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INTRODUCTION
In 1994 President Clinton signed Executive Order 12898, which created a federal Environmental Justice program that would help agencies throughout the country identify and address Environmental Justice in low-income and minority populations. Environmental Justice is defined as meaningful involvement and fair treatment of all people, regardless of their race, color, national origin or income when it comes to development, implementation and enforcement of environmental laws, policies and regulations. Fair treatment in Environmental Justice means that no person should have a disproportionate share of any negative environmental impacts resulting from any governmental programs or policies. Metropolitan Planning Organizations (MPOs) are required to evaluate their Metropolitan Transportation Plans, Transportation Improvement Projects and other transportation planning activities for system level environmental impacts that may introduce disproportionate or adverse impacts on, or denial of benefits to minority and low-income populations. Key to the MPO planning process is ensuring that public outreach efforts are extended to minority, low-income and any other populations that could potentially be disadvantaged. Evaluating MPO plans and programs for Environmental Justice is required by the United States Department of Transportation’s certification requirements.

The Kentuckiana Regional Planning and Development Agency (KIPDA) is the MPO for the bi-state, five-county Louisville Metro Area. KIPDA encompasses Clark and Floyd counties in Indiana and Bullitt, Oldham and Jefferson counties in Kentucky. Since the Environmental Justice Executive Order KIPDA has reviewed its stated initiatives and implemented a variety of planning activities and process that help further the inclusion of Environmental Justice in the transportation planning process. For instance, KIPDA has worked to identify and analyze geographic concentrations of minority and low income populations that would serve as KIPDA Environmental Justice Study Areas. Among other things, KIPDA has utilized the Environmental Justice Areas for developing contacts and extending outreach. Every time a project in an Environmental Justice Study Area transitions into the Transportation Improvement Programs from the Metropolitan Transportation Plan (MTP) additional outreach efforts are in place that are intended to inform the people living in those areas of the projects information. There have been many efforts and developments to review projects relative to Environmental Justice. Efforts such as, creating and maintaining a Performance Management Plan, that utilizes information in order to help decision makers as they progress toward and achieve performance goals. KIPDA has developed a process to evaluate projects based on several factors, including being in an environmental justice area.

KIPDA has also created an Online Resource Center which is an ongoing resource that details a variety of data and information ranging from congestion, bicycle and pedestrian facilities to Environmental Justice Areas. KIPDA houses a plethora of educational information and activities regarding Environmental Justice that can be made available via request.

Figure 1. Five county KIPDA MPO region.
Map Source: KIPDA
PURPOSE

As defined in President Clinton’s Executive Order, the intent of the Environmental Justice initiative is to mitigate disproportionate benefits and burdens placed upon Environmental Justice Study Areas as a result of federal expenditures. The order reads:

“Ensure that such [federal] programs, policies, and activities do not have the effect of excluding persons (including populations) from participation in, denying persons (including populations) the benefits of, or subjecting persons (including populations) to discrimination under such programs, policies and activities because of their race, color or national origin.” -- Executive Order 12898, Section 2-2, February 11, 1994

The USDOT further refined the Executive Order to reflect the impacts of federal expenditures for transportation purposes. The USDOT guidance states:

“...it is FHWA’s continuing policy to identify and prevent discriminatory effects by actively administering its programs, policies and activities to ensure that social impacts to communities and people are recognized early and continually throughout the transportation decision making process—from early planning through implementation. Should the potential for discrimination be discovered, action to eliminate the potential shall be taken.” Order FHWA Actions to Address Environmental Justice in Minority Populations and Low Income Populations, December 2, 1998.

Environmental Justice may be interpreted differently by different people and organizations. Environmental Justice is not only about the natural environment; instead, it’s to be viewed in its broader sense as the environment in which we live. This encompasses concepts ranging from quality of life to mobility issues as they relate to transportation. Environmental Justice is the idea of ensuring that people are not denied benefit nor suffer disproportionate burdens resulting from impacts associated with transportation projects and that people have opportunities to make their transportation needs known and to be a part of the decision making process.

At KIPDA, there are many elements that fulfill the intent of President Clinton’s Executive Order; ranging from the MTP by project development, education opportunities, outreach efforts and other Environmental Justice activities. The objective of Environmental Justice analysis at KIPDA is to identify low-income and minority populations, bridge cultural and economic differences, develop partnerships with affected populations, increase participation by affected populations during the transportation planning process and, ultimately, strive to advance effective transportation planning and to avoid disproportionate transportation related burdens.
METHODOLOGY AND RESULTS FOR ENVIRONMENTAL JUSTICE STUDY AREAS

To identify low income and minority populations, KIPDA utilizes the most current Census data. On non-decennial years, KIPDA uses the Census tool American Community Survey (ACS). The ACS is surveyed data based on 1-year and 5-year rolling averages. To identify Environmental Justice areas, two datasets are used. The first dataset, to identify low income populations, is the ACS Table B17021 Poverty Status. The second dataset, to identify minority populations, is the ACS Table B03002 Hispanic or Latino by Sex.

As defined by the Census, minority populations include anyone who identified themselves as:

- Black or African American
- Hispanic or Latino
- Asian
- American Indian or Alaskan Native - A person having origins in any of the original peoples of North and South America and who maintains tribal affiliation or community attachment.
- Native Hawaiian or Other Pacific Islander - A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

As defined by the Census, low income populations include anyone whose household/median income is at or below the U.S. Department of Health and Human Services poverty guidelines. Poverty status is determined for all individuals except those who are institutionalized, in military group quarters, in college dormitories, and unrelated individuals under 15 years old. The Census Bureau uses the federal government’s official poverty definition to determine the poverty status of families and households of unrelated individuals – the status of the family or household is applied to each individual member. The applicable poverty threshold is determined by several factors, including:

- Household or family size,
- Presence and number of family members under 18 years old,
- Age of householder (for one or two person households).

The geography of the data used was at the Census block group level. This was the smallest level of geography provided by the Census, therefore, providing KIPDA with the best level of detail available.

KIPDA analyzes and defines an Environmental Justice Area by downloading ACS Tables B17021 Poverty Status and B03002 Hispanic or Latino by Sex for each of the KIPDA MPO region counties (Clark, Floyd in Indiana and Bullitt, Oldham, Jefferson in Kentucky). For KIPDA’s most recent update of Environmental Justice Areas, ACS tables from 2011-2015 were used. By analyzing ACS Tables B17021 and B03002, KIPDA was able to determine the estimated population that identified as low-income or minority. The estimated population was then converted into a percentage. To further the analysis, KIPDA used 200% of the regional Environmental Justice Area percent as a threshold to then identify, with better detail, which block groups in the KIPDA MPO region have an estimated population that’s within an Environmental Justice Area.

For example, 14.57% of the estimated population in the KIPDA MPO five county region identified as low-income. Therefore, any block group that had an estimated population of 200% the regional average, 28%, became an Environmental Justice Area. Similarly, 24.64% of the estimated population in KIPDA MPO five county region identified as minority. Therefore, any block group that had an estimated population of 200% the regional average, 48%, became an Environmental Justice Area. The following tables are examples of the final analysis.

<table>
<thead>
<tr>
<th>Geography</th>
<th>Estimate; Total:</th>
<th>Estimate; Income below poverty level:</th>
<th>Percent (28%+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block Group 1, Census Tract 502, Clark County, Indiana</td>
<td>1,085</td>
<td>527</td>
<td>37.22%</td>
</tr>
<tr>
<td>Block Group 2, Census Tract 59, Jefferson County, Kentucky</td>
<td>1,500</td>
<td>1,016</td>
<td>67.73%</td>
</tr>
</tbody>
</table>

Table 1. Example of defining low income Environmental Justice Study Areas.

<table>
<thead>
<tr>
<th>Geography</th>
<th>Estimate; Total:</th>
<th>Estimate; Minority:</th>
<th>Percent Minority (48%+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block Group 1, Census Tract 502, Clark County, Indiana</td>
<td>1,122</td>
<td>760</td>
<td>67.74%</td>
</tr>
<tr>
<td>Block Group 3, Census Tract 502, Jefferson County, Kentucky</td>
<td>874</td>
<td>431</td>
<td>49.31%</td>
</tr>
</tbody>
</table>

Table 2. Example of KIPDA analysis for defining minority Environmental Justice Study Areas.
The tables below provide a breakdown of population per each county and the region as a whole. The tables show the total population, the population of low-income and minority and the corresponding percentages.

<table>
<thead>
<tr>
<th>Geography; County</th>
<th>Total Population</th>
<th>Low-income Population</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clark</td>
<td>111,396</td>
<td>12,009</td>
<td>10.78%</td>
</tr>
<tr>
<td>Floyd</td>
<td>74,648</td>
<td>9,530</td>
<td>12.77%</td>
</tr>
<tr>
<td>Bullitt</td>
<td>76,385</td>
<td>7,911</td>
<td>10.36%</td>
</tr>
<tr>
<td>Oldham</td>
<td>58,701</td>
<td>3,503</td>
<td>5.97%</td>
</tr>
<tr>
<td>Jefferson</td>
<td>740,545</td>
<td>121,683</td>
<td>16.43%</td>
</tr>
</tbody>
</table>

Table 3. Example of low income population by each KIPDA county.

<table>
<thead>
<tr>
<th>Geography; County</th>
<th>Total Population</th>
<th>Minority Population</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clark</td>
<td>113,181</td>
<td>17,547</td>
<td>15.50%</td>
</tr>
<tr>
<td>Floyd</td>
<td>75,900</td>
<td>8,561</td>
<td>11.28%</td>
</tr>
<tr>
<td>Bullitt</td>
<td>76,961</td>
<td>3,642</td>
<td>4.73%</td>
</tr>
<tr>
<td>Oldham</td>
<td>63,037</td>
<td>7,216</td>
<td>11.45%</td>
</tr>
<tr>
<td>Jefferson</td>
<td>755,809</td>
<td>230,379</td>
<td>30.48%</td>
</tr>
</tbody>
</table>

Table 4. Example of minority population by each KIPDA county.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population</td>
<td>1,084,888</td>
</tr>
<tr>
<td>Non EJ Population</td>
<td>662,907</td>
</tr>
<tr>
<td>EJ Population</td>
<td>421,981</td>
</tr>
<tr>
<td>Percent EJ</td>
<td>39%</td>
</tr>
</tbody>
</table>

Table 5. Example of total Environmental Justice population in the KIPDA region.
ENVIRONMENTAL JUSTICE STUDY AREAS
Geographic Information System (GIS) analysis was used to visually depict Environmental Justice data. Below are three maps that represent the data. The first map, Figure 4, only represents the minority Environmental Justice Study Areas. The second map, Figure 5, only represents the low income Environmental Justice Study Areas. The final map, Figure 6, represents the total Environmental Justice Area; which is both minority and low income areas combined.
Figure 4. Minority Environmental Justice areas in the KIPDA MPO region.
Figure 5. Low income Environmental Justice areas in the KIPDA MPO region.
Figure 6. Total Environmental Justice areas in the KIPDA MPO region.
ENVIRONMENTAL JUSTICE RESOURCES
The United States Department of Transportation states that Environmental Justice applies to all policies, programs and other activities that are undertaken, funded or approved by the Federal Highway Administration (FHWA) and the Federal Transit Authority (FTA). In parallel with the FHWA and FTA activities, KIPDA includes the Environmental Justice principles and study areas in many of its planning efforts. Below are examples of documents and programs that KIPDA has or uses for planning purposes and the relationship between them and Environmental Justice.

**Congestion Management Process (CMP)**
The Congestion Management Process (CMP) is a performance based planning process that examines alternatives to addressing congestion. The goal of the CMP is to review how well the transportation system is working and to explore ways to mitigate congestion and its related effects. Ideally, once roadway congestion is reduced, air quality will be improved; therefore limiting the negative environmental effects on a region, including KIPDA’s Environmental Justice Study Areas. The exploration of a range of transportation options to address congestion also serves to introduce opportunities to expand modal considerations that may prove valuable to persons living in Environmental Justice Study Areas.

**Congestion Mitigation and Air Quality (CMAQ) Program**
Congestion Mitigation and Air Quality (CMAQ) Program was implemented to support surface transportation projects and other transportation related programs that contribute to better air quality. CMAQ eligible projects strive to reduce air pollution emissions to meet the standards of the Clean Air Act of 1990. Examples of CMAQ eligible projects are bicycle and pedestrian projects, transit improvement projects and congestion reduction projects. CMAQ projects are likely to reduce emissions and improve the air quality in the KIPDA region; therefore, limiting negative environmental impacts in Environmental Justice Study Areas.

**Transportation Improvement Program (TIP)**
The Transportation Improvement Program (TIP) is a four-year, short-range plan listing upcoming transportation projects. The TIP includes projects for all modes of surface transportation, such as, roadways, transit, bicycle and pedestrian. During project development and evaluation, special considerations are given to projects that are in Environmental Justice Study Areas.

**Metropolitan Transportation Plan (MTP)**
The Metropolitan Transportation Plan (MTP) is updated every four years and uses available data, planning policies, and collaboration with the public and other planning partners to develop a project specific vision for how the transportation system will evolve over the coming 20 years. By early involvement in MTP development, persons have opportunities to influence how projects may evolve and impacts that may or may not be realized in the region and its numerous communities. Systems level Environmental Justice review is an important component of MTP development.
**Participation Plan**

The goal of the *Participation Plan* is to provide abundant opportunities and suggestions on ways in which the public can be engaged in the planning process. Suggested ways to ensure that the persons living in Environmental Justice Study Areas are considered in all stages of planning can be found in KIPDA’s *Participation Plan*. KIPDA is committed to reaching out to all members of our region, especially those who typically face challenges in being involved in the transportation planning process. KIPDA’s outreach efforts include the distribution of transportation planning materials to public libraries, to targeted businesses, advertisements and features in news and media outlets such as non-English language newspapers and diversity events such as WorldFest and GlobalLou.

**BENEFITS AND BURDENS**

In transportation planning and project implementation, Environmental Justice concepts equate to ensuring that people are not denied benefits or are not recipients of disproportionate burdens from any project or planning activities. It has been determined that many people who live in an Environmental Justice Study Area either walk, bike or use public transportation to meet their mobility needs. When considering project impacts in Environmental Justice Study Areas, the overall transportation issue is to mitigate project impacts from becoming barriers to non-automotive transportation options and continuing to propose new, expanded non-automotive mobility options and improvements.

**MITIGATION AND ALTERNATIVES**

There are many strategies to ensure that all modes of traffic move efficiently. Those strategies include minimizing and planning for unavoidable project impacts, development of more efficient multi-modal projects that can offset unavoidable impacts of other projects and an inclusive and active participation process that ensures impacted communities are included in the planning process and that their needs are heard. Project mitigation is important, especially in Environmental Justice Study Areas, as most of the people living in these areas rely on alternative modes of transportation to meet their daily needs. A toolbox of potential strategies to mitigate potential negative impacts in Environmental Justice Study Areas includes:

**Connectivity**

Transportation connectivity is measured in many forms. The intent is to ensure that links exist between various modes of travel so persons may move from place to place in a safe and efficient manner. Therefore project sponsors are encouraged to explore a range of transportation options when implementing projects in Environmental Justice Study Areas. Additional consideration is warranted relative to:

Bicycle and Pedestrian:

- Inclusion in a roadway widening project scope
- Safety considerations for bicycle and pedestrian projects including:
  - Bump outs
  - Improved crosswalks
  - Pedestrian and bicycle signal retiming
  - Pedestrian buffers
  - Pedestrian safety islands
  - Defined bicycle facilities
• Bicycle and pedestrian amenities such as:
  o Benches
  o Bicycle storage

Transit:

• Improved access for functional trips (appointments, stores, work)
• Extended schedule
• Improved connectivity with existing and planned multi-modal facilities
• Improved shelters, benches and amenities

Fix It First
Well maintained transportation facilities are pivotal to the success of the overall transportation system. Adopting a Fix It First approach applies to all transportation infrastructures. A Fix It First strategy prioritizes maintaining and upgrading existing infrastructure and facilities. This strategy maximizes the value of investments and minimizes the need for new projects; stretches limited resources and can potentially revitalize communities.

REVIEW OF ENVIRONMENTAL JUSTICE AREAS AND RESORUCE DOCUMENT
KIPDA will continue to explore the many facets of the transportation system and the connectivity and relationships that make it whole. KIPDA will update the Environmental Justice Study Areas every four years, in coordination with the long-range plan, Connecting Kentuckiana. Connecting Kentuckiana sets forth a vision for the transportation system as it exists today and as it evolves into the future.