

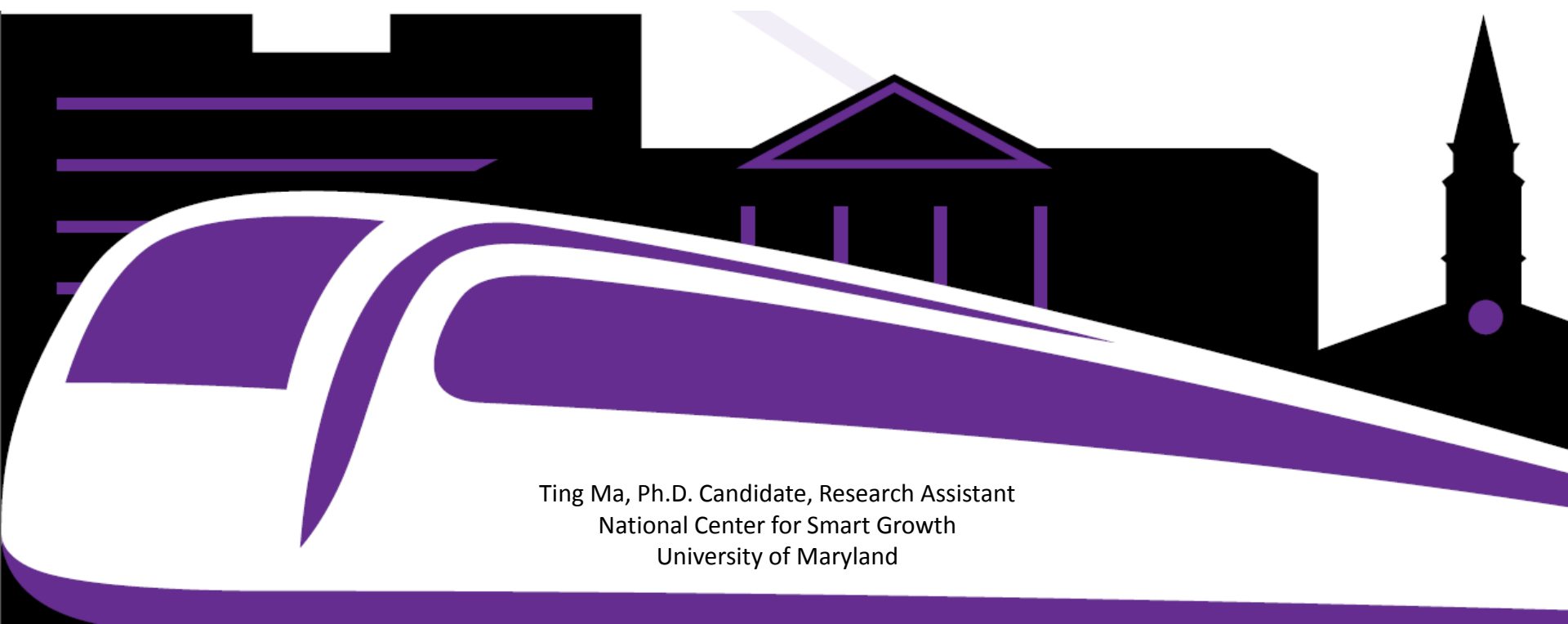


14th Annual New Partners for Smart Growth Conference

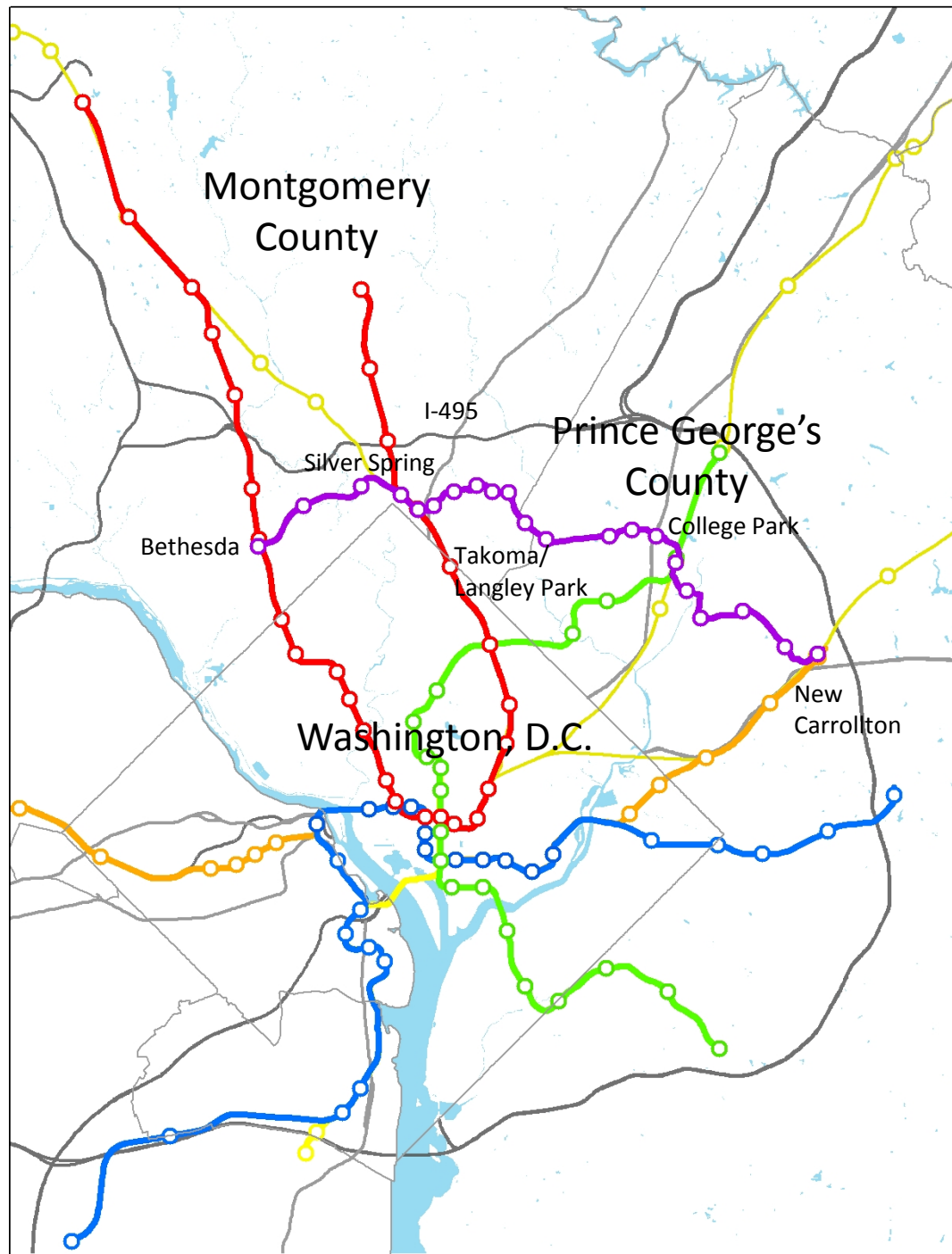
Leveraging New Transit for Better Communities:

Transit-Oriented Development as a Catalyst and Stabilizer along the Red and Purple Lines

Maryland Purple Line



Ting Ma, Ph.D. Candidate, Research Assistant
National Center for Smart Growth
University of Maryland



Project Schedule



- Environmental Approval in 2013
- FTA New Starts
 - Entry into Preliminary Engineering in Oct 2011
 - Entry into Engineering in Aug 2014
 - Recommended for full funding in FY 2015 budget
- Public-Private Partnership (P3)
 - Approved by BPW in Nov 2013
 - Shortlisted proposers in Jan 2014
 - Proposals due March 2015
- 2015-2020 Final design & construction
- 2020 Purple Line service begins

Maryland National Capital Purple Line Bethesda to New Carrollton, Maryland New Starts Engineering (Rating Assigned July 2014)

Summary Description

Proposed Project:	Light Rail Transit 16.2 Miles, 21 Stations
Total Capital Cost (\$YOE):	\$2,427.97 Million (includes \$126.0 million in finance charges)
Section 5309 New Starts Share (\$YOE):	\$900.00 Million (37.1%)
Annual Operating Cost (opening year 2020):	\$58.15 Million
Current Year Ridership Forecast (2014):	44,300 Daily Linked Trips 16,627,600 Annual Linked Trips
Horizon Year Ridership Forecast (2035):	56,100 Daily Linked Trips 20,979,500 Annual Linked Trips
Overall Project Rating:	Medium-High
Project Justification Rating:	Medium-High
Local Financial Commitment Rating:	Medium-High



THE PURPLE LINE

by the numbers

1st light rail in the region



 **16 miles**

 **61,000 average
weekday trips**

 **21 stops**

 **2 counties**

Within a half mile:

150,000
PEOPLE





130,000
JOB



6,000
**SMALL
BUSINESSES**



Serves Diverse Communities

 *Housing values range from* 
\$100,000 to over \$1,000,000



PLCC

PURPLE LINE CORRIDOR COALITION



Four Goals



- **Ensuring Housing Choices for All.** Balance housing options for people of all income levels in communities throughout the corridor.
- **Supporting and Growing Local Businesses.** Maximize the likelihood that diverse, locally owned businesses thrive during and after the construction period.
- **Building a Thriving Labor Market.** Assure that workers and employers in the corridor grow in number and are well matched in skill levels and location.
- **Celebrating Neighborhood Identities.** Create vibrant and sustainable environments that enhance community health, culture and sense of place.



20+ Members

150+ Engaged Stakeholder Organizations



- **Tool 1.** Data-driven analysis of both Purple Line corridor's today and tomorrow.
- **Tool 2.** Workshops to create shared vision, to identify opportunities and challenges, and to seek solutions.
- **Tool 3.** A community compact to articulate vision, strategy, and commitment.



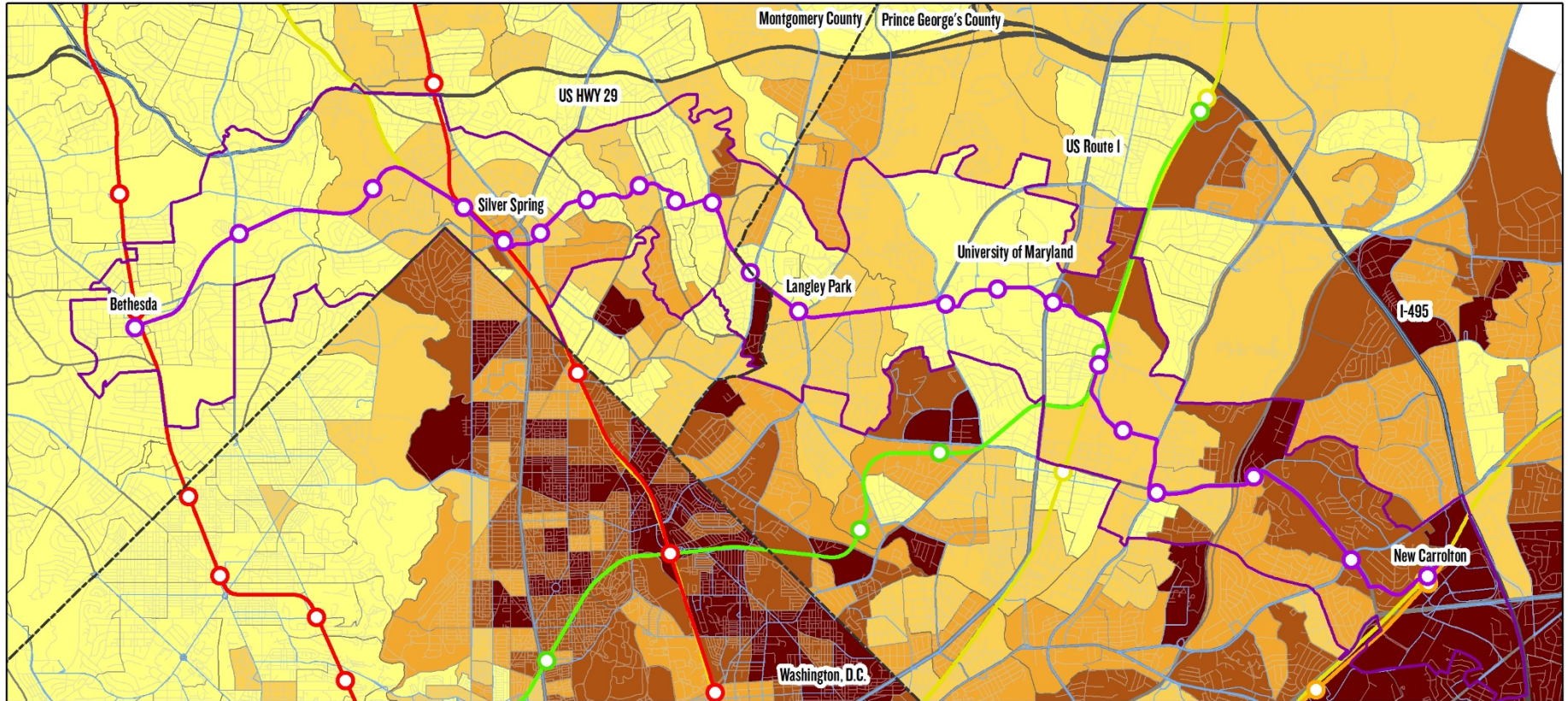
Tool 1. Data-driven analysis



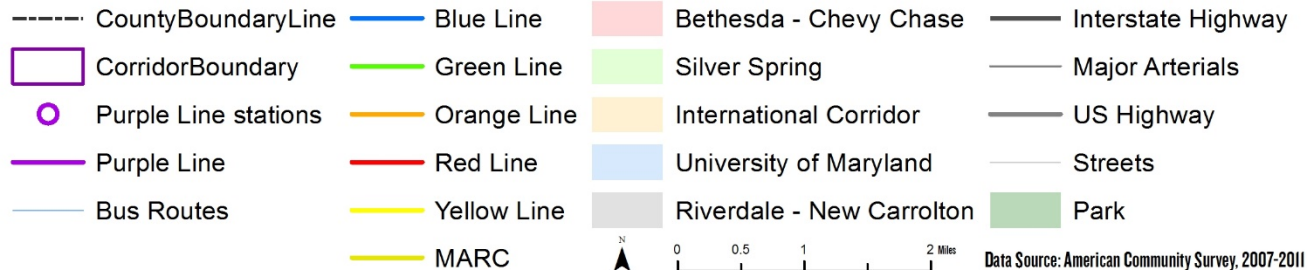
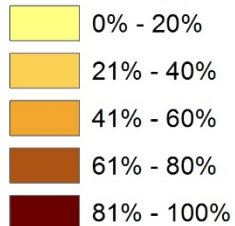
- Corridor database
 - GIS models
 - GIS maps
 - Web tools
 - Reports
- Demographics
 - Housing
 - Jobs
 - Economic development
 - Transportation
 - Land use
 - Schools, health care facilities, institutions...



Percentage of African American Population

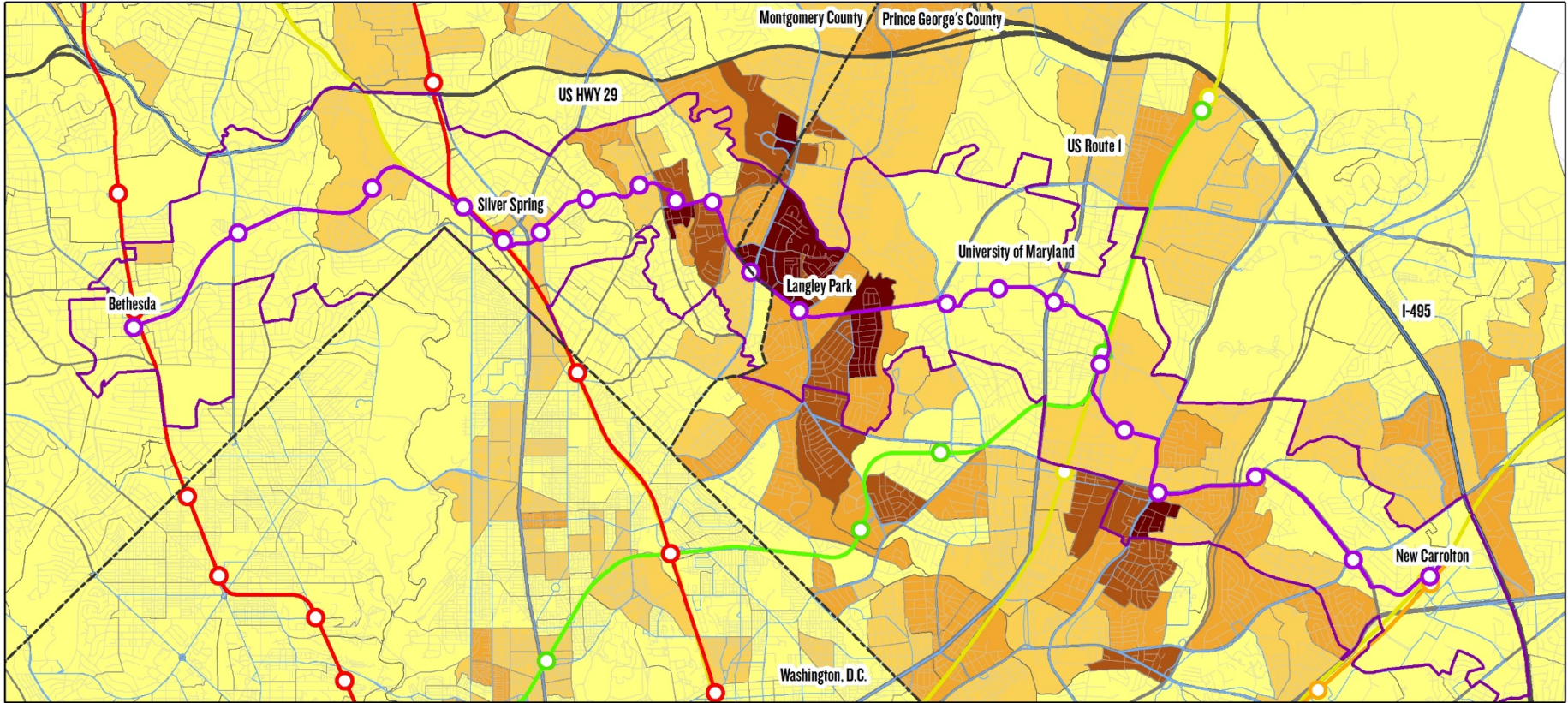


Percentage of Black

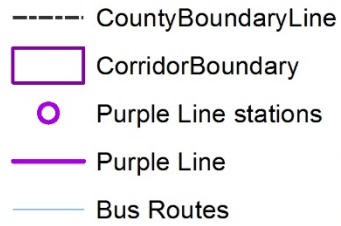
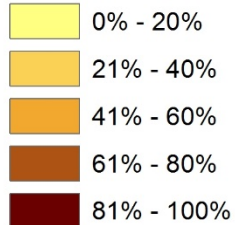


Data Source: American Community Survey, 2007-2011

Percentage of Hispanic Population

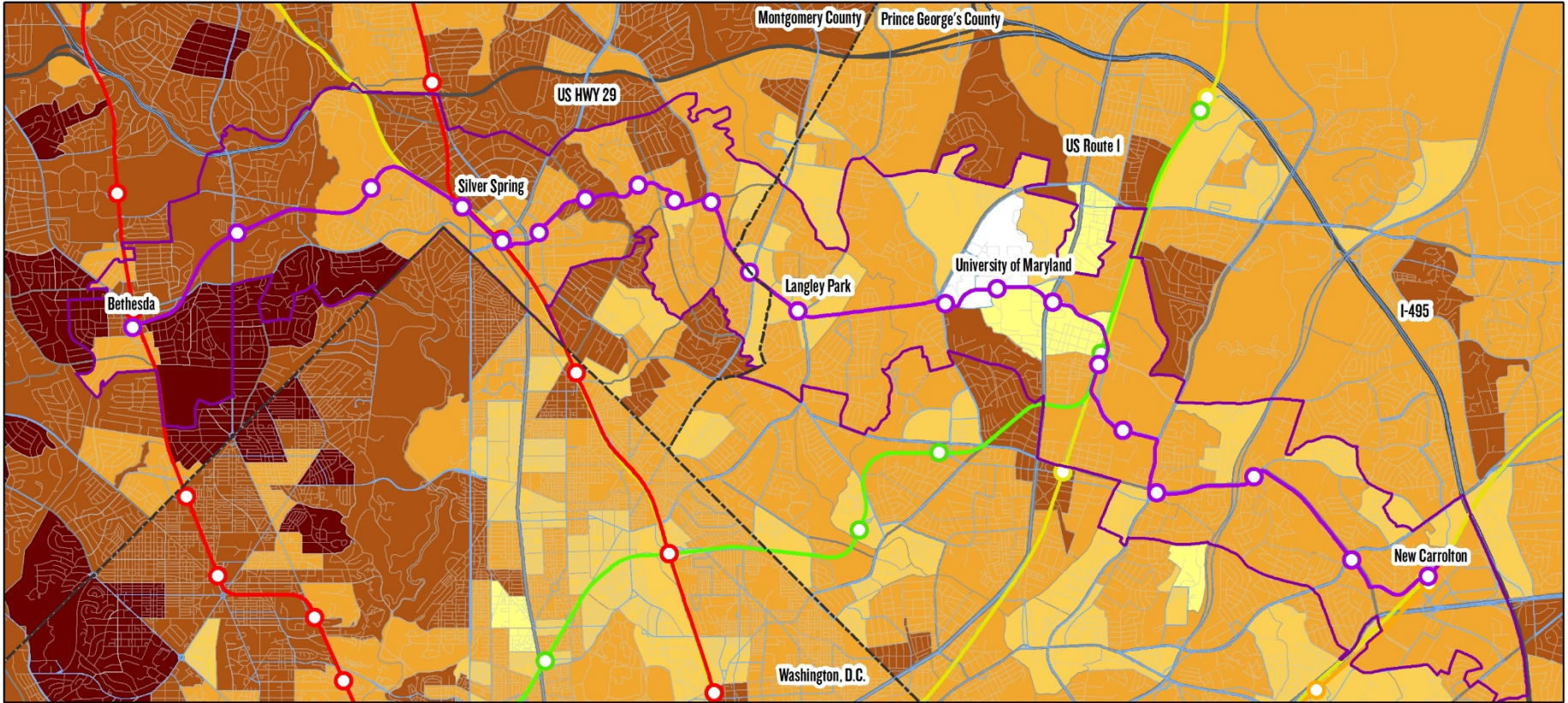


Percentage of Hispanic

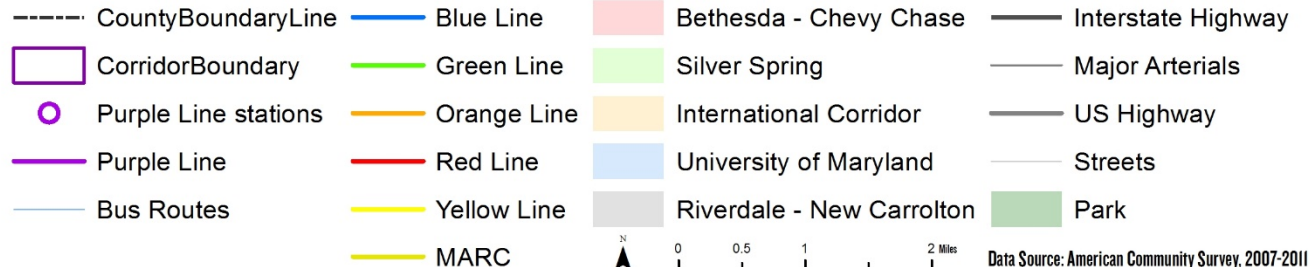
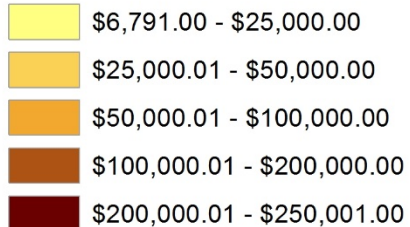


Data Source: American Community Survey, 2007-2011

Household Median Income

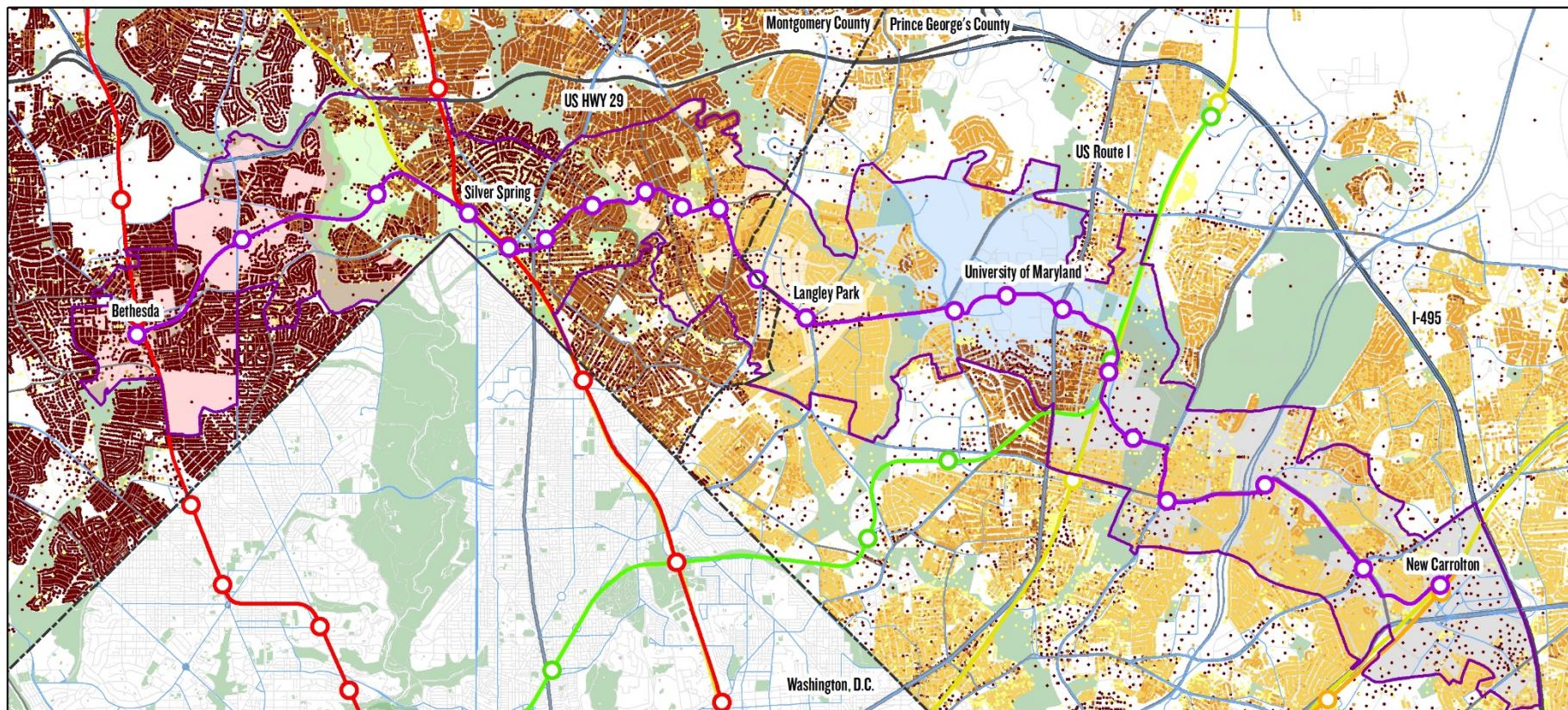


Household Median Income



Data Source: American Community Survey, 2007-2011

Property Value



Property Value

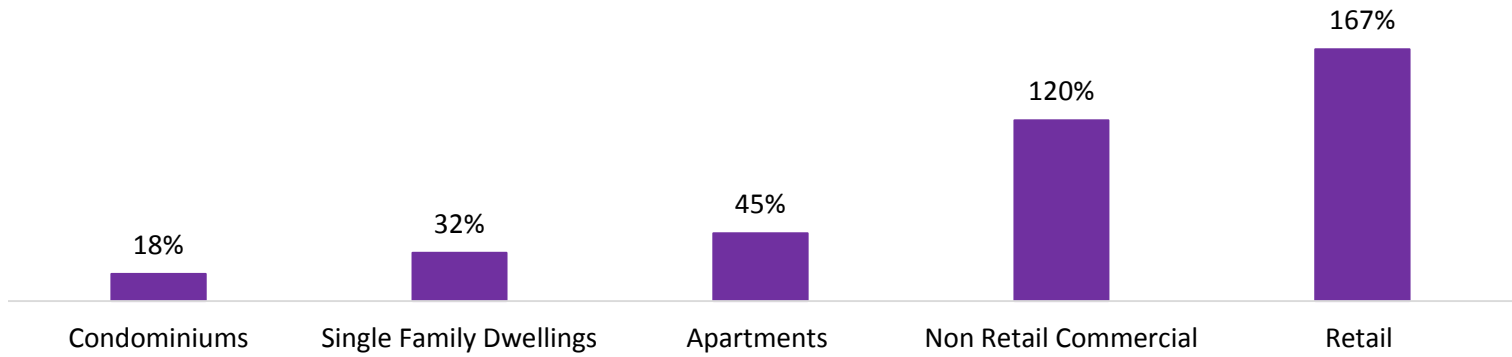
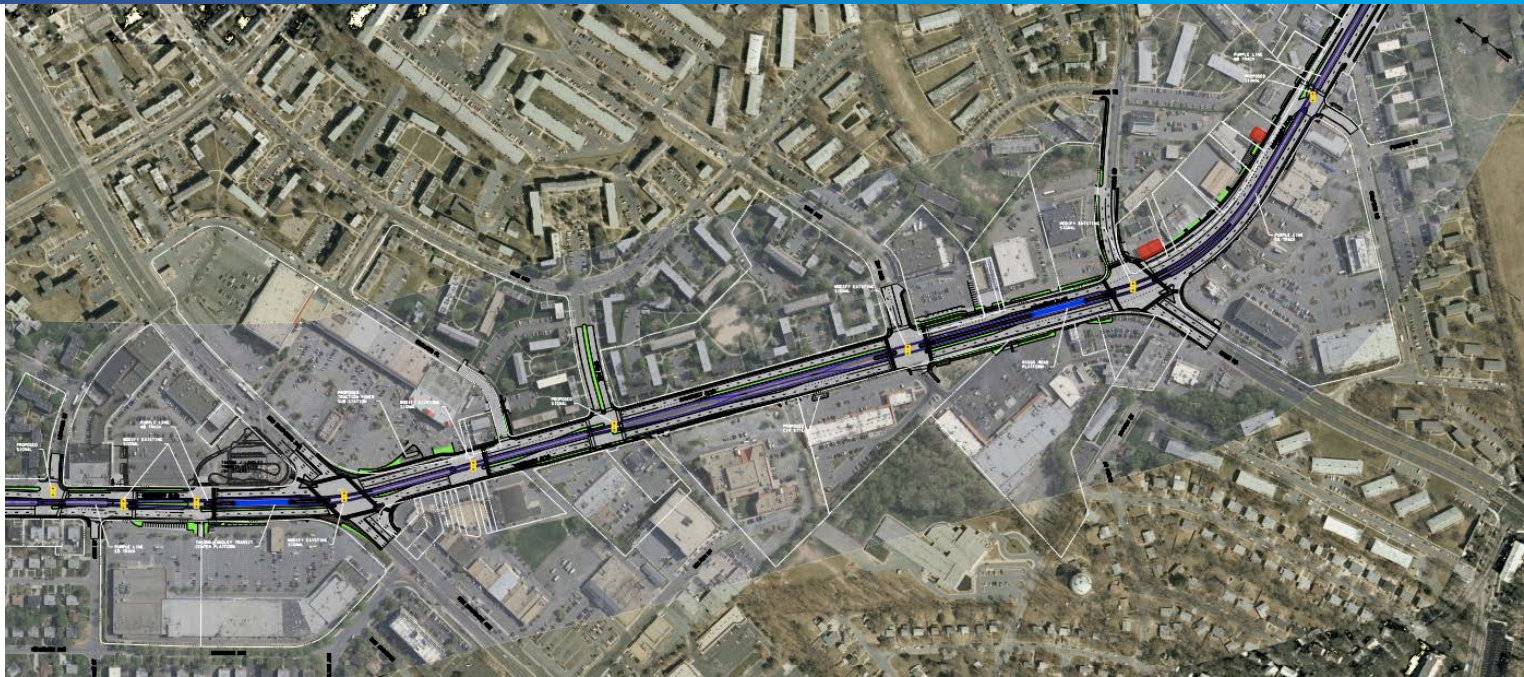
- \$0.00 - \$100,000.00
- \$100,000.01 - \$200,000.00
- \$200,000.01 - \$300,000.00
- \$300,000.01 - \$500,000.00
- \$500,000.01 +

----- CountyBoundaryLine	Blue Line	Bethesda - Chevy Chase	Interstate Highway
CorridorBoundary	Green Line	Silver Spring	Major Arterials
○ Purple Line stations	Orange Line	International Corridor	US Highway
— Purple Line	Red Line	University of Maryland	Streets
— Bus Routes	Yellow Line	Riverdale - New Carrollton	Park
	MARC		



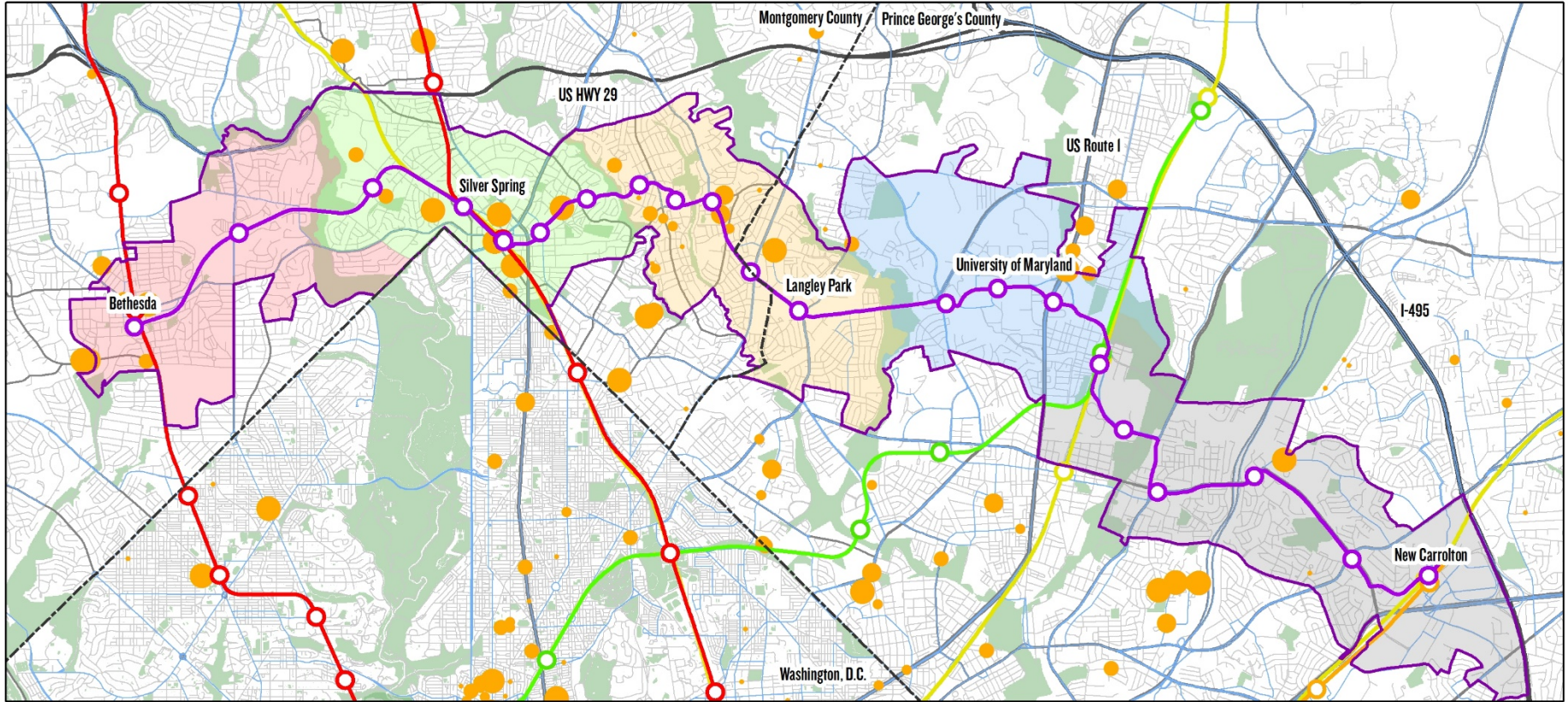
Data Source: Maryland Property View, 2011

Property Value Premium Attributable to Proximity of Transit



Source: CTOD, 2008

Subsidized Housing Units



Subsidized Housing by Units

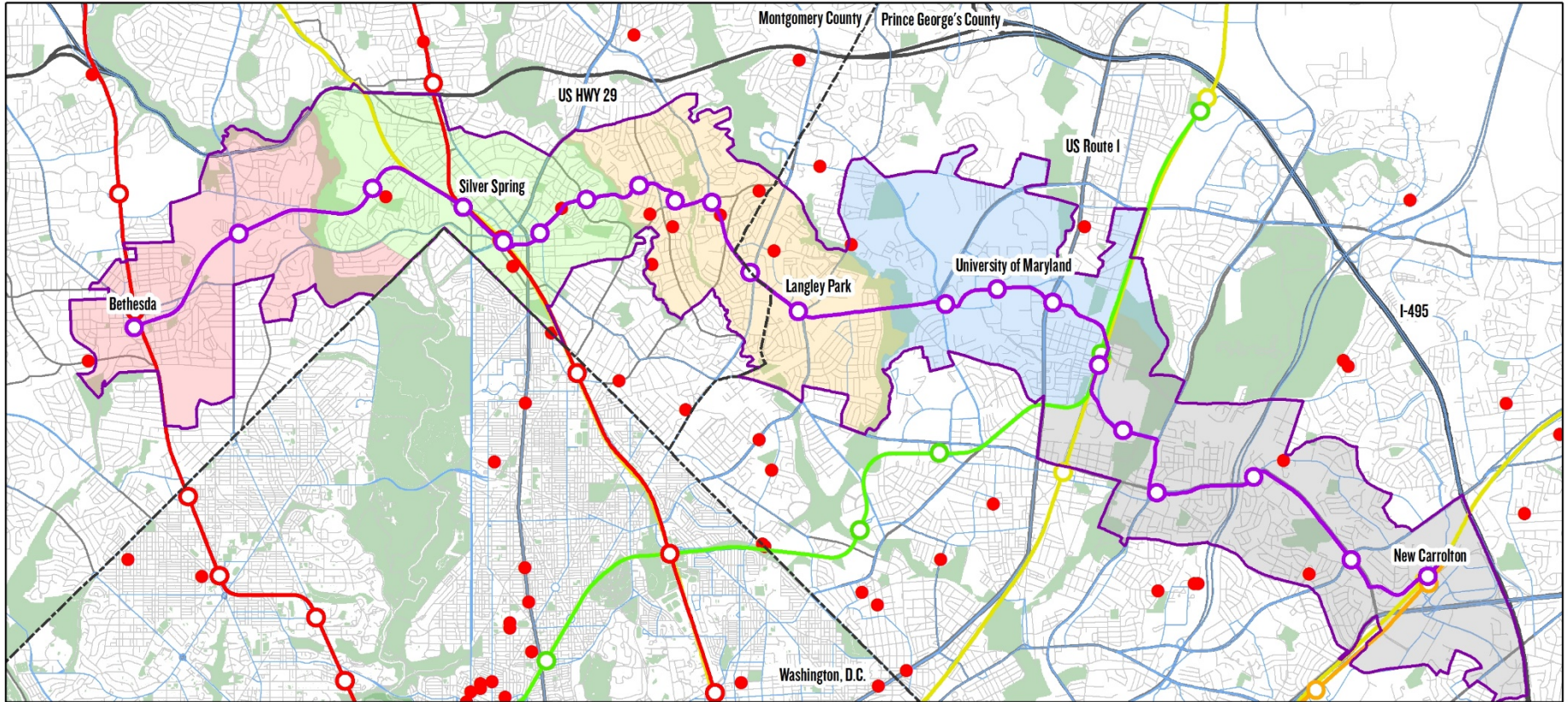
- 0 - 15
- 16 - 50
- 51 - 100
- 101 - 150
- 151 +

----- CountyBoundaryLine	Blue Line	Bethesda - Chevy Chase	Interstate Highway
CorridorBoundary	Green Line	Silver Spring	Major Arterials
○ Purple Line stations	Orange Line	International Corridor	US Highway
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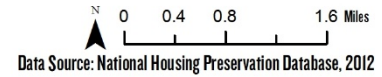


Data Source: National Housing Preservation Database, 2012

Subsidized Housing at Risk (Expire by 2020)



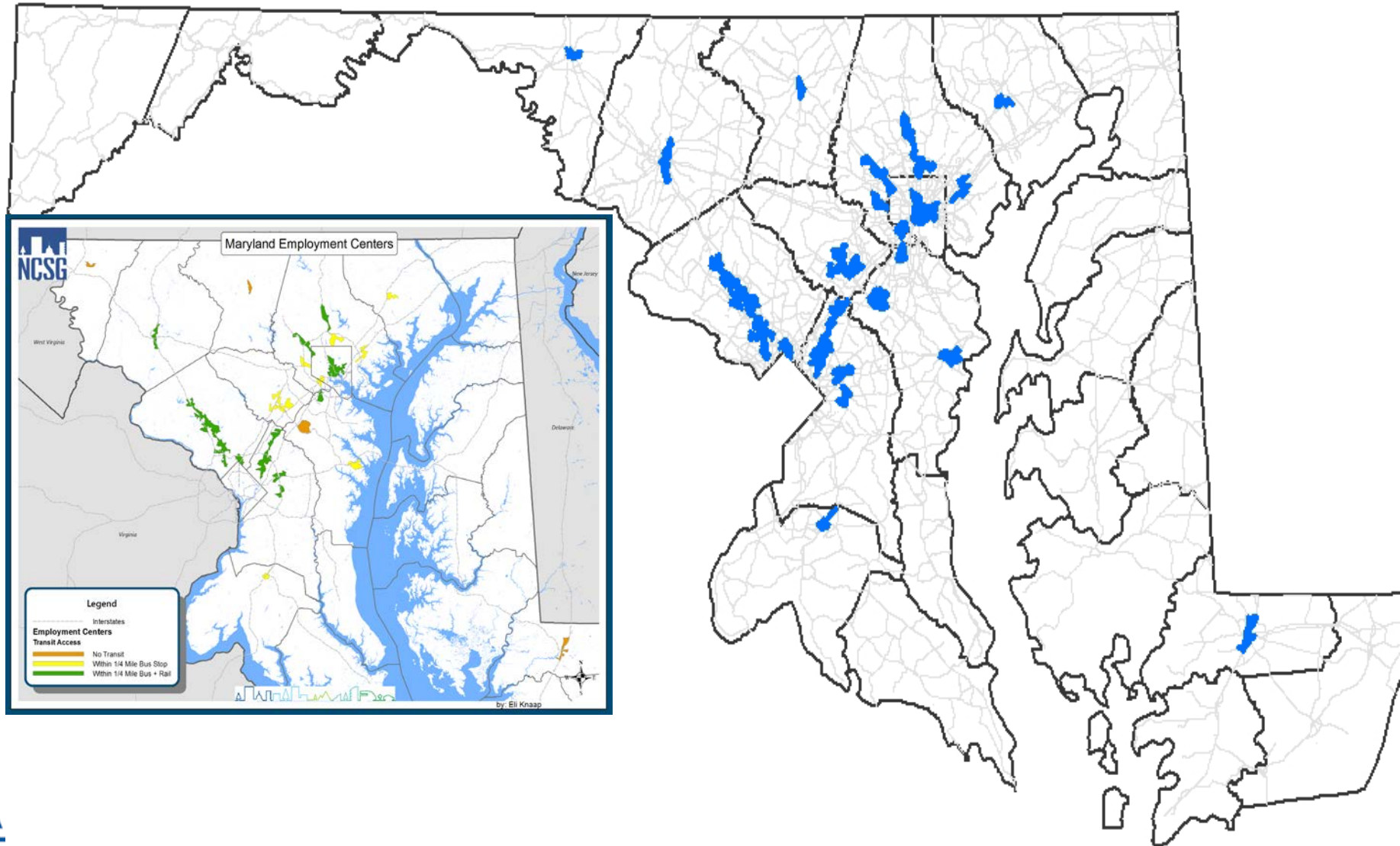
- Subsidized Housing at Risk
- Blue Line
- Bethesda - Chevy Chase
- - - CountyBoundaryLine
- Green Line
- Silver Spring
- CorridorBoundary
- Orange Line
- International Corridor
- Purple Line stations
- Red Line
- University of Maryland
- Purple Line
- Yellow Line
- Riverdale - New Carrollton
- Bus Routes
- MARC
- Interstate Highway
- Major Arterials
- US Highway
- Streets
- Park



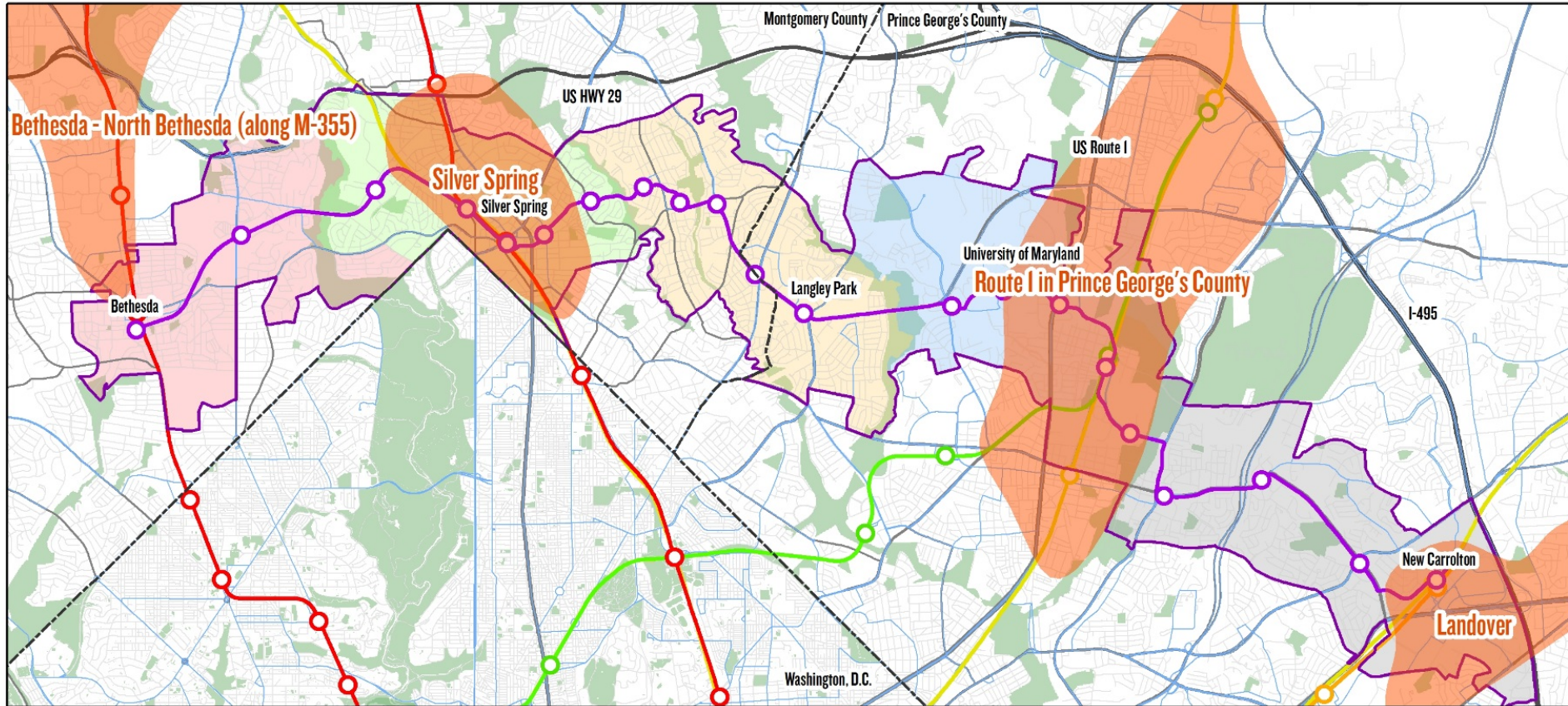
Maryland's Economic Engines



23 Job Centers = 1% of land, 40% of jobs



Access to Employment Clusters



Employment Clusters

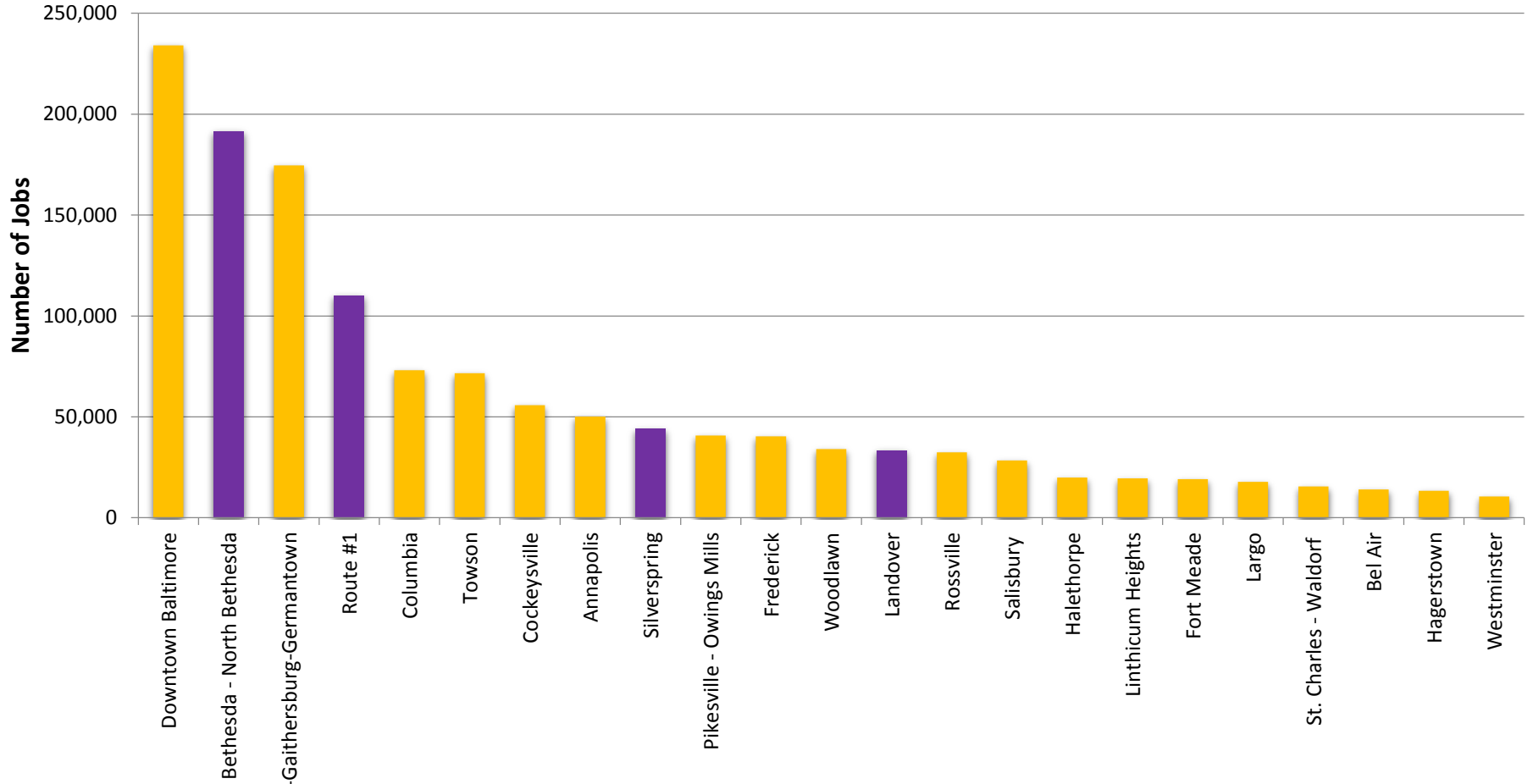
Definition:
TAZ has the minimum employment density of 9 workers per acre and has a total of at least 10,000 employees.

----- CountyBoundaryLine	Blue Line	Bethesda - Chevy Chase	----- Interstate Highway
CorridorBoundary	Green Line	Silver Spring	----- Major Arterials
○ Purple Line stations	Orange Line	International Corridor	----- US Highway
----- Purple Line	Red Line	University of Maryland	----- Streets
----- Bus Routes	Yellow Line	Riverdale - New Carrollton	----- Park
	MARC		

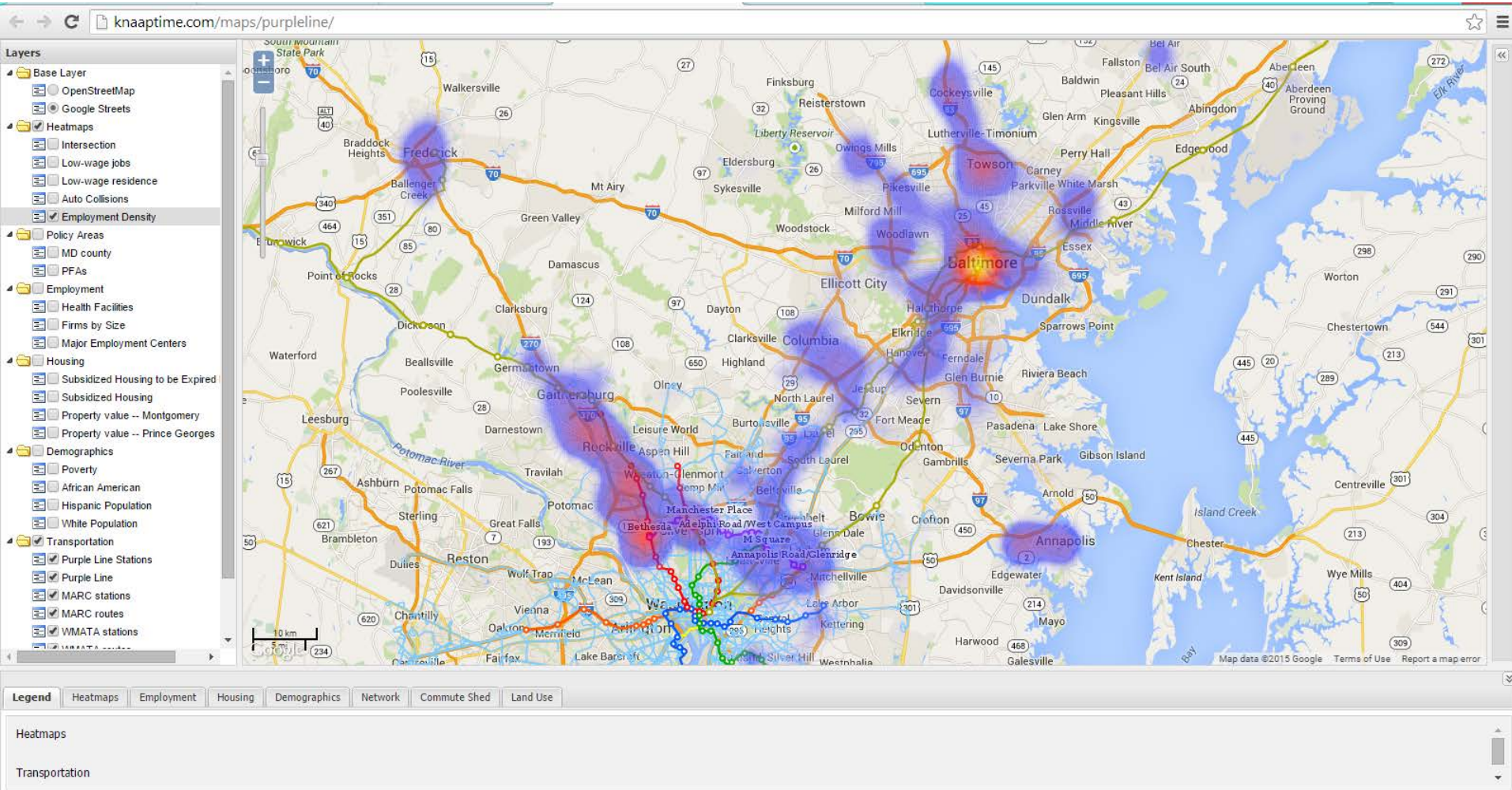


Data Source: Quarterly Census of Employment and Wages, 2008

Cluster Employment



Web Tool - Employment "Heat Map"



Tool 2. Workshop



- **Beyond the Tracks: Community Development in the Purple Line Corridor**
- 260 + community stakeholders
- Learn case studies of Denver, Minneapolis-St. Paul, etc.
- Build a shared approach towards Purple Line development
 - Take a corridor view
 - Provide strong, committed leadership
 - Adopt a collective impact strategy
 - Support community economic development
 - Develop strategic plans and goals



Purple Line Workshop



Tool 3. Community Compact



A **community Compact** is a written but not legally binding document that **articulates a vision for the future, a strategy for achieving that vision, and a commitment of its signatories to taking actions toward the vision.** When prepared in advance of a major investment in light rail transit, community compacts often include commitments to preserving affordable housing, supporting small businesses during and after construction, connecting workers with jobs, and working to create vibrant, sustainable, and equitable communities. Community Compacts are typically **signed** by elected and appointed government officials; leaders of community, business, and labor organizations; and representatives of key public and private institutions. Community compacts are not an end in themselves, but set the **framework for future steps** towards implementation by signatory organizations.






Purple Line Community Compact

- Two Town Hall Meetings
- Draft PLCC Compact Underway
- Will Be Presented to New Administration





- Purple Line Corridor Coalition: <http://smartgrowth.umd.edu/plcc>
- Purple Line GIS maps: <http://smartgrowth.umd.edu/plccmaps>
- Purple Line web tool: <http://knaaptime.com/maps/purpleline/>
- Purple Line Community Compact: <http://smartgrowth.umd.edu/plcompact>



Contact:
Ting Ma, Research Assistant
tingma@umd.edu



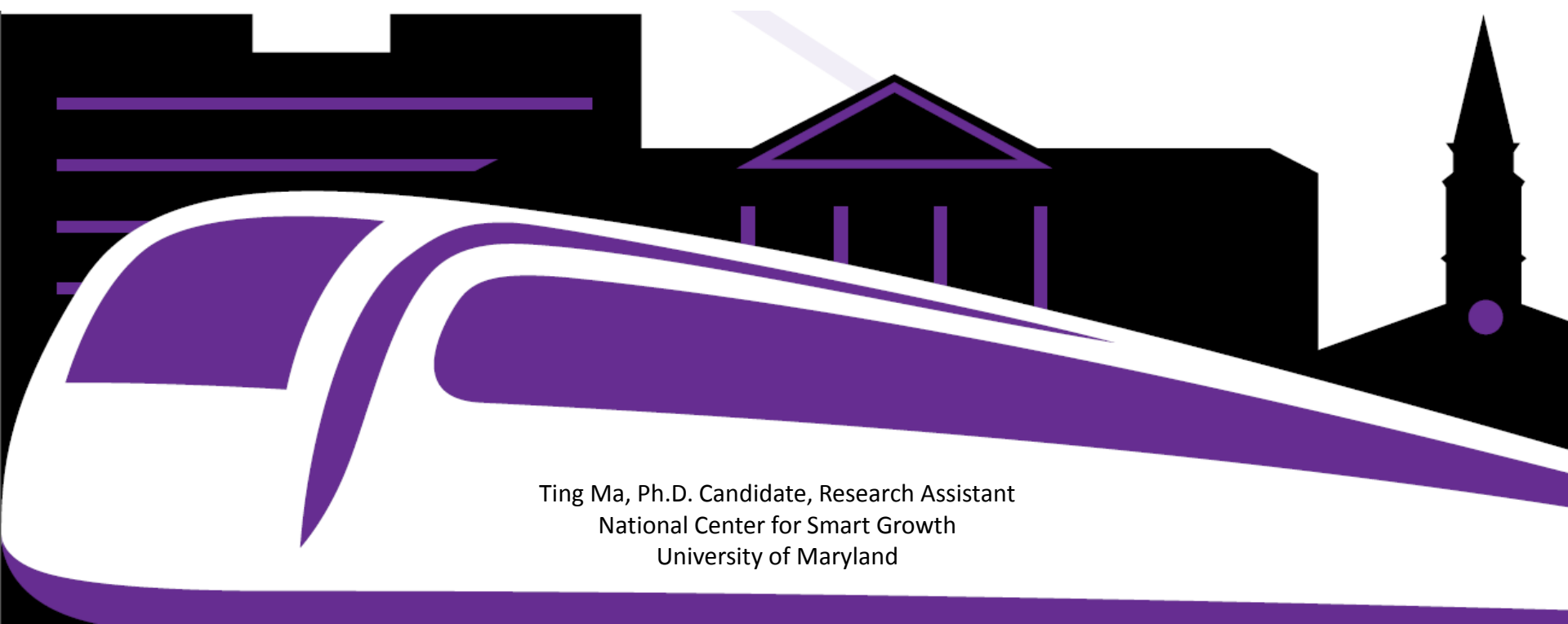


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Maryland Purple Line -- Job Accessibility Model



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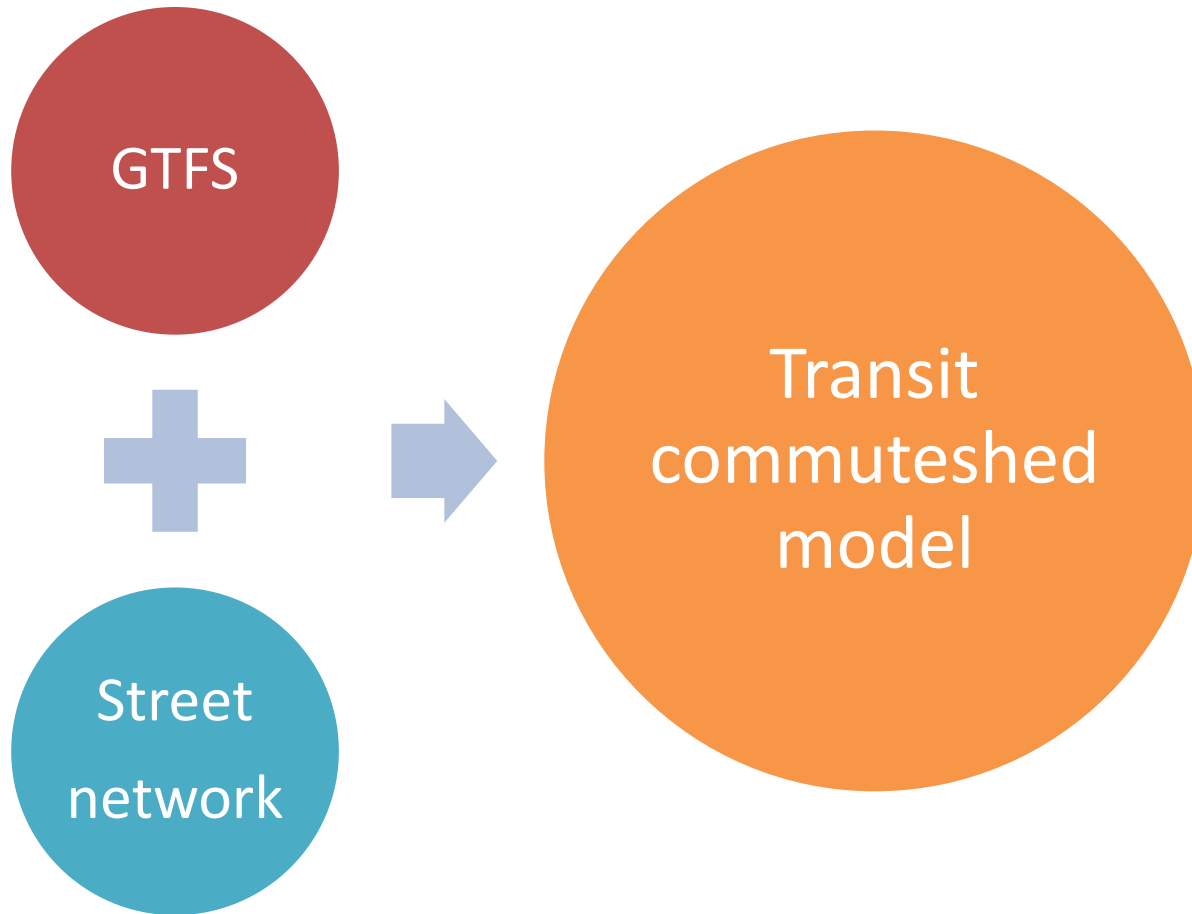


Where the Purple Line can get people to?





Purple Line's Impact on Job Accessibility



General Transit Feed Specification (GTFS)



agency.txt

```
agency_id, agency_name, agency_url, agency_timezone, agency_phone, agency_lang
FunBus,The Fun Bus,http://www.theCunbus.org,America/Los_Angeles,(310) 555-0122,en
```

stops.txt

```
stop_id,stop_name,stop_desc,stop_lat,stop_lon,stop_url,location_type,parent_station
S1,Mission St. & Silver Ave.,The stop is located at the southeast corner of the intersection.,37.728551,-122.43122
S2,Mission St. & Cortland Ave.,The stop is located at the southeast corner of the intersection.,37.74103,-122.422482,,
S3,Mission St. & 24th St.,The stop is located at the southeast corner of the intersection.,37.75223,-122.415551,,
S4,Mission St. & 21st St.,The stop is located at the northwest corner of the intersection.,37.75715,-122.415952,,
S5,Mission St. & 19th St.,The stop is located 25 feet west of 19th St.,37.761829,-122.419352,,
S6,Mission St. & 15th St.,The stop is located 10 feet north of Mission St.,37.766629,-122.419762,,
S7,24th St. Mission Station,,37.752240,-122.412450,,S5
S8,24th St. Mission Station,,37.752240,-122.412450,http://www.bart.gov/stations/stationguide/stationoverview_24st.
```

routes.txt

```
route_id,route_short_name,route_long_name,route_desc,route_type
A,17,Mission,"The "A" route travels from Lower Mission to Downtown.",3
```

trips.txt

```
route_id,service_id,trip_id,trip_headsign,block_id
A,WE,AHE1,Downtown,1
A,WE,AHE2,Downtown,2
```

stop_times.txt

```
trip_id,arrival_time,departure_time,stop_id,stop_sequence,pickup_type,drop_off_type
AHE1,0:06:10,0:06:10,S1,1,0,0
AHE1,,,S2,2,0,1,3
AHE1,0:06:20,0:06:20,S3,3,0,0,0
AHE1,,,S4,4,0,0,0
AHE1,0:06:45,0:06:45,S6,5,0,0,0
AMD1,0:06:10,0:06:10,S1,1,0,0,0
AMD1,,,S2,2,0,0,0
AMD1,0:06:20,0:06:20,S3,3,0,0,0
AMD1,,,S4,4,0,0,0
AMD1,0:06:45,0:06:45,S6,5,0,0,0
```

calendar.txt

```
service_id,monday,tuesday,wednesday,thursday,friday,saturday,sunday,start_date,end_date
WE,0,0,0,0,1,2,20060701,20060731
WD,1,1,1,1,0,0,20060701,20060731
```

calendar_dates.txt

```
This example shows service exceptions for the Independence Day holiday in 2006. On Monday July 3, 2006, regular weekday service (service_id=WD) is interrupted (exception_type=2). Instead, weekend service (service_id=WE) runs on that date (exception_type=1). The same change applies on Tuesday July 4, as well.
```

```
service_id,date,exception_type
WD,20060703,2
WE,20060703,1
WD,20060704,2
WE,20060704,1
```

GTFS Sample

Relational Database

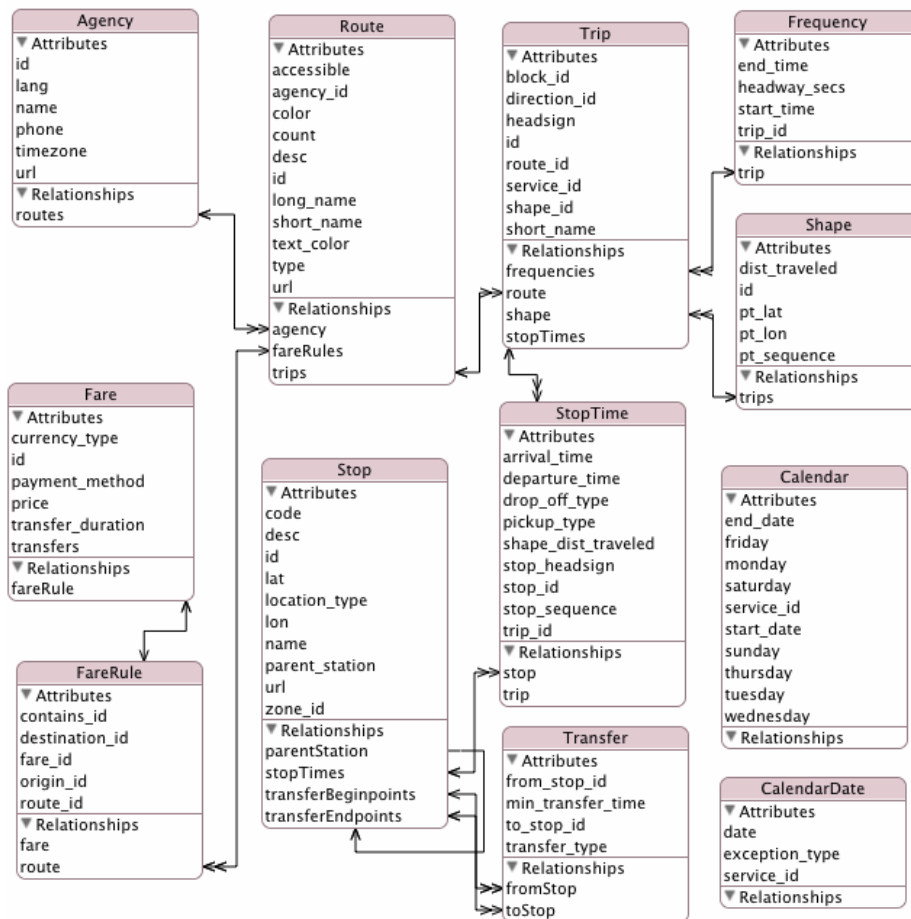
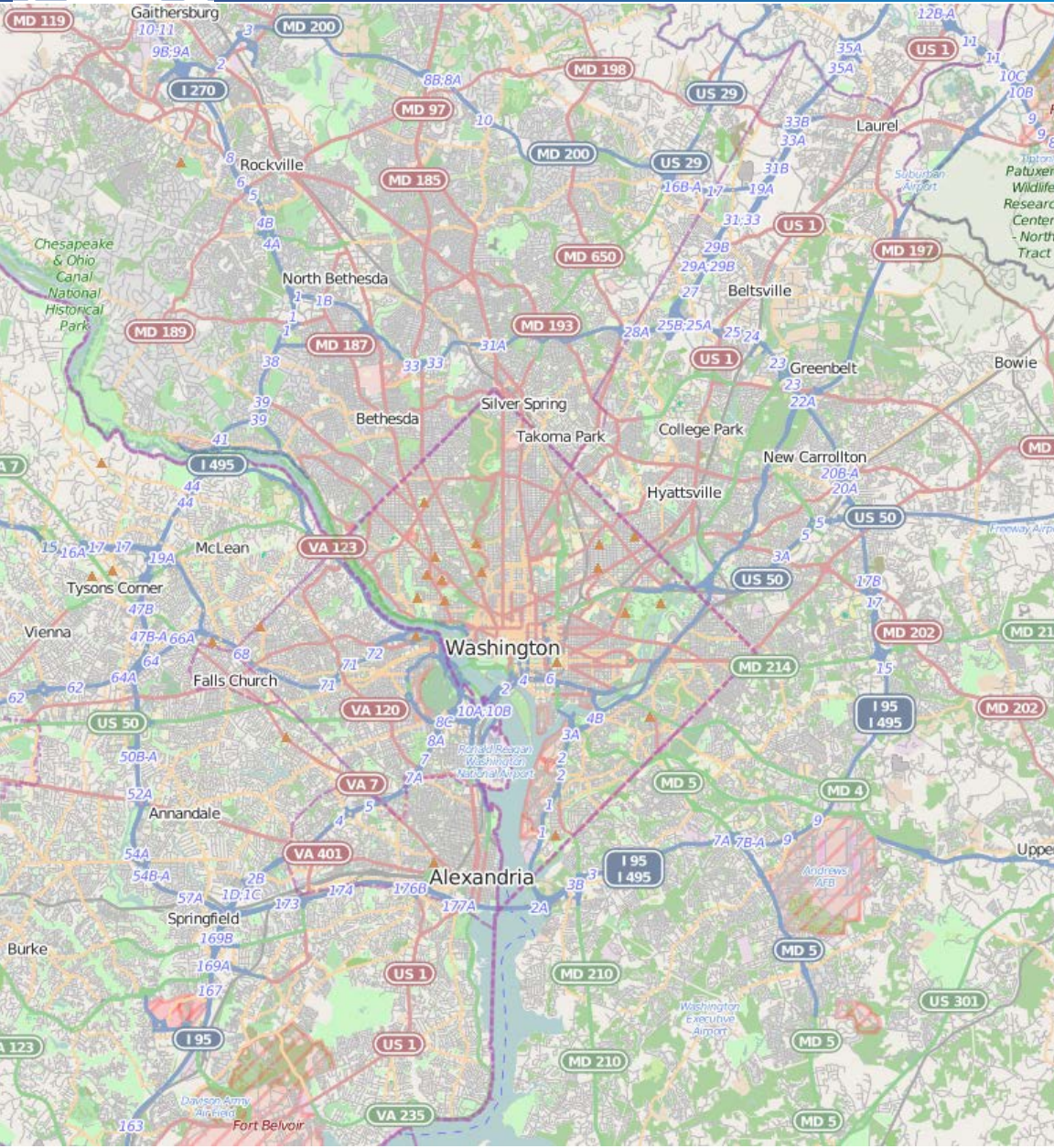


Image Source: Google Developers & LSTA blog



OpenStreetMap



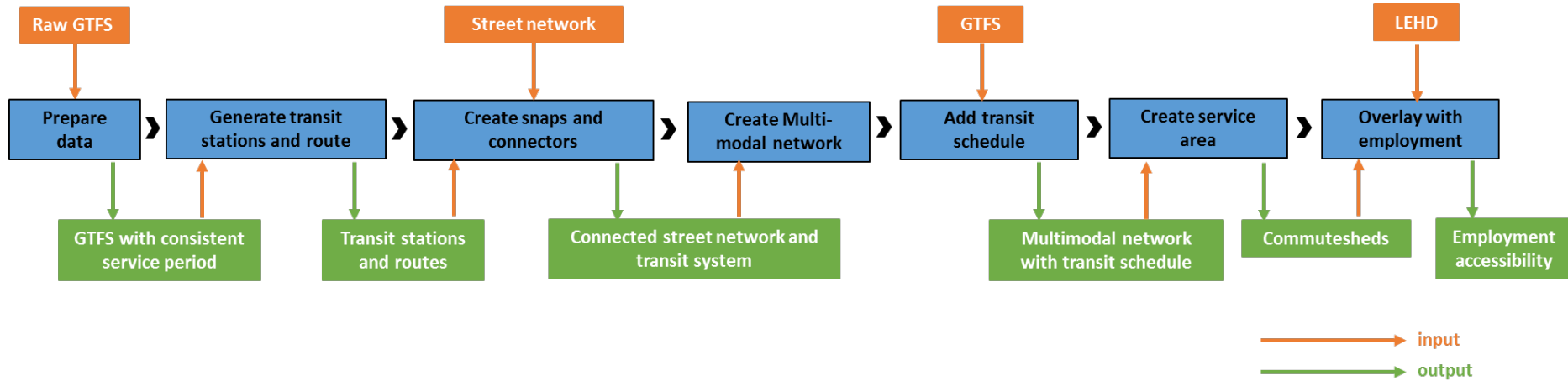
Characters

- Created and edited by volunteer mappers,
- Elements include roads, trails, stations, and so on,
- Open data, free to use



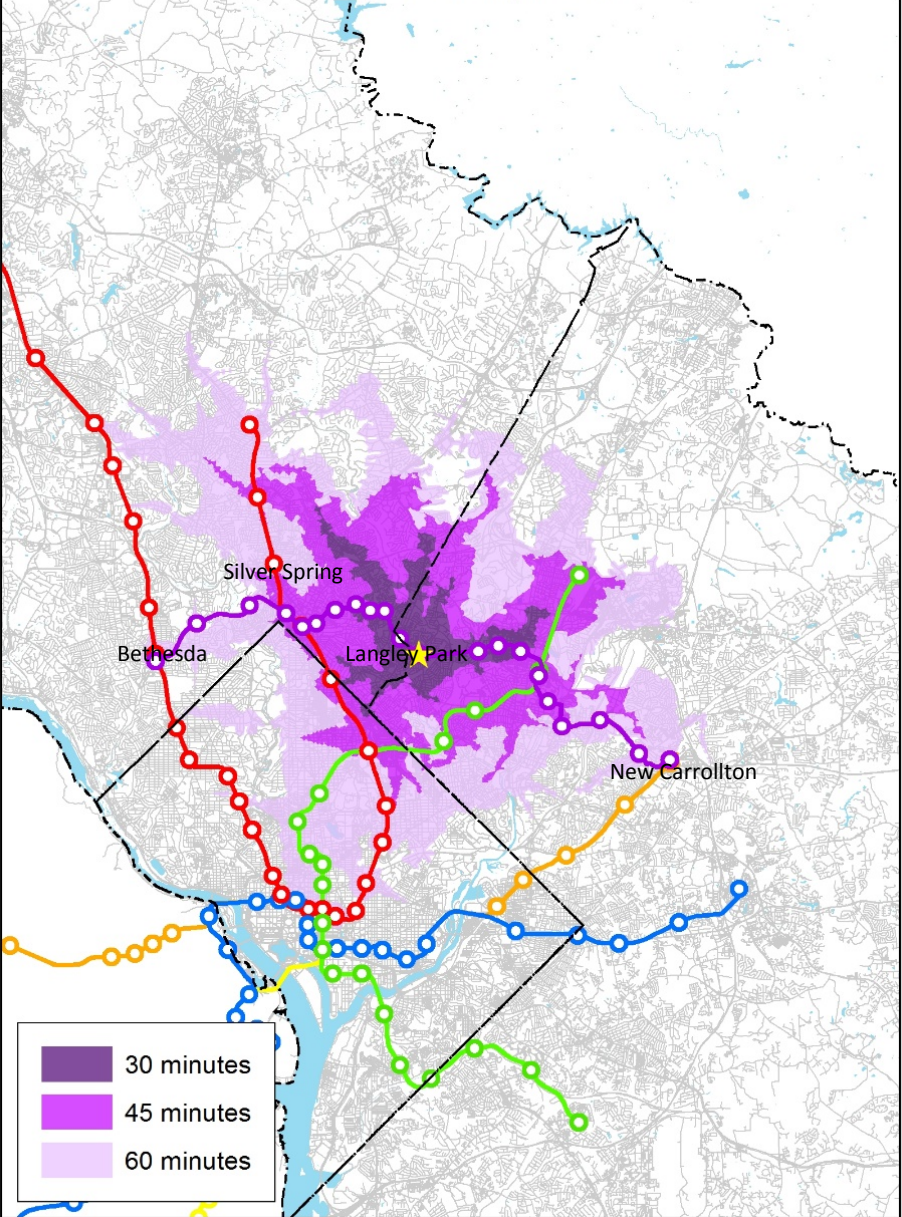
Image Source:
[OpenStreetMap.org](https://www.openstreetmap.org)

Model Steps

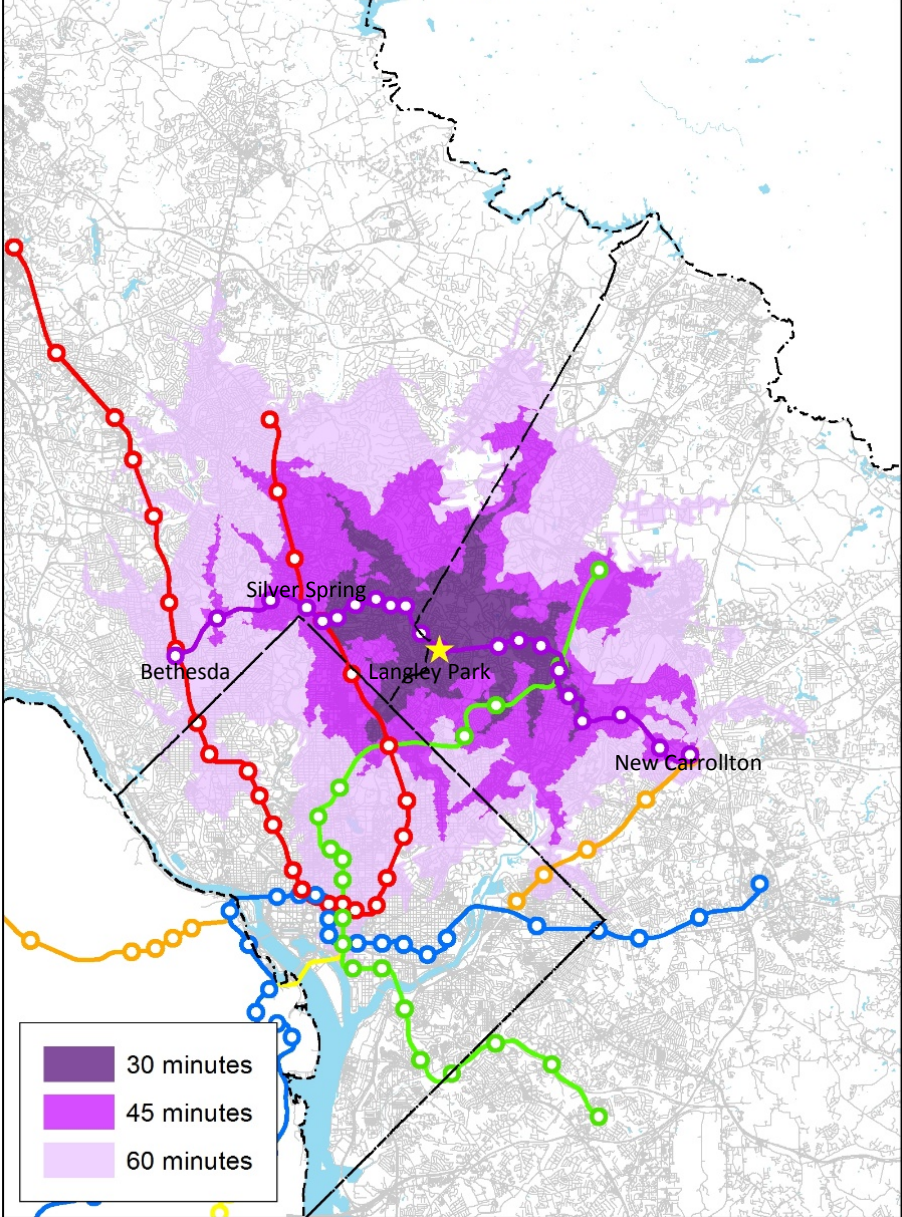


MultiModal Transit Commuteshed of Planned Riggs Road Station

Before Purple Line



After Purple Line



Accessible Jobs by Skill Level



	30 minutes			45 minutes			60 minutes		
	Before	After	Change	Before	After	Change	Before	After	Change
Low Skill Jobs	2,689	4,829	80%	10,156	14,363	41%	47,681	72,922	53%
Medium Skill Jobs	10,123	18,254	80%	37,561	53,110	41%	160,358	269,157	68%
High Skill Jobs	9,915	16,065	62%	29,781	40,231	35%	118,546	236,957	100%



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Contact:
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