LEVERAGING CENSUS DATA FOR MPO EQUITY ANALYSES

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Public Participation Planner

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Manager of Data Coordination

BEN GRUSWITZ  
Senior Planner
Overview

- About DVRPC
- DVRPC’s Approach to Equity Analysis: *Indicators of Potential Disadvantage (IPD)*
- Understanding Equity Regulations for IPD 2.0
- Updating DVRPC’s Methodology for IPD 2.0
- Lessons Learned: Beyond the Legislation
- IPD 2.1 Experiments:
  - Workplace and Journey to Work
  - Statistical Significance
DELAWARE VALLEY REGIONAL PLANNING COMMISSION

Federally designated MPO for nine-county Philadelphia region

Must comply with Title VI requirements and Environmental Justice (EJ) recommendations
IPD 1.0: OVERVIEW
INDICATORS OF POTENTIAL DISADVANTAGE 1.0

1. Female Head of Household w/ Child
2. Limited English Proficiency
3. Households in Poverty
4. Persons w/ Disabilities
5. Non-Hispanic Minority
6. Elderly (75 and Older)
7. Carless Households
8. Hispanic Minority
USING INDICATORS OF POTENTIAL DISADVANTAGE 1.0

CONNECTIONS 2040
PLAN FOR GREATER PHILADELPHIA

TECHNICAL ANALYSIS

Figure 13. Degree of Disadvantage Analysis

- 1 or 2 Degrees of Disadvantage
- 3 or 4 Degrees of Disadvantage
- 5 or 6 Degrees of Disadvantage
- 7 or 8 Degrees of Disadvantage

KSI_Crashes / Road_Mile
- 0.000 - 1.225
- 1.226 - 3.964
- 3.965 - 6.240
- 6.241 - 14.39
- 14.40 - 25.65
- IPD by Tract (2015)
  - 1 or 2
  - 3 or 4
  - 5 or 6
  - 7 or 8

Miles
IPD 2.0: UNDERSTANDING EQUITY REGULATIONS
UNDERSTANDING EQUITY REGULATIONS

Purpose:
- Identify and address adverse human health or environmental effects

Purpose:
- Prohibit discrimination

Low Income
Minority
National Origin
Race
Color
Age
Sex
Disability
Limited English
# Aligning Indicators with Legislation

<table>
<thead>
<tr>
<th>Current Indicators</th>
<th>Title VI and EJ Populations</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Elderly (75 and Older)</td>
<td>● Age</td>
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<tr>
<td>● Female Head of Household with Child</td>
<td>● Sex</td>
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<tr>
<td>● Non-Hispanic Minority</td>
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<tr>
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<tr>
<th>Indicator</th>
<th>Executive Order 12898</th>
<th>Title VI of the Civil Rights Act of 1964</th>
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<tr>
<td>Youth</td>
<td></td>
<td>✔</td>
<td>✗</td>
<td>✗</td>
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<tr>
<td>Older Adults</td>
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<td>➤</td>
<td>✗</td>
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<tr>
<td>Female</td>
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<tr>
<td>Racial Minority</td>
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<tr>
<td>Foreign Born</td>
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<td>✓</td>
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<td>✓</td>
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<tr>
<td>Older</td>
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<td>Female</td>
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<td>✓</td>
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<tr>
<td>Foreign-Born</td>
<td>✓</td>
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<td>✓</td>
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</tr>
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<td>✓</td>
</tr>
<tr>
<td>Low-income</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Carless Households</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Female Head of Household</td>
<td>?</td>
<td>X</td>
<td>?</td>
<td>X</td>
</tr>
</tbody>
</table>
IPD 2.0: UPDATING METHODOLOGY
2.0 INDICATORS WITH 1.0 METHODOLOGY

New Indicators, Old Method
- 1 - 2 (479)
- 3 - 4 (543)
- 5 - 6 (281)
- 7 - 8 (198)
- 9 - 10 (37)
- 0 or No Data (41)
1.0 METHODOLOGY

Older Adults

- below threshold
- above threshold
2.0 METHODOLOGY
IPD 2.0 INDICATORS + METHODOLOGY MAPPED

Foreign Born

- 0%: 4
- 0.1% to 6.1%: 513
- 6.2% to 14.7%: 553
- 14.8% to 23.2%: 181
- 23.3% to 61.6%: 118

Source: ACS 2011-2015 5-Year Estimates
IPD 2.0 METHODOLOGY: BINNING THE DATA

A - well below average
B - below average
C - average
D - above average
E - well above average

Youth
Older Adults
Female
Racial Minority
Ethnic Minority
Foreign Born
Limited English Proficiency
Disabled
Low-income
IPD 2.0 METHODOLOGY:
THE END RESULT OF BINNING THE DATA

Source: ACS 2011-2015 5-Year Estimates
IPD 2.0 METHODOLOGY:
THE END RESULT OF BINNING THE DATA

Source: ACS 2011-2015 5-Year Estimates

Kennett Square
LESSONS LEARNED:
BEYOND THE LEGISLATION
BEYOND THE LEGISLATION

**Purpose:** Identify and address adverse human health or environmental effects

**Purpose:** Prohibit discrimination

**FHWA + FTA**

- Access to jobs
- Obesity rates
- Health insurance

**EJ**

- Low Income
- Minority

**TITLE VI**

- Race
- Color
- National Origin

**Workplace and JTW**

- Age
- Sex
- Disability
- Limited English

- Crime
- Auto crash rates
- Vacant properties
- Bike lanes
- Parks and open space
- Commute length
- Infrastructure quality

- Air quality
- Carless household
- Cost of living
- Asthma rates

- Health insurance

- Infrastructure quality
BEYOND THE LEGISLATION

**Purpose:** Identify and address adverse human health or environmental effects

EJ
- Low Income
- Minority
- National Origin

TITLE VI
- Race
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BEYOND THE LEGISLATION

**Purpose:** Identify and address adverse human health or environmental effects

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IPD 2.1 EXPERIMENT #1
GO BEYOND RESIDENCE
CENSUS TRANSPORTATION PLANNING PRODUCTS (CTPP) EXPERIMENTATION

**Workplace**
- Minority (Race & Ethnicity)
- Foreign Born
- Limited English Proficiency
- Low Income (150% Poverty Rate)
- Carless Households

**Journey-to-Work Flows**
- Minority (Race & Ethnicity)
- Low Income (150% Poverty Rate)
FOREIGN BORN - RESIDENCE

Source: CTPP, 2006-2010 5-Year ACS Estimates
FOREIGN BORN - WORKPLACE

Source: CTPP, 2006-2010 5-Year ACS Estimates
THANK YOU!

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RESOURCES

DVRPC’s IPD Interactive Map: www.dvrpc.org/webmaps/IPD/

FHWA Title VI guidance: https://www.fhwa.dot.gov/civilrights/programs/tvi.cfm


CTPP Data: http://ctpp.transportation.org/Pages/5-Year-Data.aspx

List of CTPP EJ Tables: CTPP Status Report - April 2017
EXTRA SLIDES
## Indicators and Census Tables

<table>
<thead>
<tr>
<th>Indicator in IPD analysis update</th>
<th>ACS data table for indicator in IPD analysis</th>
<th>Protected class indicator represents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Youth</td>
<td>S0101: Age and Sex</td>
<td>Age</td>
</tr>
<tr>
<td>Older Adults</td>
<td>S0101: Age and Sex</td>
<td>Age</td>
</tr>
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<td>Female</td>
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<td>Sex</td>
</tr>
<tr>
<td>Racial Minority</td>
<td>B02001: Race</td>
<td>Race and Minority</td>
</tr>
<tr>
<td>Ethnic Minority</td>
<td>B03002: Hispanic or Latino Origin by Race</td>
<td>Minority and National Origin</td>
</tr>
<tr>
<td>Foreign Born</td>
<td>B05012: Nativity in the United States</td>
<td>National Origin</td>
</tr>
<tr>
<td>Disabled</td>
<td>S1810: Disability Characteristics</td>
<td>Disability</td>
</tr>
<tr>
<td>Low-Income</td>
<td>S1701: Poverty Status in the Past 12 Months</td>
<td>Low-Income</td>
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</table>
CTPP EXPERIMENTATION

Workplace

- Minority (Race & Ethnicity)
- Foreign Born
- Limited English Proficiency
- Low Income (150% Poverty Rate)
- Carless Households

Journey-to-Work Flows

- Minority (Race & Ethnicity)
- Low Income (150% Poverty Rate)
IPD 2.1 EXPERIMENT #1
GO BEYOND RESIDENCE
DELAUNAY LINES - TOTAL FLOW

Source: CTPP, 2006-2010 5-Year ACS Estimates
IPD 2.1 EXPERIMENT #2
COMMUNICATE STATISTICAL SIGNIFICANCE
COMMUNICATE STATISTICAL SIGNIFICANCE

Click a track to view similarity/disimilarity in the region.
COMMUNICATE STATISTICAL SIGNIFICANCE

Older Adults

(A) 0 - 4.4%
(B) 4.4 - 11.1%
(C) 11.1 - 17.9%
(D) 17.9 - 24.7%
(E) 24.7 - 100%

Click a track to view similarity/dis Similarity in the region.
COMMUNICATE STATISTICAL SIGNIFICANCE
COMMUNICATE STATISTICAL SIGNIFICANCE

Older Adults

<table>
<thead>
<tr>
<th></th>
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<th>C</th>
<th>D</th>
<th>E</th>
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<tbody>
<tr>
<td>A</td>
<td>65%</td>
<td>7%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>B</td>
<td>7%</td>
<td>76%</td>
<td>22%</td>
<td>0%</td>
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<tr>
<td>C</td>
<td>0%</td>
<td>22%</td>
<td>78%</td>
<td>23%</td>
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<td>23%</td>
<td>88%</td>
<td>18%</td>
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<td>E</td>
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COMMUNICATE STATISTICAL SIGNIFICANCE
Newtown Pike Extension

Presentation to:
AASHTO Environmental Justice Community of Practice Webinar
January 30, 2018

David Whitworth, FHWA-KY
Project Purpose & Need

- Reduce automobile congestion
- Improve traffic flow
- Vehicle routing to University of KY
- Improve bike/ped. access
- Improve safety
- Improve downtown area
Davis Bottoms

Kentucky Division Office

U.S. Department of Transportation
Federal Highway Administration
EJ Concerns

- Disproportionate Impact
- Lowest income area of Lexington
- Consisted of Elderly, Handicapped, Minorities, & Low Income
- Community Cohesion
- Lack of Affordable Housing
- Public Involvement & Agency Coordination
Guiding Principles

Kentucky Division Office

GUIDING PRINCIPLES
NEWTOWN PIKE EXTENSION
AUGUST 12, 2002

The below principles create the foundation for implementing the Newtown Extension Project through a partnership of the Lexington Fayette Urban County Government (LFUCG), University of Kentucky (UK), Federal Highway Administration (FHWA) and Kentucky Transportation Cabinet (KYTC). The Newtown Pike Extension Project is an important local and state transportation need that has the ability to improve the quality of life of all persons using or living within the transportation corridor by:

- Reducing traffic congestion both in the downtown and in neighborhoods within the project corridor by providing alternative routes and lessening traffic diverting through neighborhoods;
- Improving pedestrian safety downtown, along neighborhood streets, and on the north end of the University of Kentucky campus;
- Encouraging greater use of alternative modes of transportation by providing an increase in infrastructure that supports walking, cycling and public transit;
- Recognizing the potential impacts of the proposed Newtown Pike Extension on the surrounding communities through the use of extensive public involvement;
- Mitigating the proposed project impacts through implementation of LFUCG’s Small Area Plans;
- Cooperating and committing to actions that address the transportation needs, environmental justice issues, and affordable housing within the low-income neighborhoods of Davistown, Irishtown, and Pralitown while providing compatible development and cultural/aesthetic enhancements;
- Providing an opportunity for redefining and improving the attractiveness of the downtown;
- And, accomplishing the above without imposing an unfair burden on other areas.

We concur with these principles for the continuation of the extension of Newtown Pike as signed on August 12, 2002.

Pam Miller, Mayor
Lexington-Fayette Urban County Government

Lee T. Todd, Jr., President
University of Kentucky

James C. Caudell, III
Secretary
Kentucky Transportation Cabinet

Jose Sepulveda
Kentucky Division Administrator
Federal Highway Administration
Project Team Obstacles

• Keeping community together & nearby
• Building trust with community members (Residents and Nathaniel Mission)
• Multiple agency coordination and regulations (HUD, LFUCG, FHWA, and KYTC)
• ROW issues with generations of unknown owners
• Inventing a process to redevelop area
• Extremely difficult phased construction
Major Unique Solutions

1. Developed Community Land Trust (CLT)
2. Constructed temporary on-site housing
3. Hired neighborhood liaison
4. Significant public involvement
5. Documented history and stories
6. Hired social workers and funded classes
Community Land Trust

- Non-profit membership organization that owns and stewards land for the benefit of the community to preserve the affordability permanently.

- Separates ownership of buildings from ownership of the land.

- Provides land and housing to people who are otherwise denied access and increases long-term community control of neighborhood resources. Preserves permanent affordability of housing.
Built Temporary Housing

Kentucky Division Office

U.S. Department of Transportation
Federal Highway Administration
Hired Neighborhood Liaison
Rapid Assessment Completed
Extensive Public Involvement

Kentucky Division Office
Social Workers/Classes
Where Are We Now

• Built 14 new affordable units in late 2014 (2 single family, 2 quadplex, 4 duplexes)
• Built 5 single family homes in 2015
• More homes under construction
• Completed road construction
• Rebuild Park Area (4f resources) in 2018-19
Davis Park Envisioned
Finished Homes

Kentucky Division Office

U.S. Department of Transportation
Federal Highway Administration
And then there were more
Costs

Road Construction Cost = $49 Million

Mitigation Cost = $49 Million
Best of The Best: America's Transportation Awards!

by Maggie Perrigo

Eight Other Honorees

In addition to the grand prize and people's choice awards, AASHTO recognized eight other projects for outstanding work. "Each of these 10 projects truly exemplifies all that is right with our national transportation system," says AASHTO Executive Director John Horsley. "The America's Transportation Awards competition allows us to honor and recognize projects that save taxpayers money, offer new and innovative ideas to the industry, ... and make our commutes easier and safer."

EHEI Award: Enhancing Environment for Human Activities

Preserving Affordable Housing

Kentucky

The transportation planning process for the Newtown Pike Extension in Lexington, Kentucky, incorporated a Community Land Trust (CLT) to preserve affordable housing and community cohesion in the Davistown neighborhood.

Since the 1960s, local and Federal transportation authorities discussed extending the Newtown Pike from I-64 into downtown Lexington. The original plan for the extension was abandoned in favor of a plan that incorporated a CLT. The CLT was established in 2009 to preserve and protect the existing homes and neighborhoods along the proposed extension. The CLT also brought together a variety of community stakeholders to ensure that the project was designed to meet the needs of the community.

The CLT worked closely with the transportation authorities to identify potential sites for the extension and to ensure that the project was designed to meet the needs of the community. The CLT also helped to identify potential funding sources for the project, including federal, state, and local sources.

The CLT worked with the transportation authorities to develop a plan for the extension that included the preservation of existing homes and the creation of new community spaces. The CLT also worked to ensure that the project was designed to meet the needs of the community, including the needs of low-income and minority communities.

The CLT was successful in its efforts to preserve the existing homes and communities along the proposed extension. The CLT also helped to ensure that the project was designed to meet the needs of the community, including the needs of low-income and minority communities.

The CLT's success in preserving affordable housing and preserving community cohesion has been recognized by AASHTO, which awarded the CLT the EHEI Award for enhancing the environment for human activities.
Articles & Press

Kentucky Division Office

Environmental Justice

Preserving community Cohesion Through Southend Park Neighborhood Redevelopment

Newtown Pike extension Project, Lexington, Kentucky

Environmental Justice: The New Normal for Transportation

by Brenda C. Kragh, Carolyn Nelson, and Candace Groudie

FHWA underscores the importance of EJ within the decisionmaking process.

Livability Initiative

The Road that Rebuilt a Neighborhood

The Newtown Pike Extension Project Enhancing Quality of Life for the Davis Park Community in Lexington, Kentucky


The videos show how effective transportation planning, project development, and design preserved and enhanced the quality of life in the Davis Park Community. The project illustrates the effective implem of the Community Impact Assessment (CIA) process; collaboration among federal, state, and local agencies working with affected communities to understand their needs; the use of a Community Land Trust; and creative integration of quality of life considerations in transportation projects.

Also available as Adobe PDF (4 MB)
http://www.fhwa.dot.gov/livability/resources/newtown_pike/index.cfm
https://www.fhwa.dot.gov/environment/environmental_justice/resources/ej_and_nepa/case_studies/case08.cfm
http://www.fhwa.dot.gov/publications/publicroads/16marapr/02.cfm
https://www.youtube.com/watch?v=zGAbX_rFR5Y&feature=youtu.be
http://www.fhwa.dot.gov/publications/publicroads/12marapr/03.cfm
http://www.fhwa.dot.gov/livability/cia/index.cfm
http://www.fhwa.dot.gov/publications/publicroads/04mar/06.cfm
Contact for More Information or Questions:

David Whitworth, Project Delivery Team Leader/Realty Officer
FHWA-Kentucky Division
502-223-6741
David.Whitworth@dot.gov