

Route 901 Service Change

Service Equity Analysis

DRAFT

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EXECUTIVE SUMMARY

IndyGo, the public transportation provider for the City of Indianapolis and Marion County, did not escape the service impacts experienced by other transit agencies as a result of COVID-19. Initial emergency reductions in March 2020 were removed several weeks later. Closed businesses and work from home, among other factors, likely led to ridership declines for key IndyGo routes. In response, IndyGo enacted service modifications to better align service to demand. These modifications took effect in October 2020 and were considered temporary. As the pandemic reached a second year in 2021, IndyGo made the difficult decision to continue the service modifications. One of the routes, Route 901, was reduced from 20 minute service to 30 minute service and this modification resulted in a Major Service Change.

A service equity analysis is required when service changes trigger IndyGo’s Major Service Change policy. Equity analyses are intended to evaluate the impacts of significant policy changes upon minority and low-income populations relative to non-minority and non-low-income populations pursuant to Title VI of the 1964 Civil Rights Act and federal guidance. Any changes that do not provide similar benefits to minority or low-income populations, as defined by IndyGo’s established Title VI policy,¹ are considered a disparate impact (DI) or disproportionate burden (DB), respectively.²

The Route 901 service changes resulted in a finding of no DI/DB. IndyGo compared the Existing 2020 network to the Proposed 2020 network, analyzing the difference through a Title VI lens. The reduction decreases weekly trips to blocks by 18 percent. The Route 901 changes were made to best align service demand with service provision.

¹ Available from <https://www.indygo.net/about-indygo/title-vi/>

² A finding of a potential disparate impact and/or disproportionate burden requires transit agencies to modify the original proposal and re-analyze. If the modification does not resolve the DI/DB, then alternatives must be presented to the public for comment. The original proposal (or modification) can only be implemented if there is a substantial legitimate justification made and none of the proposed alternatives would have a less disparate impact, assuming all proposed alternatives can accomplish the program’s goals.



SECTION I. INTRODUCTION

The coronavirus has presented health and staffing challenges for transit agencies nationally; IndyGo has not been immune from its effects. On March 30, 2020, IndyGo reduced service for its routes to adjust to lower demand and concerns about driver safety. The service was restored by June 1, 2020. As COVID-19 continued to affect broader community mobility, IndyGo instituted changes in October 2020. The October 2020 service changes took effect on October 11, 2020.

These service changes are a result of the loss of ridership experienced by IndyGo due to economic shutdowns and workplace modifications as a result of COVID-19. IndyGo is also anticipating a significant local funding decrease as a result of COVID-19's impact on the local economy. Reducing frequency on these routes balances the need to provide service with the reality of lower ridership experienced by these routes. Also, Routes 8 and 10 service frequencies were new additions in early 2020 and the productivity of the routes were significantly affected by the local adjustment to COVID-19. The reduction in frequency on the Red Line is considered to be temporary; the Red Line has experienced a significant drop in ridership, at first due to local and state mandated business closures and now continued by a significant and, for some, possible permanent move of offices to a work-from-home strategy.

Title VI of the Civil Rights Act of 1964, Section 601, states: "No persons in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits

of, or be subjected to discrimination under any program or activity receiving federal financial assistance.”

In October 2012, the Federal Transit Administration issued Circular 4702.1B, providing guidance and instructions on compliance with Title VI regulations.³ Combined with Executive Order 12898, which requires agencies to develop and implement an integrated approach to achieving Environmental Justice for minority and low-income populations, the Circular outlined requirements for transit operators to evaluate service and fare changes to determine potentially discriminatory impacts. Facially neutral policies or practices that result in disproportionate effects or disparate impacts violate the US DOT's Title VI regulations, unless the recipient can show the policies or practices are substantially justified and there is no less-discriminatory alternative.

Per C4702.1B, all transit operators with 50 or more fixed route vehicles in peak service must develop written procedures to conduct an Equity Analysis through which they evaluate, prior to implementation, any and all service changes that exceed the transit provider's major service change threshold, and to determine whether those changes would have a discriminatory impact based on race, color, or national origin.

Low-income individuals are not specifically a protected class under Title VI; however, the FTA recognizes an “inherent overlap of environmental justice principles” with a Title VI analysis, and also stresses the importance of evaluating the impacts of service changes on those who are transit-dependent, including low-income populations.⁴ Consequently, FTA requires transit providers to also evaluate proposed service and fare changes to determine whether low-income populations will bear a "Disproportionate Burden" of those changes. Under this requirement, transit providers must also establish the threshold for determining when a change may cause a “Disproportionate Burden” as a result of a major service change.

IndyGo's Title VI Policy

IndyGo's Title VI program and policies work to meet both federal and local expectations to ensure that service (and any service changes) are provided to riders in a non-discriminatory manner. IndyGo's Title VI policy, first adopted in 2013, states how IndyGo assesses disparate impact and disproportionate burden that could potentially result from a major service change. The policies currently in effect are defined in IndyGo Board Resolution 2013-03:

Disparate Impact: A determination of disparate impact shall be made if the effects of a major service change borne by the minority population, both adverse and beneficial, are not within 20 percent of the effects borne by the non-minority population.

Disproportionate Burden: A determination of disproportionate burden shall be made if the effects of a major service change borne by the low-income population, both adverse and beneficial, are not within 20 percent of the effects borne by the non-low-income population.

³ FTA Circular C4702.1B, Chapter IV-15-18.

⁴ FTA Circular C4702.1B, Chapter IV-16-17.

In practice, this means that for a change that creates a benefit/burden of ten times (10x) for the non-minority or non-low-income population, the benefit/burden for minority or low-income populations must be between eight and twelve times (8x to 12x). Any benefit or burden for the minority or low-income populations in excess of that range may be categorized as a disparate impact or disproportionate burden.

Any change that exceeds the major service change definition of a transit provider requires a service equity analysis. IndyGo's major service change policy triggers an examination if any route has a change of 25 percent of its route miles, a change impacting 25 percent of its passengers, or the route is new.⁵

In the event that a potential disparate impact and/or disproportionate burden is found, IndyGo staff would attempt to modify the original proposal and re-analyze. If the modified proposal continued to demonstrate a potential disparate impact and/or disproportionate burden, IndyGo staff would propose alternatives, analyze those alternatives compared to the original / modified proposal, and conduct public involvement regarding the alternatives. If none of the alternatives would have less a disparate impact and/or disproportionate burden and IndyGo has made a substantial legitimate justification, the original / modified proposal could be enacted.

Clarification of IndyGo Title VI Policy

There are two distinctive points of clarification concerning the IndyGo Title VI policies. First, the IndyGo DI/DB policies consider an excessive beneficial effect to a minority or low-income population to be considered a finding of DI/DB. However, the intent of Title VI is to prohibit federal recipients from adversely impacting minority populations. Therefore, if an analysis were to find an overly-beneficial effect for minority and/or low-income populations, IndyGo staff would consider the analysis as not resulting in finding of DI and/or DB. IndyGo will acknowledge where beneficial effects occur but will not consider them a finding of DI and/or DB.

IndyGo's Major Service Change policy does not specify whether system-wide service changes should be reviewed in totality or at the individual route level. For network-wide service changes, such as a major redesign or a review of a comprehensive operational analysis, cumulative changes associated with the proposed network will be reviewed.

COVID-19, Title VI, and Temporary Service Changes

The coronavirus has presented health and staffing challenges for transit agencies nationally; IndyGo has not been immune from its effects.

On March 30, 2020, IndyGo reduced service for its routes to adjust to lower demand and concerns about driver safety. The service was restored by June 1, 2020. On October 11, 2020 the Red Line was reduced to a frequency of 15 minutes all days of the week.

⁵ See [IndyGo's 2020 Title VI Program Update](#).

As communicated on FTA’s webpage and in the FTA Title VI Circular 4702.1B, such service changes do not require a service equity analysis unless the change lasts longer than 12 months.⁶ As the October 2020 service changes appeared to last longer than 12 months, an analysis was started in late 2021. A memorandum was compiled but two routes, the 901 and the 902, were accidentally excluded. After reviewing the changes for those routes, this analysis was conducted.

October 2020 Service Changes

The October 2020 service changes took effect on October 11, 2020 and changed the frequency of five routes:

- A. Route 8 – Reduction in frequency from 15 minutes to 20 minutes for a portion of the route
- B. Route 10 – Reduction in frequency from 15 minutes to 30 minutes for a portion of the route
- C. Route 90 (Red Line) – Reduction in frequency from 10 minutes to 15 minutes for the entire route.
- D. Route 901 – Reduction in frequency from 20 minutes to 30 minutes for the entire route.
- E. Route 902 – Reduction in frequency from 20 minutes to 30 minutes for the entire route.

These service changes are a result of the loss of ridership experienced due to economic shutdowns and workplace modifications as a result of COVID-19. Reducing frequency on these routes balances the need to provide service for the network with the difficult reality of the low ridership experienced by these routes. Also, Routes 8 and 10 service frequencies were new additions in early 2020 and the productivity of the routes were significantly affected by the local adjustment to COVID-19. The reduction in frequency on the Red Line is considered to be temporary; the Red Line has experienced a significant drop in ridership, at first due to local and state mandated business closures and now continued by a significant and, for some, possible permanent move of offices to a work-from-home strategy.

Major Service Change Determination

A service equity analysis is required if a Major Service Change is proposed. IndyGo defines a Major Service Change as:

1. Any route has a change of 25% of its route miles;
2. Any route change affects 25% of its passengers; or
3. The addition of a route.

Major Service Change reasons two and three do not apply for October 2020 service changes based on the project outline. None of the changes will result in the removal of service from an area or the addition of a new route. The final reason to analyze is whether the changes modify 25% or more of a route’s miles.

⁶ “Frequently Asked Questions from FTA Grantees Regarding Coronavirus Disease 2019 (COVID-19), Updated 7/27/2021, <https://www.transit.dot.gov/frequently-asked-questions-fta-grantees-regarding-coronavirus-disease-2019-covid-19#COVID-19Civil>, Accessed October 22, 2021.

To determine if the changes meet the Major Service Change threshold for route miles, the run-cut for 2010 (the name of the October 2020 service) was completed. The total annual mileage for 2010 was compared to the total annual mileage for the current service provided, last updated in June 2020 and therefore named 2006.

Table 1. Major Service Change Determination for October 2020 Changes

Route	2006 Route Miles	2010 Route Miles	Total Change in Route Miles	% Change	Major Service Change?
8	1,115,694	893,007	(222,687)	-20.0%	No
10	988,435	750,217	(238,218)	-24.1%	No
90	1,247,550	1,008,844	(238,707)	-19.1%	No
901	148,107	100,611	(47,496)	-32.1%	Yes
902	191,551	155,422	(36,129)	-18.9%	No

Modifications to routes 8,10,90, and 902 do not rise to the level of a Major Service Change; however, Route 901 modifications exceed the threshold for a Major Service Change. Therefore, an analysis of Route 901 will need to be completed.



SECTION II. SERVICE EQUITY ANALYSIS

The Federal Transit Administration (FTA) provides guidance for conducting a service equity analysis in Federal Circular 4702.1B. The guidance describes subjects of analysis and procedures to be used if proposed service changes result in disparate impacts or disproportionate burdens to Title VI protected populations. At a minimum, the FTA requires transit agencies to define the geography of analysis, datasets used for the analysis, and evaluate whether there is an adverse effect for minority and/or low-income populations compared to the service levels received by non-minority or non-low-income populations.

Definitions

The following definitions will apply to the service equity analysis:

Average Transit Vehicle Trips per Block: This measure is based on Transit Vehicle Trips to Census Blocks, but the number of weekly transit trips is averaged over the number of blocks past which the trips were made. This reduces a distortion in the analysis that suggests more service is being provided to people of interest when in fact service may simply be passing more census blocks.

Disparate Impact: A determination of disparate impact shall be made if the effects of a major service change borne by the minority population, both adverse or beneficial, are not within 20 percent of the

effects borne by the non-minority population. This policy was established in IndyGo Board Resolution 2013-03. *For the purposes of this analyses, any beneficial DI finding beneficial to minority populations is not considered a DI.*

Disproportionate Burden: A determination of disproportionate burden shall be made if the effects of a major service change borne by the low-income population, both adverse or beneficial, are not within 20 percent of the effects borne by the non-low-income population. This policy was established in IndyGo Board Resolution 2013-03. *For the purposes of this analyses, any beneficial DB finding beneficial to low-income populations is not considered a DB.*

High Minority or High Poverty Census Block Groups: These census block groups are those in which the percentage of minority residents or residents in poverty is greater than the percent of Marion County residents who are minority or in poverty. Census block groups are comprised of groups of census blocks.

High Minority or High Poverty Census Blocks: These census blocks are those which fall within an identified High Minority or High Poverty Census Block Group. US Census American Community Survey data are not available at the block level. To calculate the number of individuals in each block, the proportion of the population from the 2010 Decennial Census for each block will be calculated and then multiplied by the total block group population estimated in the 2014-2018 ACS. Only total population will be calculated for each census block for the purposes of determining access.

Low-Income: Low-income individuals are individuals within a household below the Department of Health and Human Services (DHHS) poverty guidelines; the definition is consistent with the FTA definition. This definition is consistent with the definition applied in the Service Monitoring Report completed for IndyGo's 2020 Title VI Program update. Because Department of Transportation (DOT) and FTA regulations and guidance refer to "low-income" individuals, that language is used here. However, data used are collected to determine poverty levels, which is why both terms may be used interchangeably. IndyGo staff recognizes that the terms "low-income" and "poverty" can refer to different definitions and categorizations of the economic condition of populations within the U.S. *Note: Spatial data uses the US Census Bureau's definition of poverty, which is more inclusive than the DHHS poverty guidelines.*

Minority: Minorities are defined as those individuals who identify themselves as non-white and/or Hispanic. This definition is consistent with definition applied in the Service Monitoring Report completed for IndyGo's 2020 Title VI Program update.

Service Area: IndyGo's service area is defined as the entirety of Marion County, including excluded cities. This definition is consistent with the service area defined in IndyGo's 2020 Title VI Program update.

Service Buffer: The service buffer established for this analysis was ½ mile wide for local routes (1/4 mile buffer) and 1 mile wide for bus rapid transit lines (½ mile buffer). The buffer was defined by individual transit stops. Specifically, buffers were created around each stop from the GTFS (General Transit Feed Specification) files for the respective service networks. The assumption that anyone in a census block that is touched by the buffer can access transit is obviously not true, nor is it the case

that anyone in a census block outside that buffer *cannot* access transit, but these standards are applied for analytical consistency.

Total Transit Vehicle Trips to Blocks: This is the number of transit vehicle trips that occur within one week that pass within the service buffer of any part of the census blocks in question.

Existing 2020 and Proposed 2020 trips to census blocks were estimated using information provided by IndyGo Service Planning to present the number of weekly trips in a non-holiday transit week. Previous equity analyses may have used GTFS data exported from HASTUS scheduling software by IndyGo. For each route, weekday trips were multiplied by 5 and Saturday and/or Sunday services were added to obtain a weekly total. Those trips were then multiplied by the number of designated blocks they passed.

For example, if 100 trips pass by 10 blocks, this equals 1,000 Transit Vehicle Trips to Blocks. This accounts for all trips that may be realized for all blocks served and represents how much transit service is provided to how many census blocks.

Transit Vehicle Trips x Population: This measure estimates the usefulness of the service. It further reduces the distortion of Total Transit Vehicle Trips to Blocks (TTVTB), which can suggest that more service is being provided to populations within Title VI areas, when service is just passing more blocks but with potentially fewer people in them. In this measure, weekly transit trips on a route are weighted by the calculated total population within each census block.

For example, if 100 trips pass by a block that has 10 people living in it, that would equal 1,000 trips x population; if the next census block it passes has 50 people living in it, that would equal 5,000 trips x population, representing more access to service by more people.

This measure considers that census blocks are not home to equal numbers of people and estimates the level of service access provided to *people* rather than to geographic zones.

Project Outline

The project under analysis is the change to Route 901. Other changes did occur but as they do not rise to the level of a Major Service Change, and this is not a system-wide redesign, those changes will not be analyzed. Refer to the section on October 2020 Service Changes to understand the other changes.

Table II-1. Change Classification for Routes.

Change Classification	General Description
No Change	No change to the route segments.
Minor	Small deviations to few segments.
Moderate	An added/removed extension or other deviations.
Significant	Addition/deletion of an entire route, creation of multiple branches, or complete revision of a route.

For this analysis, only the changes for the Route 901 are considered.

Datasets Used

Population, Minority, and Low-Income Data

The US Census American Community Survey (ACS) surveys a sample of the population, gathering valuable information on characteristics including income and race. The ACS is provided in 1-year and 5-year ranges. The 5-year datasets are averages of the intervening years and are the most comprehensive and precise datasets containing the information needed for this analysis. The most current version of the dataset is 2015-2019 5-year estimates; this analysis uses ACS 2014-2018 5-year estimates. The 2014-2018 5-year estimates is used for consistency between equity analyses. Decennial Census 2020 total population was not used, similarly for consistency between analyses. Census geographies are those developed as a result of the 2010 census.

- ACS Summarized Data 2014-2018 5-year file by block group
 - Table B03002 – Hispanic or Latino Origin by Race
 - Table B17021 – Poverty Status of Individuals in the Past 12 Months by Living Arrangement
- Decennial Census 2010, SF 100% by block and block group
 - Table P1 – Total Population

Transit Service Data

IndyGo designs its routes in HASTUS, a transit scheduling software. The data used for transit trips was provided from a HASTUS export, in the form of a General Transit Feed Service (GTFS) file. The GTFS file was then visualized using a toolbox for ArcMap, a geographic information systems software.

The two networks were:

- Existing Transit Network: 2020 Network (June)
 - Service provided from June 14 to October 10, 2020
- Proposed Transit Network :2020 Network (October)
 - Service provided beginning on October 11, 2020

Geography of Analysis

The ACS 5-year dataset can be explored at different geographies, including block groups. Data from the ACS are not available at the smallest Census geography, the census block. Based on the availability of data, census block groups were used as the geography of analysis for determining High Minority and High Low-Income designations for blocks, while census blocks were used to determine the population with access.

Determining High Minority and High Poverty Blocks

The use of census block groups for transit access, in combination with using the population of an entire block group, can result in disingenuous access data. Specifically, using census block groups could count a person as having access who may be a mile away from the transit route due to the size of the census geography. To address this potential issue, IndyGo staff used census block data to

identify populations who have access but used census block group data to determine and assign the High Minority or High Poverty designation. If a census block was part of a block group designated as High Minority or High Poverty, it was presumed that each census block within that census block group shared that designation. See Table II-3 for an example of this process.

Table II-2. Example of Attributing Census Block Group Designation for High Minority to Census Blocks

	2018 Minority Population as a Percent of Block Group	Percent of Minority Population in Marion County	Does the BG % Exceed Marion County %?	Block Assignment
Block Group 1	46%	44%	Yes	
Block 1A				High Minority
Block 1B				High Minority
Block 1C				High Minority
Block 1D				High Minority
Block Group2	35%	44%	No	
Block 2A				Non-Minority
Block 2B				Non-Minority
Block 2C				Non-Minority
Block 2D				Non-Minority

Calculating Population Data for Census Blocks

The Census only provides Decennial Census population at the block level; the more recent ACS data is not available at the block level. To utilize ACS population data at the block level, population data was calculated. To determine the calculated ACS population for each block, each block’s share of the 2010 Decennial Census population data was calculated. This share was then multiplied by the block group’s total population of the ACS data. See Table II-4 for an example of this process.

Table II-3. Example of Calculation Population for Blocks Using 2010 Population Proportions and 2014-2018 ACS Population.

	2010 Population	% of 2010 Population	2018 Estimate	2018 Calculated Population
Block Group 1	1,000		1,800	
Block 1A	300	30%		540
Block 1B	200	20%		360
Block 1C	400	40%		720
Block 1D	100	10%		180

Determining Access

Access to transit and transit amenities can be estimated by measuring the estimated distance a rider could walk to a stop. For this analysis and analyses moving forward, IndyGo will use ¼ mile for stops for non-rapid transit service and ½ mile for stations for rapid transit service.

Determining Accessible Population

Population data are attributed geographically to census block groups evenly, which are represented by polygons in the spatial software. For the purposes of this analysis, census block groups were deemed too large to appropriately capture the accessibility of a transit route. Instead, census blocks, and the total calculated population within, are used as geographies for accessible population. Any population within a census block within the buffer, regardless of the percentage of the census block within the buffer, are considered population with access to transit.

Service Equity Analysis Methodology

IndyGo used a Geographic Information System (GIS)-based approach to compare the distribution of impacts and benefits to all residents and to individuals residing in high minority and high poverty areas.

The analysis involved the following steps:

1. Determine which blocks were habitable.
2. Determine High Minority and/or High Low-Income block groups.
3. Develop map with current and proposed service routes, stops, and numbers of trips.
4. Determine which blocks were within access of a stop.
5. Allocate current and proposed transit trips to habitable census blocks based on whether any part of each census block falls within the stop-based service buffer.
6. Using Excel, determine the difference between the two scenarios for each census block and for the system in terms of: Total Transit Vehicle Trips to Blocks, Average Transit Vehicle Trips per Block, and Transit Vehicles Trips x Population. Join those data to the original block shapefiles containing census data.
7. Using a separate table, compare percent of change experienced by each group to the thresholds established in IndyGo’s Title VI Policy to determine if the proposed changes could result in discriminatory impacts.

The basis of this analysis, common to all three service-access measures used, is the number of weekly trips made by each route. Changes to transit frequency or span are captured in this way; in fact, even the addition or subtraction of one single vehicle trip on a route is captured by this method.

Total Transit Vehicle Trips to Blocks

Staff analyzed whether the change in Total Transit Vehicle Trips to Blocks for minority and poverty populations would be within 20 percent of the change for non-minority and non-poverty populations. The formula can be expressed as:

% Change in Transit Vehicle Trips to Blocks for a population of interest, if n is the number of blocks in the service area =

$$\frac{\text{Total Proposed 2020 Transit Vehicle Trips to Blocks} - \text{Total Existing 2020 Transit Vehicle Trips to Blocks}}{\text{Total Existing 2020 Transit Vehicle Trips to Blocks}} =$$

$$\frac{\sum_{i=1}^n (\text{Proposed 2020 Transit Vehicle Trips to Block } i) - \sum_{i=1}^n (\text{Existing 2020 Transit Vehicle Trips to Block } i)}{\sum_{i=1}^n (\text{Existing 2020 Transit Vehicle Trips to Block } i)}$$

Average Transit Vehicle Trips per Block

The Average Trips per Blocks analysis reduces the positive effect of hypothetically drawing a route to simply touch more census blocks of unspecified population (and thus gaming the results). The formula can be expressed as:

% Change in Average Transit Vehicle Trips per Block for a population of interest =

$$\frac{(\text{Proposed 2020 Avg. Transit Vehicle Trips per Block} - \text{Existing 2020 Avg. Transit Vehicle Trips per Block})}{\text{Existing 2020 Avg. Transit Vehicle Trips per Block}} =$$

$$\left(\frac{\text{Total Proposed 2020 Transit Vehicle Trips to Blocks}}{\text{Served Blocks in Proposed 2020 Network for pop. of interest}} - \frac{\text{Total Existing 2020 Transit Vehicle Trips to Blocks}}{\text{Served Blocks in Existing 2020 Network for pop. of interest}} \right) \frac{\text{Existing 2020 Transit Vehicle Trips to Blocks}}{\text{Served Blocks in Existing 2020 Network for pop. of interest}}$$

Transit Vehicle Trips Weighted by Population

In this measure, weekly transit trips on a route are weighted by the estimated population of interest within each census block that is passed. If population were equal across all census blocks, this additional method would mirror other analyses. Because total population and demographics can vary widely among census blocks, this is the only measure that captures how many people can access transit service today relative to the Proposed 2020 changes.

This formula can be expressed as:

% Change in Weighted Transit Vehicle Trips for a population of interest =

$$\frac{\text{Total Proposed 2020 Weighted Transit Vehicle Trips} - \text{Total Existing 2020 Weighted Transit Vehicle Trips}}{\text{Total Existing 2020 Weighted Transit Vehicle Trips}}$$

$$\frac{\sum_{i=1}^n [(\text{residents of Block } i)(\text{Proposed 2020 Transit Vehicle Trips to Block } i - \text{Existing 2020 Transit Vehicle Trips to Block } i)]}{\sum_{i=1}^n [(\text{residents of Block } i)(\text{Existing 2020 Transit Vehicle Trips to Block } i)]}$$

Service Equity Analysis Results

IndyGo staff performed the analysis as described in the methodologies above. The results are summarized per metric with additional, supporting tables. Because the change in trips is equal for each block for this analysis, no supporting map was created.

Minority and Poverty Populations

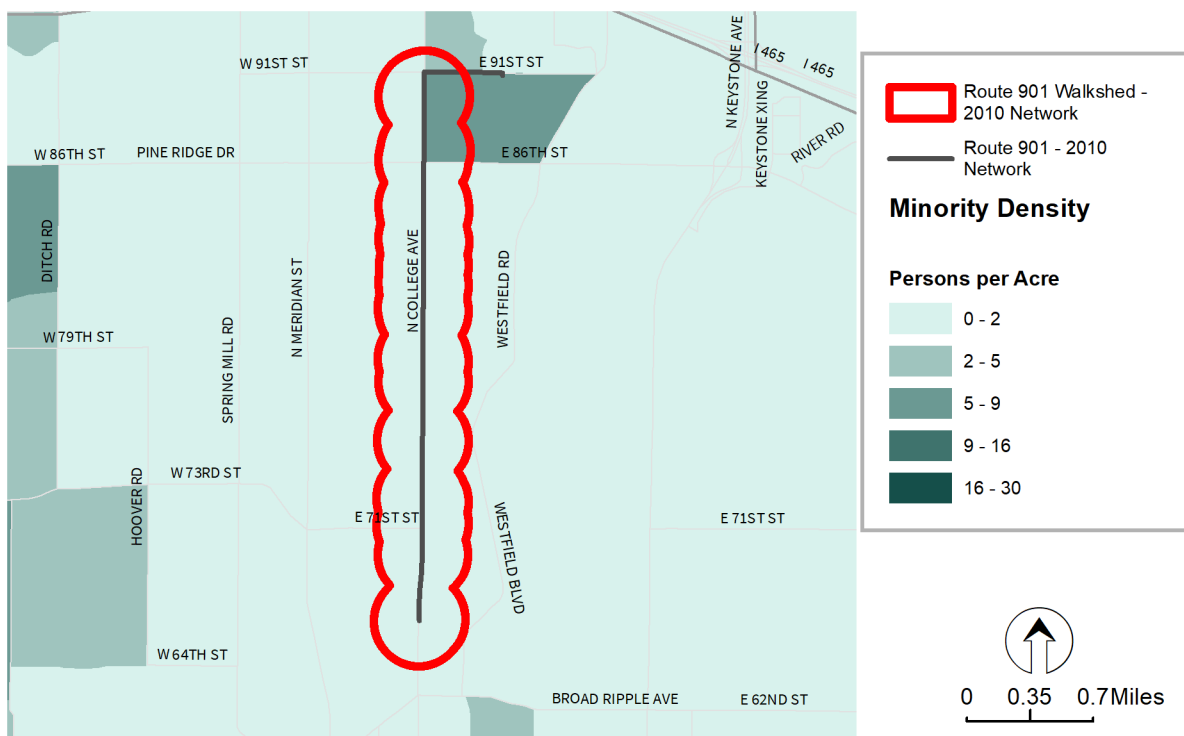
Title VI regulations require that IndyGo examine its service by comparing minority and non-minority populations. For this analysis, areas were classified as a Minority area if the census block group possessed a percentage of minority population that was greater than the service area as a whole (44.0%). The same approach was used to identify areas in poverty (18.9%). See Table II-5 for additional details.

Table II-4. Number and Percent of Minority and Populations in Poverty in Marion County

	Total Number	Service Area %
Minority Population	415,819	44.0%
Population in Poverty⁷	175,330	18.9%
Total Population	944,523	100%

The following maps were developed to visualize the minority and poverty population densities within Marion County. Additional demographic maps can be found in APPENDIX A. The Proposed 2020 network and the High Minority and High Poverty census blocks are mapped in Figure II-5. High Minority and High Poverty Blocks.

Figure II-1. Minority Density and Proposed 2020 Network



⁷ The percent of low-income population is based off the estimate for total population with income data (925,168).

Figure II-2. Poverty Density and Proposed 2020 Network

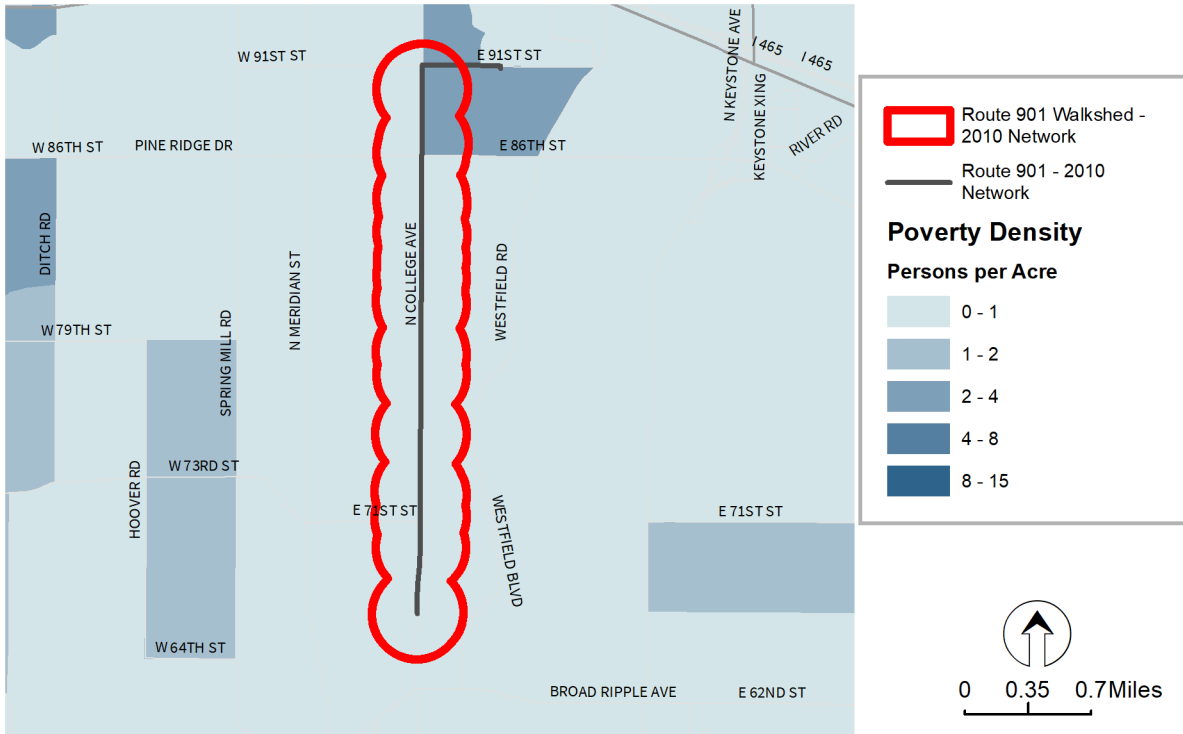


Figure II-3. High Minority and High Poverty Blocks

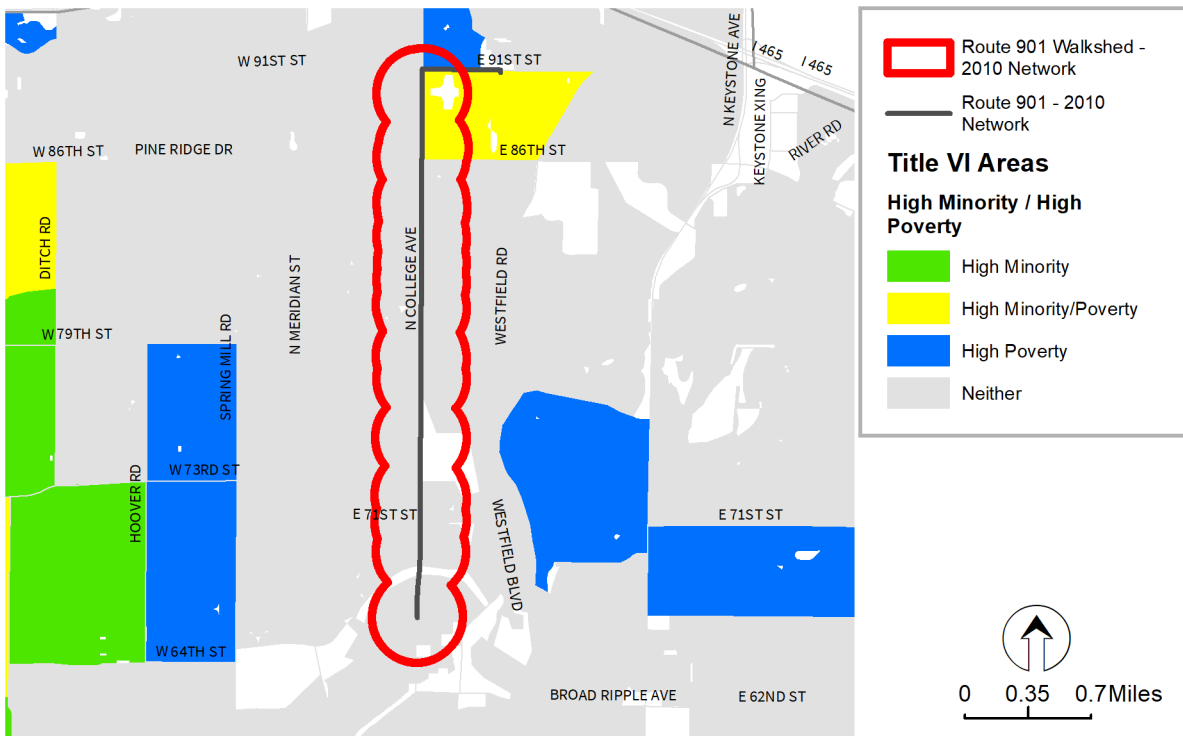


Figure II-4. Change in Weekly Trips to Blocks



Total Transit Vehicle Trips to Blocks

The Route 901 adjustments result in consistent declines for blocks with access. The analysis identifies a decrease of 18.2 percent in trips to blocks. Non-High-Minority blocks experience a decrease of -18.2%. The resulting Title VI Acceptable Range of Change is -14.6 percent to -21.9 percent High Minority blocks. The percent change for High Minority blocks is -18.2 percent, falling within the Title VI acceptable range. The analysis, as a result, finds no disparate impact.

Non-High-Poverty blocks experience a 18.2 percent decrease, resulting in a similar range as minority populations. The High-Poverty blocks experience a 18.2 percent decrease in trips to blocks. Consistent with IndyGo definitions and policies, there is no finding of disproportionate burden. See Table II-6 for additional details.

Table II-5. Results of Transit Vehicle Trips to Blocks Analysis

Census Blocks	Existing Transit Vehicle Trips to Blocks	Proposed Transit Vehicle Trips to Blocks	Change in Trips to Blocks	Percent Change	Acceptable Range of Change	DI/DB?
High Minority	5,679	4,644	(1,035)	-18.2%	-21.9%	NO
Non-High Minority	53,004	43,344	(9,660)	-18.2%	-14.6%	
High Poverty	6,310	5,160	(1,150)	-18.2%	-21.9%	NO
Non-High Poverty	52,373	42,828	(9,545)	-18.2%	-14.6%	
All habitable blocks	58,683	47,988	(10,695)	-18.2%		

Average Transit Vehicle Trips per Block

Similar to the analysis for the Total Transit Vehicle Trips to Blocks, the trip decreases for the Route 901 frequency adjustments are shown in the Average Transit Vehicle Trips per Block. A comparison of minority and non-minority populations reveal a finding of no disparate impact, as the provision of service to High Minority Blocks (-18.2 percent) falls within the Title VI Acceptable Range (-21.9 percent to -14.6 percent). The analysis determines a finding of no disproportionate burden. High Poverty Blocks experience a similar decrease within a similar range. See Table II-7 for additional details.

Table II-6. Results of Average Transit Vehicle Trips per Block Analysis

Census Blocks	Existing 2020 Blocks	Average Existing Trips to Blocks Served	Proposed 2020 Blocks	Average Proposed Trips to Blocks Served	Change in Average Trips to Blocks	Percent Change in Average Trips per Block	Acceptable Range	DI/DB ?
High Minority	9	631	9	516	-115	-18.2%	-21.9%	NO
Non-High Minority	84	631	84	516	-115	-18.2%	-14.6%	
High Poverty	10	631	10	516	-115	-18.2%	-21.9%	NO
Non-High Poverty	83	631	83	516	-115	-18.2%	-14.6%	
All habitable blocks	93	631	93	516	-115	-18.2%		

Transit Vehicle Trips Weighted by Population

The final metric follows a similar pattern as the first two. Transit Vehicle Trips Weighted by Population (TVTWP) fall within the DI/DB. Because of this, there is no finding of a disparate impact or disproportionate burden. Results can be found in Table II-8.

Table II-7. Analysis of Transit Vehicle Trips Weighted by Population

	Existing TVTWxP	Proposed TVTWxP	Change in TVTWxP	% Change	Acceptable Range of % Change	DI/DB?
High Minority	1,212,151	991,236	(220,915)	-18.2%	-21.9%	NO
Non-High Minority	2,352,368	1,923,648	(428,720)	-18.2%	-14.6%	
High Poverty	1,242,439	1,016,004	(226,435)	-18.2%	-21.9%	NO
Non-High Poverty	2,322,080	1,898,880	(423,200)	-18.2%	-14.6%	
All Habitable Blocks	3,564,519	2,914,884	(649,635)	-18.2%		

Summary

Based on the information provided in the tables above, Table II-9 summarizes the results of the Service Equity Analysis.

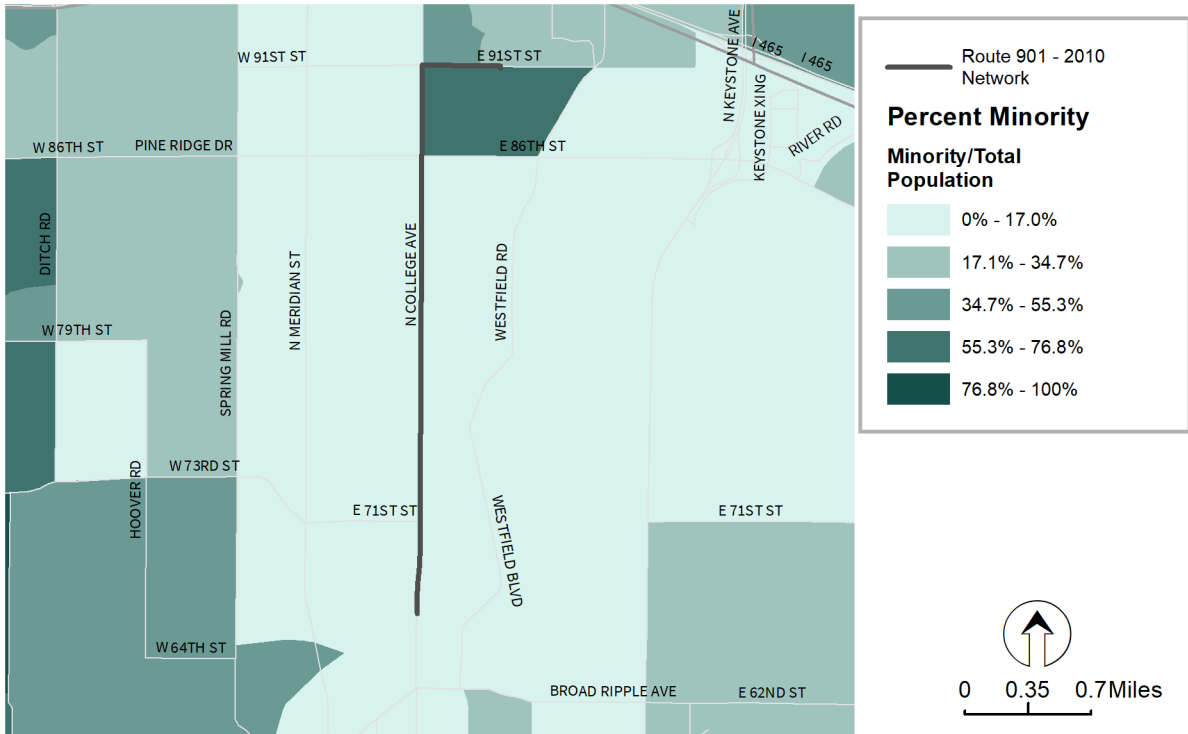
All six results fall within IndyGo’s adopted Title VI range. As such, there is no finding of a disparate impact or disproportionate burden for any of the metrics and, therefore, no finding of a disparate impact or disproportionate burden for the Route 901 Service Equity Analysis.

Table II-8. Summary of Service Equity Analysis

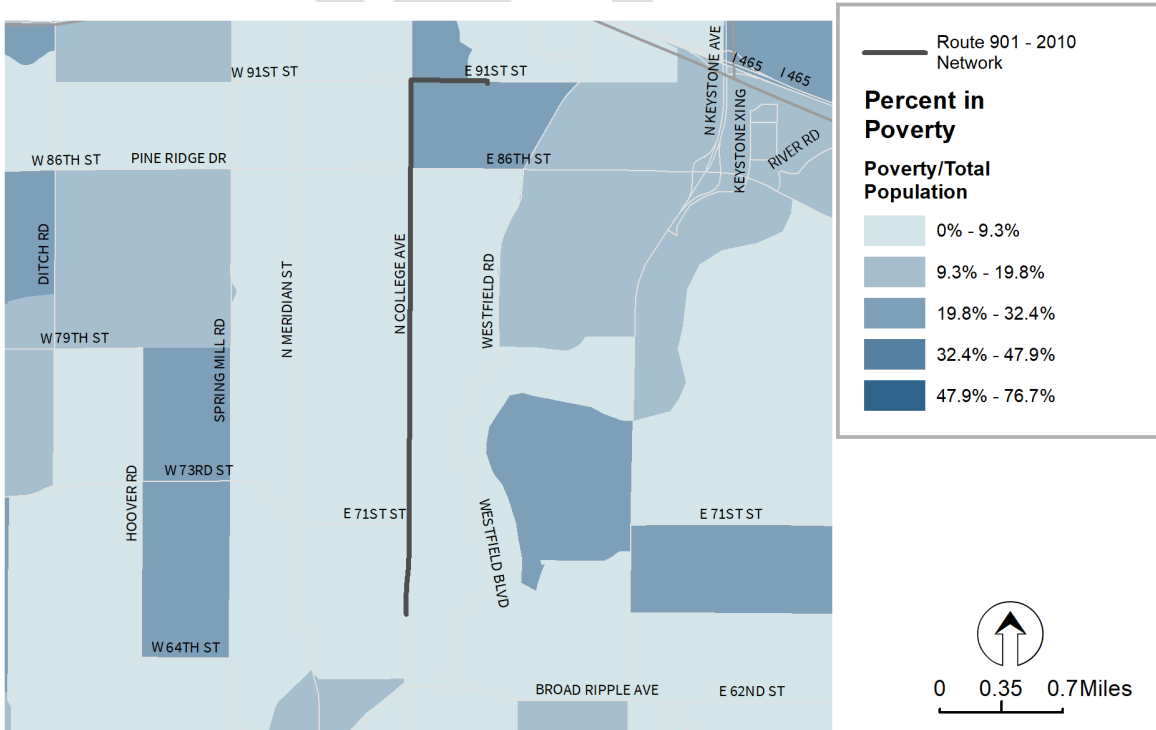
Title VI Metric	Disparate Impact	Disproportionate Burden
Total Transit Vehicle Trips to Blocks	Within	Within
Average Transit Vehicle Trips to Blocks	Within	Within
Transit Vehicle Trips Weighted by Population	Within	Within

APPENDIX A. DEMOGRAPHIC MAPS

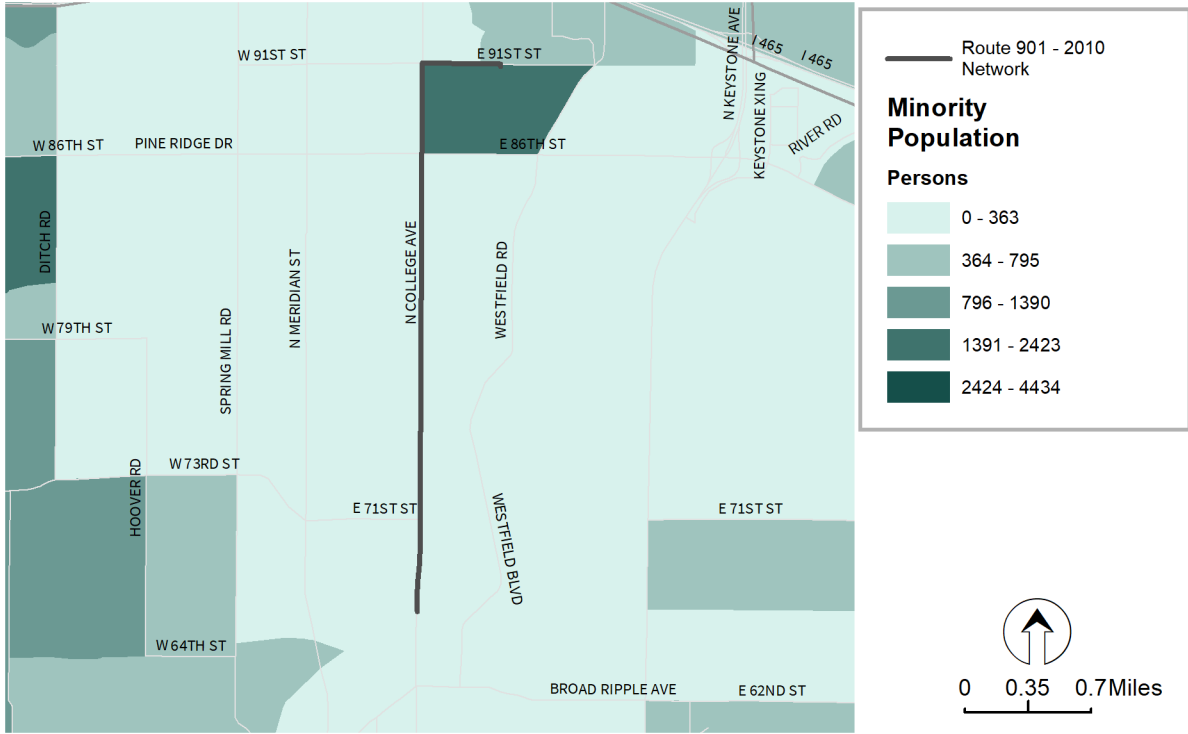
Appendix Figure A-1. Percent Minority Population per Block Group



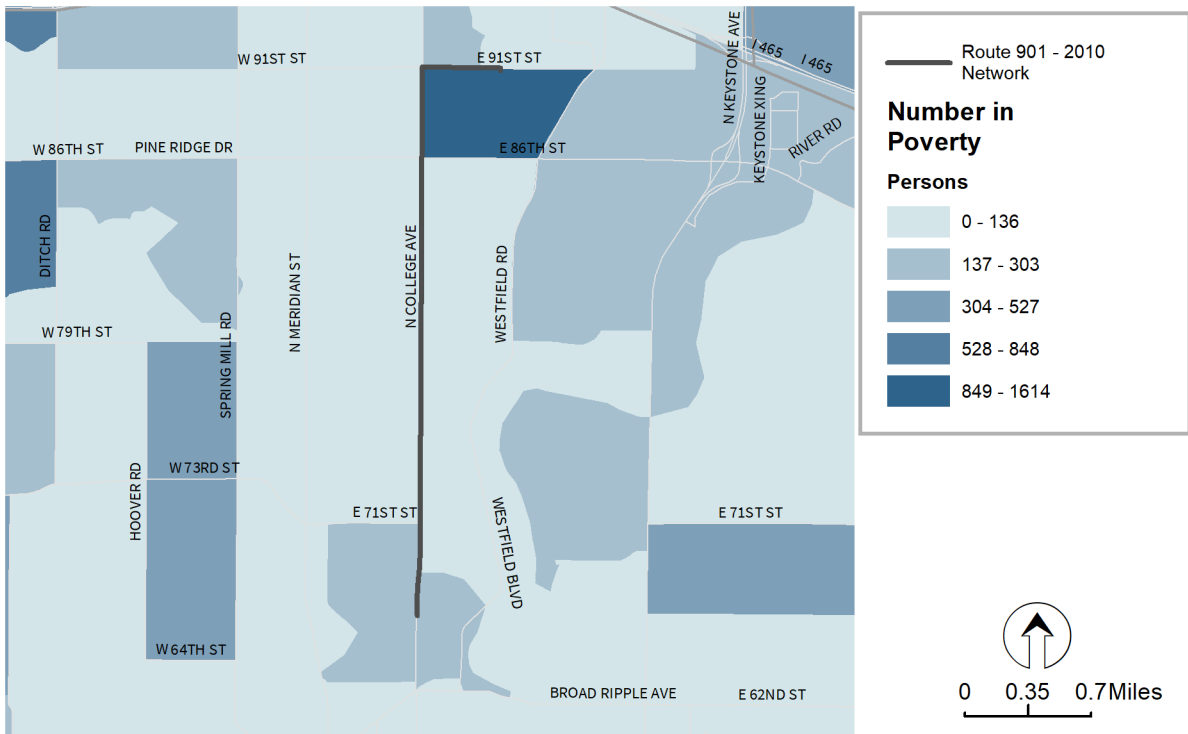
Appendix Figure A-2. Percent in Poverty per Block Group



Appendix Figure A-3. Number of Minority Persons per Block Group



Appendix Figure A-4. Number in Poverty per Block Group



APPENDIX B. Route 901 Change

A narrative representation of changes to Route 901.

Route 901

Route 901 runs from the northern terminus of the Red Line to just north of 86th Street, along College Avenue. The Route 901 will provide service every 30 minutes, adjusted from the June service level of 20 minutes. No stops will be added or remove.

DRAFT