2019 Transportation Justice & Title VI Report

Analysis Update & Findings

TJ Working Group
June 2019
Putting it all together

Transportation Justice

Title VI/EJ
Language Assistance
ADA/Mobility Challenged
Title VI and Environmental Justice Analysis

Low-income and racial/ethnic minorities

- Introduction
- Basic reporting requirements
- Demographic profile
- Public opinion survey
- Spatial analysis
- Public outreach
- Key recommendations
Mobility Challenged Analysis

Seniors, disabled, and zero-car households

- Introduction
- ADA self evaluation
- Demographic profile
- Spatial analysis
- Key recommendations
Language Assistance Plan

Limited English proficiency/low literacy

- Introduction
- Demographic Profile
- Spatial analysis
- Public outreach
- Key recommendations
Title VI/EJ: Spatial Analysis
EJ Areas

- Concentrations of low-income and minority populations
- Used in WILMAPCO project prioritization processes
  - Points for projects given, or taken
- Historically, other spatial analyses
EJ Area Definitions

2012-2016 American Community Survey

- Census block group level analysis
- ID heaviest concentrations of EJ groups

Affordable housing data and elementary school demographic data to ID other areas
### EJ Area Definitions

#### MODERATE – 5 paths
1. Poverty greater than the regional average, and  
   - NH Blacks 3x the regional average, or  
   - Hispanics 3x the regional average, or  
   - NH Asians 3x the regional average  
2. Racial/ethnic minorities 2x the regional average  
3. Poverty 2x the regional average  
4. Within elementary school feeder zone with the above demographic conditions (1, 2, or 3)  
5. Affordable housing development w/25 -99 units

#### SIGNIFICANT - 5 paths
1. Poverty 2x greater than the regional average, and  
   - NH Blacks 3x the regional average, or  
   - Hispanics 3x the regional average, or  
   - NH Asians 3x the regional average  
2. Racial/ethnic minorities 90% or more the block group’s population  
3. Poverty 3x the regional average  
4. Within elementary school feeder zone with the above demographic conditions (1, 2, or 3)  
5. Affordable housing development w/> 99 units
METHOD – Affordable Housing Data

Delaware’s 2016 Preservation Inventory (DSHA)

- Point file to parcels
- Total affordable units = Sum of “Subunits,” “Non-LIHTC_Income Restricted” and “IncRestricted (tax credits)”
METHOD - Affordable Housing Data

Maryland Housing Search
www.socialserve.com

- Built upon old subsidized property file
- IDed accepted rental voucher or income based rent developments
- Created parcel file
- Populated units from development websites or analysis of external housing unit files/air photos
MODERATE EJ AREA
Census defined or Affordable developments w/25 – 99 units

SIGNIFICANT EJ AREA
Census defined or Affordable developments w/>99 units
School Demographic Data

- Race/ethnicity and income
- Grade 3 school feeder zones vs. IDed EJ areas
- Flag feeder zones w/high minority or low-income NOT covered by IDed EJ areas
- Consider these zones for EJ classification
EJ School Feeder Zones vs. Census Defined EJ Neighborhoods and Affordable Housing

WILMAPCO REGION
2010 Transportation Justice Report

Census-defined EJ neighborhoods are concentrations of low-income and minority populations, based on data from the Delaware State Housing Authority and Socialserve. Neighborhoods in the city of Newark are disqualified from being EJ areas, per a decision by the WILMAPCO Council. Heavy student presence inflates the city’s poverty levels.

Affordable Housing Developments were identified using housing development data from the Delaware State Housing Authority.

EJ school feeder zones represent schools with high concentrations of low-income and minority students. Feeder zones represent grades 1 in New Castle County and elementary schools in Cecil County.

Source: 2010-16 ACS, Socialserve, DE State Housing, Cecil County Public Schools, Maryland Hometown Locator, FirstMap, Delaware Department of Education
Step 1
Gilpin Manor EJ Area ID

DEMOGRAPHICS

25% Black
6% Hispanic
1% Asian
21% 2 or more races

81% Free/reduced lunch

Cecil County Feeder Boundaries
www.schooldigger.com
Step 3
Gilpin Manor EJ Area ID

Gilpin Manor Feeder Zone

vs.

Census Block Group Poverty
Affordable Housing Developments (also already in EJ analysis)

Census-defined Moderate EJ Areas

Census-defined Significant EJ Area
Gilpin Manor Feeder Zone
High Poverty Area

Delineated high poverty area within the feeder zone
Trimmed non-residential away from the high poverty area to form a new moderate EJ area.
Gilpin Manor
Moderate EJ Area

Gilpin Manor Feeder Zone

Affordable Housing Developments
EJ NEIGHBORHOODS*  
WILMAPCO Region  
2019 Transportation Justice Report

* Census-defined EJ neighborhoods are concentrations of low-income and minority populations, based on data from the 2002-06 American Community Survey. Neighborhoods in the City of Newark are disqualified from being EJ areas, per a decision by the WILMAPCO Council. Heavy student presence inflates the city's poverty levels. Affordable housing EJ developments were identified using data from the DE State Housing Authority and SocialServe. EJ school feeder zones represent schools with high concentrations of low income or minority students within a census-defined EJ area and within a block group with elevated poverty and/or minorities. Data were obtained from FirstMap, the DE Dept. of Education, SchoolSights, MD Hometown Locator, and Cecil County Public Schools.
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<th>Poverty/low-income</th>
<th>Blacks</th>
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Below Poverty Distribution

WILMAPCO Region

2019 Transportation Justice Report

Distribution of Population Below Poverty Level

- 0 to 5.3
- 5.3 to 11.2
- 11.2 to 22.5
- 22.5 to 30
- 30 to 100

Miles

Source: 2010-20 ACS, 2019 Census
TJ Analysis: Location Efficiency

Affordable neighborhoods by concentration

- Percentage of affordable neighborhoods (block groups) within areas of concentration.
- Affordable is defined as having combined transportation and housing costs less than 48% of household expenses for a household earning 80% of median regional income.
- Considered racial and ethnic and low income concentrations to be block groups with double or more the regional average for that population, or >90% for whites.
- 2012 – 2016 ACS
T+H COST AFFORDABILITY FOR LOWER INCOME HH WITHIN POVERTY CONCENTRATIONS

6% of high poverty neighborhoods have affordable transportation costs

58% of high poverty neighborhoods have affordable housing costs

1/4 of high poverty neighborhoods have equal or higher transportation costs than housing costs
It’s really hard to save for your bills, take care of the home, and go to work.

[I may be able to] pay for my child's medicine this month, but I also need car insurance, gas, and rent all in the same week. And it doesn't add up.
TJ Analysis: Travel Time to Work

Driving Alone to Work >30 minutes

- Travel Time Equity within Areas of Concentration 2012-2016
  - Travel times greater than 30 minutes within areas of racial/ethnic and low income population concentrations.
  - Considered racial and ethnic and low income concentrations to be block groups with double or more the regional average for that population, or >90% for whites.
  - 2012 – 2016 ACS
TJ Analysis: Travel Time to Work

Taking Transit to Work >30 minutes

Travel Time Equity within Areas of Concentration 2012-2016

- Travel times greater than 30 minutes within areas of racial/ethnic and low income population concentrations.
- Considered racial and ethnic and low income concentrations to be block groups with double or more the regional average for that population, or >90% for whites.
- 2012 – 2016 ACS
TJ Analysis: Travel Time to Work

**Average Commute Time**

WILMAPCO Region
2012-2016

- Only commutes to work considered
- 2012 – 2016 ACS

**Average Commute to Work in minutes**

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<th>Mode</th>
<th>Time (Minutes)</th>
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<td>Drive Alone</td>
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TJ Analysis: Travel Time to Work

Commuter Demographic Composition

Commuter Demographics
WILMAPCO Region
2012-2016

- Demographic/socio-economic composition of commuters using each mode
- 2012 – 2016 ACS
Median Traffic Levels by neighborhood

Traffic Level Equity
WILMAPCO Region

- Median AADT of roadway segments within group concentrations vs. regional median
- Figures rounded to hundreds
- 2012 – 2016 ACS; DelDOT; MDOT
TJ Analysis: Crash Equity

Crashes in TJ group concentration vs. total population within those concentrations

- Expressway crashes excluded
- Year 2016 data
- Total crashes, pedestrian, and bicycle

Photo: Denis Hehman
All Crash Equity within Areas of Concentration in 2016

- Deviation from “expected” crash levels. Total crashes compared to the total population within the concentrations.
- Expressway crashes excluded
- Considered racial and ethnic and low income concentrations to be block groups with double or more the regional average for that population, or >90% for whites
- 2016 data from DelDOT and MDOT; 2012 – 2016 ACS
TJ Analysis: Pedestrian Crash Equity

Pedestrian Crash Equity within Areas of Concentration in 2016

- Deviation from “expected” crash levels. Total crashes compared to the total population within the concentrations.
- Expressway crashes excluded
- Considered racial and ethnic and low income concentrations to be block groups with double or more the regional average for that population, or >90% for whites
- 2016 data from DelDOT and MDOT; 2012 – 2016 ACS
TJ Analysis: Bicycle Crash Equity

Bicycle Crash Equity within Areas of Concentration in 2016

- Deviation from “expected” crash levels. Total crashes compared to the total population within the concentrations.
- Expressway crashes excluded
- Considered racial and ethnic and low income concentrations to be block groups with double or more the regional average for that population, or >90% for whites
- 2016 data from DelDOT and MDOT; 2012 – 2016 ACS
Pedestrian/Bike Crashes within in Black Concentrations in 2016

- 142 pedestrian crashes - 51% of all NCC ped crashes
- 19 bicycle crashes - 41% of all NCC bike crashes

16% - NCC’s population within black concentrations
**TJ Analysis: Bicycle LTS Equity**

**Bicycle LTS Equity** within Areas of Concentration in 2019

- Percentage of roads within areas of concentration with low levels of traffic stress (LTS)
- Delaware = LTS 1 and 2
- Maryland = Level of Traffic Comfort 1 and 2
- Sources: DelDOT and MDOT
TJ Analysis: EV Station Location Equity

Equitable distribution of public electric vehicle (EV) charging stations

- 21 regionally as of 2019
- Tag census block groups with EV stations
- Calculate racial/ethnic and poverty makeup of those places vs. regional average
TJ Analysis: EV Station Location Equity

- Deviation from “expected” levels. The total racial/ethnic and low income populations with block groups with EV charging stations compared to the regional averages for those populations.

- 2019 data from Alternative Fuels Data Center; 2012 – 2016 ACS
TJ Analysis: EV Station Location Equity

Count of **EV Station Locations**

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<th>Count</th>
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<td>Hispanic</td>
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<td>Asian</td>
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<td>Low Income</td>
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**EV Station Location Equity** within Areas of Concentration 2019

- Tally of EV station locations within areas of racial/ethnic and low income population concentrations.

- Considered racial and ethnic and low income concentrations to be block groups with double or more the regional average for that population, or >90% for whites

- 2019 data from Alternative Fuels Data Center; 2012 – 2016 ACS
TJ Analysis: TIP Project Equity

TIP Project Funding Equity within Areas of Concentration 2002 - 2018

- Deviation from “expected” funding levels. Project funding received compared to the total population with the concentrations.
- Considered racial and ethnic and low income concentrations to be block groups with double or more the regional average for that population, or >90% for whites
Title VI/EJ: Engagement
Title VI/EJ: Public Engagement

- WILMAPCO has a strong outreach program
- Specific outreach to low-income/minorities since 2008
- Some success in implementation. . . But not enough to end disparities
- Revamp recommendations for 2019

Newsletter Subscribers
TJ Analysis: Public Opinion Survey

Public Opinion Survey

Low-income and black residents

* more transportation difficulties

* less familiarity with WILMAPCO
Title VI/EJ: Public Engagement

LITERATURE REVIEW + OUR EXPERIENCES
Mobility Challenged Analysis
Seniors, disabled, and zero-car households

- Introduction
- ADA self evaluation
- Demographic profile
- Spatial analysis
- Key recommendations
IPA Mobility in Motion Survey

Unable to travel due to lack of transportation in the past 6 months
New Castle County

Bar chart showing:
- 10% of households have 3+ cars
- 17% of households have 2 cars
- 33% of households have 1 car
- 63% of households have 0 cars

Number of Cars Available in Household
 ADA Self Evaluation - findings

- Physical access barriers are limited
- Agency policies generally meet ADA guidelines
- Communication of policies needs improvement
- Front line communications should consider needs of people with disabilities
New MC Area Definitions

- Use latest available data: 2012-2016 American Community Survey
- Census block group level analysis
- Tweak methodology
  - High percentages of groups only (not in combination) become at least a moderate area
  - Very high percentage of households without vehicles needed to become significant area
New MC Area Definitions

MODERATE – 4 paths

1. Households without vehicles greater than 2x the regional average, and
   • Disabled greater than the regional average, or
   • Seniors greater than the regional average, or

2. Households without vehicles greater than 3x the regional average

3. Disabled greater than 3x the regional average

4. Seniors greater than 3x the regional average

SIGNIFICANT

1. Households without vehicles greater than 3x the regional average, and
   • Disabled greater than the regional average, or
   • Seniors greater than the regional average, or
Age-restricted Community Connectivity Analysis (ARCCA)

Developed in 2011 and further refined by WILMAPCO/Bucknell Univ.

How connected (or not) are suburban age-restricted communities to the fixed route bus system and pedestrian system?
ARCCA Analysis – Pedestrian

- **Unlikely/difficult**
  - There are no sidewalks, trails or paths surrounding the community, and connections to public uses/other networks exist beyond one mile

- **Long-term improvement**
  - The sidewalks, trails or paths surrounding the community are not fully connected, or do not exist, but connections to public uses/other networks exist between a quarter mile to one mile

- **Short-term improvement**
  - The sidewalks, trails or paths have connections are clearly defined from the community to public uses/other networks within a quarter mile

- **Connection exists**
  - The sidewalks, trails or paths have connections are clearly defined from the community to public uses/other networks within a quarter mile
ARCCA Analysis – Pedestrian

Cecil County

- Unlikely/difficult, 27.3%
- Connection exists, 27.3%
- Long-term improvement, 27.3%
- Short-term improvement, 18.2%

New Castle County

- Unlikely/difficult, 31.8%
- Connection exists, 9.1%
- Short-term improvement, 24.2%
- Long-term improvement, 34.8%
In the summer of 2011, WILMAPCO produced a data report exploring public transit and pedestrian connections from existing and emerging age restricted communities. A methodology was developed to assess the level of connections to those networks. In the years since, we have worked with researchers at Bucknell University to refine the methodology, known as the Age Restricted Community Connectivity Assessment (ARCCA). This analysis includes data from both Cecil and New Castle Counties, not including the City of Wilmington.
THE ENCLAVE AT STONEYRIDGE
Newark, DE
885 Salem Church Road, Newark, DE 19702
Phone: 302-482-4339  Fax: 302-834-0680

The Enclave at Stoneridge is a brand new distinctive 55+ rental community featuring state-of-the-art amenities. From concept to completion, this extraordinary new residential enclave has been thoughtfully designed to create the ultimate environment for comfort and carefree living.

Schedule a Tour  Apply Now  Visit Website

Community Amenities

• 24-Hour Locked Entrance with Intercom
• 34-Hour Emergency Maintenance
• Resident Coffee & Cookie Bar
• Business Center with Fax & Scanner
• Luxury Corporate Furnished Apartments Available
• Comcast High Speed Internet Wired
• Beautiful Stone Buildings Built on Former Orchard Farm
• Exclusive 32 Unit property with Ample Lighted Parking
• Walking Distance to Bayside Shopping & Bus Route

Unit Amenities

• Full size Washer & Dryer in Every Apartment
• Open Kitchen Design with Breakfast Bar
• Natural European Wood Cabinetry
• Modern Kitchens with Built-in Microwaves
• 18 cu.FT Refrigerator with Auto Ice Maker
• Energy Efficient Electric Heat Pump
• Central Air-conditioning
• Spacious Over-sized Walk-in Closets
• Two Paned Doors
• Sherwin-Williams Thermopane Windows & Doors
ARCCA Analysis – Public Transit

Unlikely/difficult
- The community is located beyond one mile of any transit line (with no stop or hub)

Long-term improvement
- The community is located between a quarter-mile to one-mile of any transit line (with no stop or hub)
- The community is located within a quarter-mile of a good frequency transit line with no stop or hub

Short-term improvement
- The community is located within a quarter-mile of a poor frequency transit line with a stop or hub

Within transit buffer
- The community is located within a quarter-mile of a good frequency transit line with a stop or hub
ARCCA Analysis – Public Transit

Cecil County

- Unlikely/difficult, 48.5%
- On good frequency bus line, 21.2%
- Short-term improvement, 18.2%
- Long-term improvement, 12.1%

New Castle County

- Unlikely/difficult, 15.2%
- On good frequency bus line, 16.7%
- Short-term improvement, 48.5%
- Long-term improvement, 19.7%
In the summer of 2011, WILMAPCO produced a data report exploring public transit and pedestrian connections from existing and emerging age-restricted communities. A methodology was developed to assess the level of connections to these networks. In the years since, we have worked with researchers at Bucknell University to refine the methodology, known as the Age Restricted Community Connectivity Assessment (ARCCA). This analysis includes data from both Cecil and New Castle Counties, not including the City of Wilmington.
Connectivity Analysis
TJ Analysis: Connectivity

- Extended analysis: all regional block groups to destinations (calculated at housing unit level) by mode
- Block groups with TJ and MC and other variables flagged for analysis
- Rich regional AND equity based analyses
TJ Analysis: Connectivity

- Libraries
- Low-wage job centers
- Grocery stores
- Community centers
- Senior centers
- State Service Centers
- Urgent care
- Medical centers
- Pharmacies
TJ Analysis: Connectivity
TJ Analysis: Connectivity

- 10 minute accessible walking trip
- 10 minute accessible biking trip
- 15 minute accessible car trip
- 30 minute accessible, one-way bus trip (including no more than 10 mins walking, total)
TJ Analysis: Connectivity
TJ Analysis: Connectivity
TJ Analysis: Connectivity

22% of houses connected to a library by walking
TJ Analysis: Connectivity

100% of houses connected to one or more library by walking
TJ Analysis: Connectivity

FINAL PRODUCT
Percent of housing units accessible to one or more libraries by walking, by block group

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<th>85%</th>
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<tr>
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</table>
TJ Analysis: Connectivity

Homes with Connections to Supermarkets
WILMAPCO Region

- Walking: 14%
- Biking: 28%
- Transit: 24%
- Car: 98%
CONNECTED HOUSING UNITS

New Castle Co.
20%

Cecil Co.
2%

Region
17%
# TJ Analysis: Connectivity Equity

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<th>Supermarket</th>
<th>Pharmacy</th>
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<th>Library</th>
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CONNECTED HOUSING UNITS

New Castle Co. 25%
Cecil Co. 7%
Region 23%
# TJ Analysis: Connectivity Equity

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## TJ Analysis: Connectivity Equity

### Supermarkets, Pharmacies, Hospitals, Libraries, Low-Wage Employment Centers, Medical Centers, Community Centers, Senior Centers, State Service Centers

<table>
<thead>
<tr>
<th>Location Type</th>
<th>Seniors</th>
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<td>Library</td>
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<tr>
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### Regional Average

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<td>Low-Wage Emp. Center</td>
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<tr>
<td>State Service Center</td>
<td>15%</td>
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</table>
CONNECTED HOUSING UNITS

New Castle Co. 99%
Cecil Co. 68%
Region 95%
## TJ Analysis: Connectivity Equity

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<thead>
<tr>
<th></th>
<th>Supermarket</th>
<th>Pharmacy</th>
<th>Hospital</th>
<th>Library</th>
<th>Low-Wage Emp. Center</th>
<th>Medical Center</th>
<th>Community Center</th>
<th>Senior Center</th>
<th>State Service Center</th>
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## TJ Analysis: Connectivity Equity

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<th>Hospital</th>
<th>Library</th>
<th>Low-Wage Emp. Center</th>
<th>Medical Center</th>
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<td>Zero-car HH</td>
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</tbody>
</table>
Transit to Supermarket

WILMAPCO Region

2019 Transportation Justice Report

CONNECTED HOUSING UNITS

New Castle Co. 26%

Cecil Co. 13%

Region 24%

*Percentage of housing units within each Census Block group that are within a 30-minute door-to-door bus trip to a supermarket at peak time, including no more than 10 minutes walking along subdivision streets, trails, or sidewalks.

Source: 2017-ACS, Cecil County, DRTC, University of Delaware CADER
## TJ Analysis: Connectivity Equity

<table>
<thead>
<tr>
<th>Service</th>
<th>Regional Average</th>
<th>Black</th>
<th>Hispanic</th>
<th>Poverty</th>
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<td>71%</td>
</tr>
<tr>
<td>Hospital</td>
<td>8%</td>
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<td>28%</td>
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<tr>
<td>Library</td>
<td>18%</td>
<td>44%</td>
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<td>58%</td>
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<tr>
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<td>19%</td>
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<tr>
<td>Medical Center</td>
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<td>41%</td>
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<tr>
<td>State Service Center</td>
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</tbody>
</table>

### NEIGHBORHOODS

- **Black**: 47% Supermarket, 69% Pharmacy, 16% Hospital, 44% Library, 39% Low-Wage Emp. Center, 37% Medical Center, 46% Community Center, 41% Senior Center, 25% State Service Center
- **Hispanic**: 42% Supermarket, 54% Pharmacy, 17% Hospital, 29% Library, 32% Low-Wage Emp. Center, 30% Medical Center, 37% Community Center, 32% Senior Center, 15% State Service Center
- **Poverty**: 61% Supermarket, 71% Pharmacy, 28% Hospital, 58% Library, 56% Low-Wage Emp. Center, 52% Medical Center, 61% Community Center, 62% Senior Center, 34% State Service Center
## TJ Analysis: Connectivity Equity

<table>
<thead>
<tr>
<th>Supermarket</th>
<th>Pharmacy</th>
<th>Hospital</th>
<th>Library</th>
<th>Low-Wage Emp. Center</th>
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<td>Regional Average</td>
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### NEIGHBORHOODS

#### Seniors

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#### Zero-car HH

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<td>Regional Average</td>
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<tr>
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<td>58%</td>
<td>77%</td>
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## TJ Analysis: MC Neighborhood Connectivity Concerns

<table>
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<tr>
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<th>Pharmacy</th>
<th>Hospital</th>
<th>Library</th>
<th>Low-Wage Emp. Center</th>
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</tbody>
</table>
TJ Analysis: Food Deserts

- Identify food deserts, regionally
- Enhance USDA methodology, including use of connectivity data
- Allow for more targeted policy/intervention
USDA Food Deserts

Method flaws

- Uses census tracts
- Includes non-residential
- No bus access considered
Food Deserts

Method

Block groups with >20% poverty where >=33% of the population are >=1 mile from a supermarket

Only residential areas shown

Classed by housing unit transit connectivity to supermarket
Next Steps/Timeline

- Wrap up and insert connectivity analysis
- Finalize recommendations
- MC personal story
- Executive summary and front matter
- Projected Council endorsement in Nov. 2019
45-minute transit trip to supermarket
10-minute walk access to a low-wage center
10-minute bike access to a pharmacy
TJ Analysis: TIP Project Equity

- Project spending within TJ group concentrations vs. total population of that concentration
  - Poverty, blacks, Hispanics, Asians
  - Whites added for comparison
  - Concentration = >2x the regional %
    - For whites, >90%
Only “community TIP projects” counted

- Excluded: Expressways, Railways
- Grouped bridge projects assumed equal funding
- Wilmington Riverfront projects not counted as “minority” or “low income”
  - Shares block groups w/distressed neighborhoods

Versus total TIP funding in equity analysis
TJ Analysis: TIP Project Equity

TIP Project Funding Equity within Black Concentrations

“Expected Funding Level” = total population within the black concentrations
TJ Analysis: TIP Project Equity

TIP Project Funding Equity within Areas of Concentration 2002 - 2018

- Deviation from “expected” funding levels. Project funding received compared to the total population with the concentrations.
- Considered racial and ethnic and low income concentrations to be block groups with double or more the regional average for that population, or >90% for whites

Equitable distribution of Unified Planning Work Program (UPWP) plans
- List of plans undertaken by WILMAPCO
- Considered years 1999 to 2019
- Excluded regional level projects

Tag census block groups with UPWP projects

Calculate racial/ethnic and poverty makeup of those places vs. regional average
TJ Analysis: UPWP Plans Equity

Transportation Planning Equity 1999 - 2019

- Deviation from “expected” planning levels. The total racial/ethnic and low income populations within block groups with UPWP projects compared to the regional averages for those populations.

TJ Analysis: UPWP Plans Equity

- 15 plans within black concentrations
- 1999 – 2019
- 9 plans (60%) in 2013 or after
ASPIRATION (UNFUNDED) PROJECTS W/IN BLACK AREAS

17 total projects

10 Median tech score for these projects & all RTP constrained list projects

5 unfunded projects in black concentrations score >10