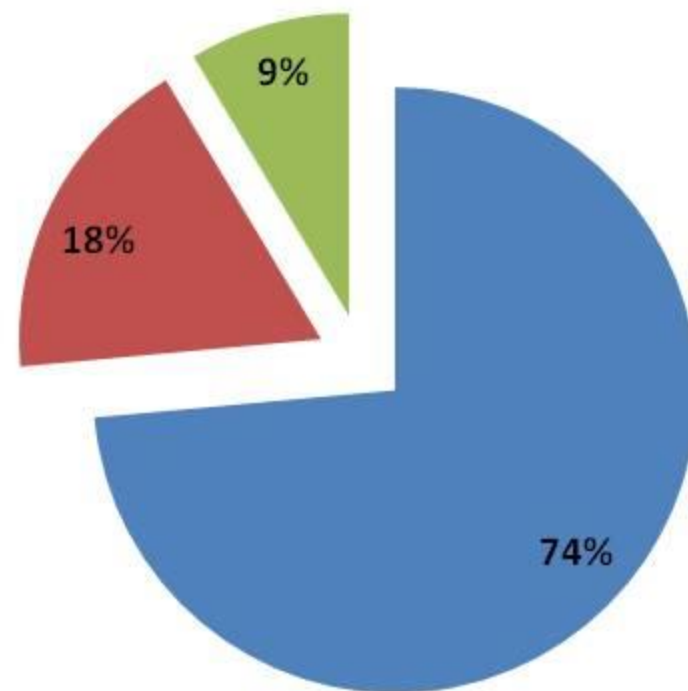
Pedestrians Accessing Metrorail, AM Peak

2007



78,500 Walking Trips

2012





89,900 Walking Trips

- Half-Mile or Less
- Half to One Mile
- Farther than One Mile

Dunn Loring


Legend


 RailEntranceBufferHalfMile


 Ped_Sheds_Net12_NonOverlap_ByStation


HH2020 / HH2015

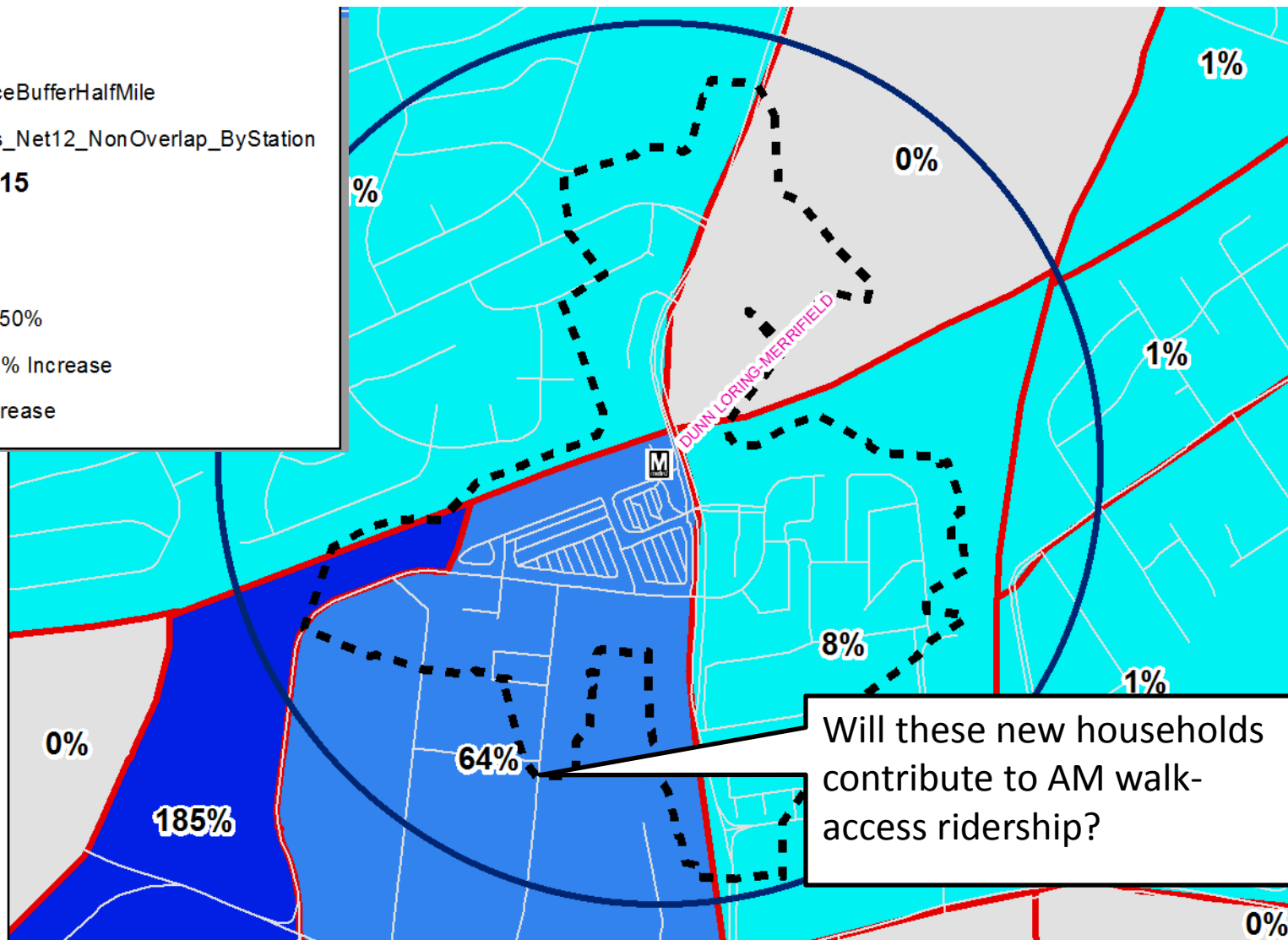
 Decrease

 No change

 Increase < 50%

 50% to 100% Increase

 > 100% Increase



Capital Needs Early Warning System

- Regional repository for tracking development projects “in the pipeline”
 - Inspired by DCOP
- Consultant team pre-populating data store using planning offices’ data and other sources
- Web admin interface for uploading, downloading and editing data

Benefits to Jurisdictions

- Provides a consistent, regional project tracking system
- Allows for proactive planning
 - Will identify future crowding/safety issues before they occur
- Permits better capital budgeting

Next Steps

- December: Project Kick-Off
- January: Data Collection
- March: Web Tool Development
- Summer 2015: Testing and Launch