

# **Title VI Service Equity Analysis**

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## **City of Phoenix Proposed October 2023 Service Change**



**City of Phoenix Public Transit Department**



## **INTRODUCTION**

Title VI of the Civil Rights Acts of 1964 prohibits discrimination on the basis of race, color, or national origin in programs and activities receiving federal financial assistance. Federal law requires the City of Phoenix to evaluate service changes and proposed improvements at the planning and programming stages to determine whether those changes have a discriminatory impact. This process will be used to evaluate bus services in an objective manner to identify the potential for adverse, disproportionately high, or disparate impacts to minority and/or low-income populations.

The Phoenix Public Transit Department (PTD) manages modification to the region's transit network through service changes. Bus service changes are coordinated regionally and occur in April and October each year. Service modifications that are considered major service changes require service equity analysis to be conducted and considered by the Phoenix City Council before approval.

## **SERVICE EQUITY ANALYSIS POLICIES**

This section describes Phoenix's Title VI Service Equity analysis policy, definition, and data analysis procedures. The City of Phoenix Public Transit Title VI Program is posted at <https://www.phoenix.gov/publictransit/title-vi-notice>

### **Major Service Change**

The Major Service Change and Service Equity Policy developed jointly by both the City of Phoenix and Valley Metro defines a major service change as follows:

- Adding or Eliminating an entire route
- Expanding or reducing existing revenue miles on a route by more than 25% on Weekday, Saturday, or Sunday
- Expanding or reducing number of route directional miles more than 25%
- A change resulting in a 25% or greater variance from the existing route alignment<sup>12</sup>

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<sup>1</sup> A change of 25 percent in weekly route revenue miles and/or route directional miles is the City of Phoenix threshold for determining whether a potential transit service change qualifies as a major service change (or "substantial" service change), according to the City of Phoenix resolution (1990). This percentage is generally an industry-wide percentage threshold used by peer transit systems throughout the United States. The City of Phoenix resolution also specifies that a public comment period will be initiated when a change in transit service of 25 percent or more is determined. Valley Metro has adopted the same thresholds.

<sup>2</sup> A change of 25 percent in Express/RAPID service route revenue miles and/or route directional miles does not apply to the portion of the routes that are on the freeway/highway because there are no stops or service. Only the portion of the routes that occurs on surface streets applies to the 25 percent threshold for a major service change.



All service change proposals that are determined to be a major service change will undergo Service Equity Analysis.

### Adverse Effect

An adverse effect is defined as a reduction or addition in service that includes but is not limited to: changes in span of service, changes to frequency of service, the addition of new routes, the elimination of routes or route segments, or the modification of routes or route segments.

### Disparate Impact

When the difference in adverse impacts between minority ridership<sup>3</sup> and/or population<sup>4</sup> and non-minority ridership and/or population on the affected service is equal to or greater than **five percent** compared to the transit system's minority and non-minority ridership<sup>5</sup> and/or population, there would be a disparate impact.

### Disproportionate Burden

When the difference in adverse impacts between low-income ridership<sup>3</sup> and/or population<sup>4</sup> and non-low-income ridership and/or population on an affected service is equal to or greater than **five percent** compared to the transit system's low-income and non-low-income ridership<sup>5</sup> and/or population, there would be a disproportionate burden impact.

Should Valley Metro or the City of Phoenix find any disparate impact or disproportionate burden is found during the service equity analysis, steps will be taken to avoid, minimize, or mitigate the impacts.

### Equity Analysis Data Sources

The following table identifies the data source for the service equity analysis depending on the type of service change being proposed.

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<sup>3</sup> The determination of the transit system and an affected route's minority and/or low-income ridership will be derived from the most recently completed, statistically valid regional on-board origin/destination survey.

<sup>4</sup> The determination of the potential ridership for service expansion or the addition of a new service will be derived from the most recent American Community Survey data for the census tract or census block group surrounding the expanded route or new route.

<sup>5</sup> The transit system's ridership is separated into Local Bus Service (local fixed bus routes, key local service, light rail, streetcar and circulator bus service) and Express/RAPID Service (commuter bus service). The affected service would be compared to the overall transit system's ridership by Local Bus Service or Express/RAPID Bus Service.



Category	Action	Sub Action	Evaluation Method
Service Level <sup>6</sup> Change	Reduction	Not Applicable	O/D <sup>7</sup> Data
	Expansion	Not Applicable	
Route Length	Reduction	Not Applicable	O/D Data
	Expansion	Not Applicable	Census Data
Route Alignment Change	Reduction	Not Applicable	O/D Data
	Expansion	Not Applicable	O/D Data and Census Data
	Modification	Eliminated Segment(s)	O/D Data and Census Data
		Segment(s) to New Areas	Census Data
	Elimination	Not Applicable	O/D Data
New Route	New Route	Not Applicable	Census Data
Fare Media Access	Modifications	Not Applicable	O/D Data Census Data

Transit System Minority/ Low-Income Population Benchmarks

Service Equity Analysis Service Area - 2021 ACS Data		
Service Type	Minority	Low-Income (150%)
Local Bus	52%	23%
Circulator	54%	25%
Express/RAPID Bus	50%	23%
Service Equity Analysis - 2019 O/D Data		
Service Type	Minority	Low-Income
Local Bus	62%	45%
Circulator	60%	46%
Express/RAPID Bus	44%	5%

<sup>6</sup> Service Level- Refers to the span of service, days of operations, trips and headways (service frequencies) for a transit route or the regional transit system.

<sup>7</sup> Origin/Destination Survey Data



## **Description of Proposed October 2023 Changes**

The Public Transit Department (PTD) is proposing to extend the reach of frequent local bus service within the city with the proposed October 2023 local bus service changes. An entire route, or even segment of a route, is considered part of the frequent service network when its weekday service frequency is 15 minutes or better from at least 6 a.m. to 6 p.m.

In Phoenix, local bus service has a base frequency of every 30 minutes daily, Monday through Sunday, but many routes have increased frequency based on levels of ridership levels throughout the day. The proposed service changes focus on weekday local bus service, during peak hours (from 6 to 9 a.m. and 3 to 7 p.m.), or midday hours (from 9 a.m. – 3 p.m.). Weekday local bus service runs from about 4 a.m. to 11 p.m.

As of April 2023, eight of 43 local/circulator routes operating in Phoenix are part of the frequent service network, which covers 34% of Phoenix residents in its service area. With the implementation of the proposed October 2023 service changes, the frequent service network would increase to 11 routes covering 47% of Phoenix residents within its service area.

Overall, the proposed October 2023 service changes are estimated to expand the city frequent service network by covering 217,000 more residents as well as 133,000 more jobs within with its service area.

Following is a brief description of the proposed service changes, followed by details of current service and the proposed changes.

### **Current Route Description**

**Route 0:** The 8.6-mile route runs on Central Avenue between Van Buren Street (to the south) and Sunnyslope Transit Center (to the north) in central Phoenix. The route overlaps with Light Rail on Central Avenue from Van Buren Street to Camelback Road. This route operates at a 20 minute frequency on weekdays and every 30 minutes on the weekend.

**Route 3:** The 24-mile route runs on Van Buren Street in the cities of Phoenix, Avondale and Tolleson, with the Phoenix portion operating between 83rd Avenue and the Phoenix Zoo. During weekdays, the frequency intervals increase between 35th Avenue and 32nd Street. Currently the schedule in this area of the route is every 10 minutes during morning peak hours; every 15 minutes from 9 a.m. to 2 p.m.; every 10 minutes from 2 p.m. to 6 p.m., and then every 15 minutes until 7 p.m.

**Route 7:** The 25-mile route runs primarily on Seventh Street between Dobbins Road to 19th Avenue and Deer Valley Road. During weekday peak hours the route operates on a 20 minute interval north of Van Buren Street and a 10 minute interval south of Van Buren Street.



**Route 16:** The 23.5-mile local route runs on 16th and 32nd streets between Dobbins Road and Paradise Valley Community College. During weekday peak hours the route operates every 15 minutes between Baseline Road and Northern Avenue.

**Route 19:** The 25.5-mile local route runs primarily on 19th Avenue from the 27th Ave/Baseline Park and Ride, to 23rd Avenue and Happy Valley Road. During weekdays the frequency intervals vary throughout the between Jefferson Street and Union Hills Drive segment of the route. This section of the has 12 minute frequency during peak hours and every 15 minutes during midday.

**Route 27:** The 22-mile local route runs on 27th Avenue between Lower Buckeye Road and Rose Garden Lane/Deer Valley Road. The route operates every 30 minutes, seven days a week.

**Route 35:** The 28-mile local route runs primarily on 35th Avenue between the 27th Ave/Baseline Park and Ride, to 23rd Avenue and Happy Valley Road, with a deviation to the Metrocenter Transit Center. During weekday peak hours the route operates every 15 minutes between Lower Buckeye Road and the Metrocenter Transit Center.

**Route 70:** The 31-mile local route runs on 24th Street and Glendale Avenue, between the 24th Street and Baseline Park and Ride to Luke Air Force Base in Glendale. During weekday peak hours, the route operates every 15 minutes between the 24th/Baseline Park and Ride and the Glendale Park and Ride at 99th Avenue.

**DASH Circulator** The 1.5-mile Downtown Phoenix Circulator run on Jefferson and Washington Streets between the State Capitol and Third Avenue. The weekday circulator runs every 12 minutes from 6 a.m. to 6:30 p.m.

#### Proposed Changes

**Route 0:** Reduce weekday frequency from every 20 minutes to every 30 minutes. Recent passenger load analysis revealed that frequency can be reduced while not causing overcrowding on the route.

**Route 3:** Reduce weekday peak hour frequency from every 10 to every 15 minutes between 35th Avenue and 32nd Street but expand the frequency to 44th Street, expanding the route's contribution to the frequent service network.

**Route 7:** Modify weekday frequency from 6 a.m. to 7 p.m. to every 15 minutes between Dunlap Avenue and Baseline Road, segments north of Dunlap Avenue and south of Baseline Road would run at a 30 minute frequency. If implemented, frequency changes for the route would decrease south of Van Buren Street from 10 to 15 minutes; increase between Van Buren Street and Dunlap Avenue from 20 to 15 minutes; and decrease from 20 to 30 minutes north of Dunlap Avenue. Route 7 segment between Dunlap Avenue and Baseline Road would be part of the frequent service network.



**Route 16:** Increase midday frequency from 6 a.m. to 7 p.m. to every 15 minutes between Baseline Road and Northern Avenue. The frequency improvement would match the route's current peak-hour service frequency of every 15 minutes on the same segment, making the segment part of the frequent service network.

**Route 19:** Modify weekday frequency from 6 a.m. to 7 p.m. to every 15 minutes between Jefferson Street and Union Hills Drive. If implemented, frequency changes for the route would increase from 30 to 15 minutes south of Jefferson Street and north of Union Hills Drive, and frequency would decrease between Jefferson Street and Union Hills Drive from every 12-15 minutes to every 15 minutes. The entirety of Route 19 would be part of the frequent service network.

**Route 27:** Increase weekday frequency to every 15 minutes during peak hours between Bell and Lower Buckeye roads, the segment of the route north of Bell Road would maintain 30 minute frequency.

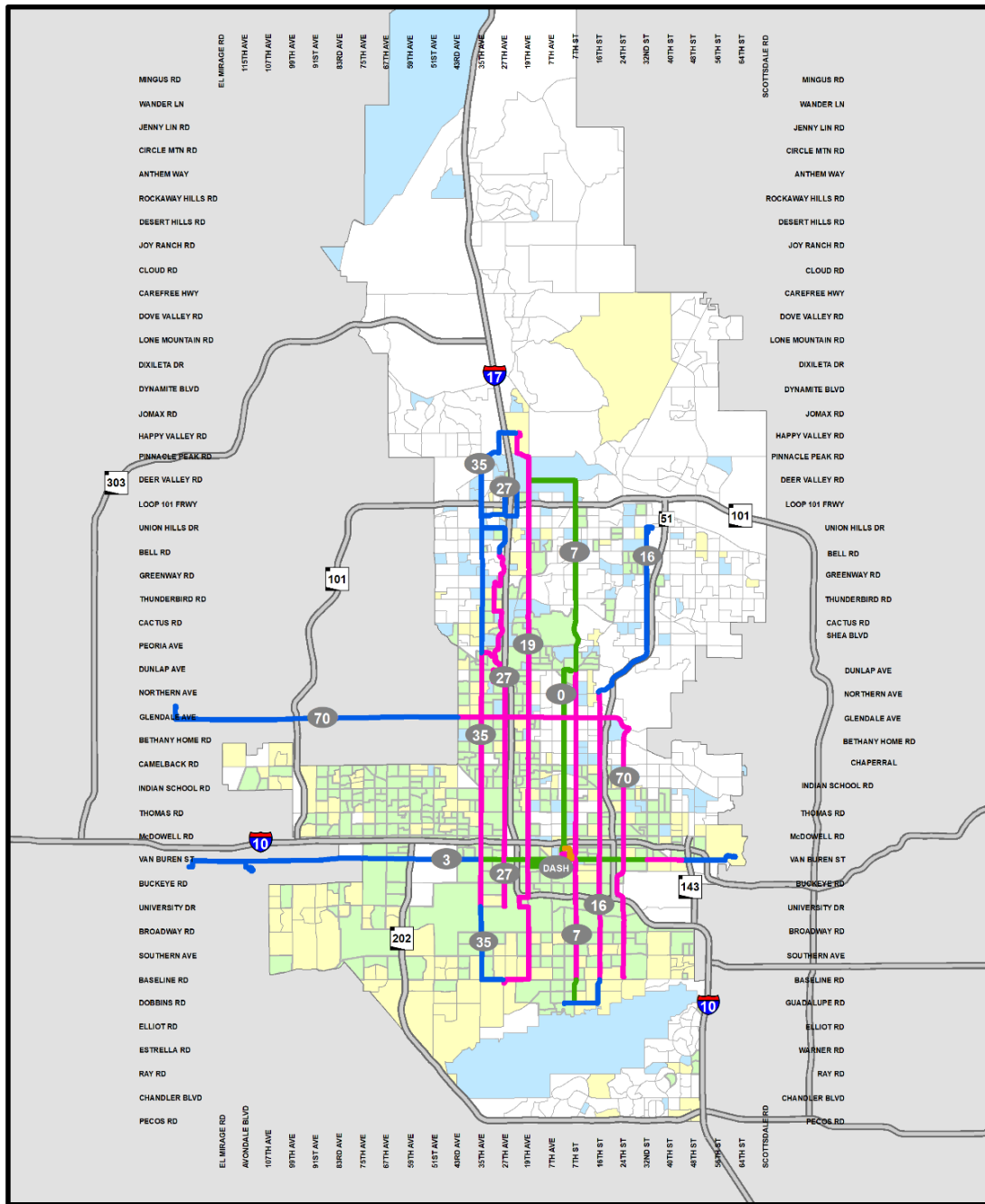
**Route 35:** Increase weekday midday frequency to every 15 minutes between Lower Buckeye Road and the Metrocenter Transit Center. The frequency improvement would match the route's current peak-hour service frequency of every 15 minutes on the same segment, making the segment part of the frequent service network.

**Route 70:** Increase weekday midday frequency to every 15 minutes between the 24th Street and Baseline Park and Ride and the intersection of 43rd and Glendale avenues. The frequency improvement would match the route's current peak-hour service frequency of every 15 minutes on the same segment, making the segment part of the frequent service network.

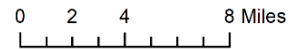
**DASH:** Following extensive outreach and community engagement conducted during the Neighborhood Transit Study (NTS), PTD proposes to expand the DASH circulator's reach in the downtown area. The proposed expansion includes extending the route east to First Avenue and Jefferson Streets, where it connects with the Fry's grocery store multiple light rail connections in walking distance. Then, expand the route north to Roosevelt Street via Third and Fifth streets to provide a transit connection to the Roosevelt Row. In addition, PTD proposes to modify the service frequency, days and hours to the following: implement frequency to every 15 minutes; extend hours to 11 p.m. between Roosevelt Row and Downtown Phoenix; and add service on weekends on the same segment.



# PROPOSED OCTOBER 2023 SERVICE CHANGES MAP



- Increase Frequency
- Decrease Frequency
- Extension
- Unchanged
- Minority
- Low Income
- Both
- Non Title VI
- Non Phoenix Area







Public Input Process

The Public Transit Department uses the locally adopted public outreach process to solicit public feedback on proposed service changes.

The public input process takes place from May 8 to June 9, during which time Phoenix and Valley Metro staff began the public input conduct in-person and virtual outreach utilizing posters and A-Frame signs placed at key areas along each route to notify the public of the proposed changes, and direct passengers to visit Valley Metro’s website to submit comments. The proposed changes are also be advertised via social media, interactive webinars, and a public hearing, which is scheduled from 5 to 6 p.m. on Wednesday, May 24 at Valley Metro’s offices, Conference Room 10A.

**SERVICE EQUITY ANALYSIS OF OCTOBER 2023 SERVICE CHANGES**

Step 1- Magnitude of Service Change Assessment

The first step of the Title VI assessment is to measure and document the magnitude of service change being proposed to determine if a project qualifies as a “major service change”. For routes that cross jurisdictional boundaries, revenue and directional miles are summarized for both total route and Phoenix portion only.

**Table 1: Magnitude of Impact- Revenue Miles Change**

Routes	Current Revenue Miles			Proposed Revenue Miles			% Difference		
	Weekday	Saturday	Sunday	Weekday	Saturday	Sunday	Weekday	Saturday	Sunday
Route 0	945	624	624	658	624	624	-30%	0.0%	0.0%
Route 3	1,936	1,228	1,220	1,810	1,228	1,220	-7%	0.0%	0.0%
Route 7	2,964	1,901	1,901	2,862	1,901	1,901	-3%	0.0%	0.0%
Route 16	2,151	1,712	1,712	2,404	1,712	1,712	12%	0.0%	0.0%
Route 19	3,249	1,942	1,942	3,411	1,942	1,942	5%	0.0%	0.0%
Route 27	1,775	1,702	1,702	2,363	1,702	1,702	33%	0.0%	0.0%
Route 35	2,618	2,088	2,088	2,857	2,088	2,088	9%	0.0%	0.0%
Route 70	1,894	1,382	1,382	2,412	1,382	1,382	27%	0.0%	0.0%
Dash	172	0	0	361	123	123	110%	100%	100%



**Table 2: Magnitude of Impact- Directional Miles Change**

Routes	Current Directional Miles	Proposed Directional Miles	% Difference
Route 0	14.8	14.8	0%
Route 3	49.7	49.7	0%
Route 7	50.7	50.7	0%
Route 16	46.8	46.8	0%
Route 19	51.5	51.5	0%
Route 27	45.5	45.5	0%
Route 35	54.4	54.4	0%
Route 70	61.8	61.8	0%
Dash	2.8	6.1	<b>118%</b>

**Table 3: Magnitude of Impact- Major Change Indicators by Individual Projects**

	Add or Eliminate Route	Expanding or reducing existing route by more than 25% of Weekday route revenue miles	Expanding or reducing existing route by more than 25% of Saturday routes revenue miles	Expanding or reducing existing route by more than 25% of Sunday route revenue miles	Expanding or reducing number of route directional miles more than 25%	A change resulting in a 25% or greater variance from the existing route alignment	Continue to Assess Mitigation
Route 0	No	<b>Yes</b>	No	No	No	No	<b>Yes</b>
Route 3	No	No	No	No	No	No	No
Route 7	No	No	No	No	No	No	No
Route 16	No	No	No	No	No	No	No
Route 19	No	No	No	No	No	No	No
Route 27	No	<b>Yes</b>	No	No	No	No	<b>Yes</b>
Route 35	No	No	No	No	No	No	No
Route 70	No	<b>Yes</b>	No	No	No	No	<b>Yes</b>
Dash	No	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>

Step 1: Magnitude of Service Change Assessment Findings

Routes 0, 27, 70 and the DASH all represent a Major Service Change as the revenue miles or directional miles will change by over 25%. These individual project proposal will proceed to step 2 to be assessed for possible disparate impact to minority population and/or bestowing disproportionate burden on low-income populations.



**Step 2- Disparate Impact and Disproportionate Burden Determination**

The second step of the service equity assessment will evaluate each major service change to determine if it would have a disparate impact on minority populations and/or cause disproportionate burden on low-income populations. Should Valley Metro or the City of Phoenix find any disparate impact or disproportionate burden is found during the service equity analysis, steps will be taken to avoid, minimize, or mitigate the impacts.

**Table 4: Route Service Area Title VI Populations by Census Block Group\***

Route	Percent Minority Population	Percent Low Income Population
All Local	52.3%	22.9%
Route 0	45%	24%
Route 27	62%	32%
Route 70	65%	31%
All Circulators	53.8%	25.0%
Dash Circulator	70%	43%
* Population figures are proportionate to the portion of the Census Block Group within 3/4 mile buffer of route.		
Above system average by five percent		

**Table 5. Route Rider Population from 2019 Valley Metro Origin and Destination Survey**

Route	Percent Minority Population	Percent Low Income Population
All Local	62.2%	45.0%
Route 0	71%	39%
Route 27	55%	55%
Route 70	60%	37%
All Circulators	60.1%	45.8%
Dash Circulator	53%	77%
* 2019 Valley Metro Origin and Destination Study		
** Population figures are proportionate to the portion of the Census Block Group within 3/4 mile buffer of route.		
Above system average by five percent		

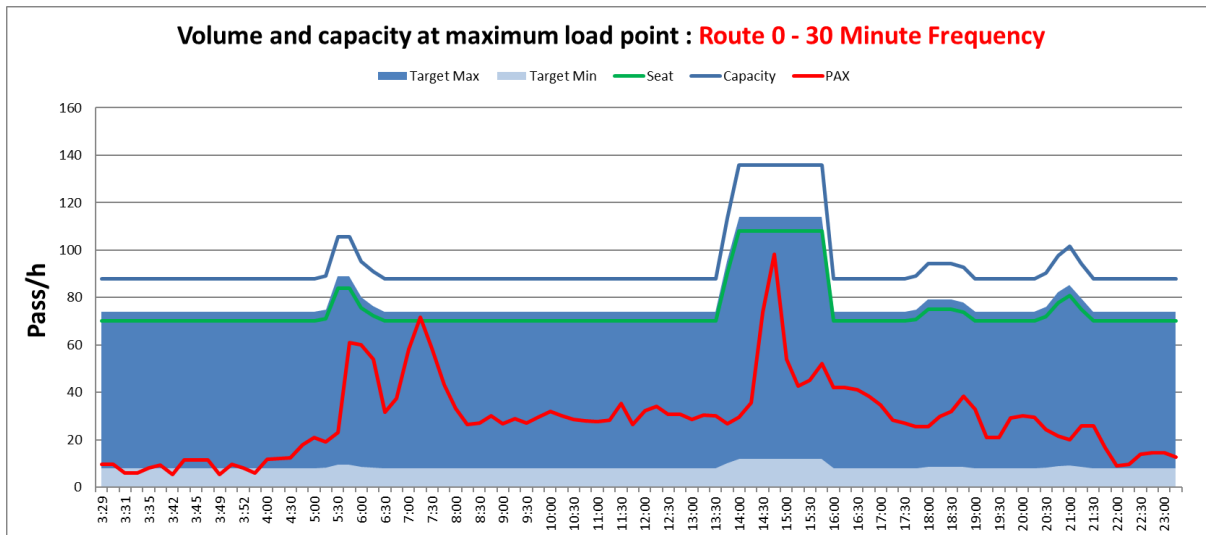
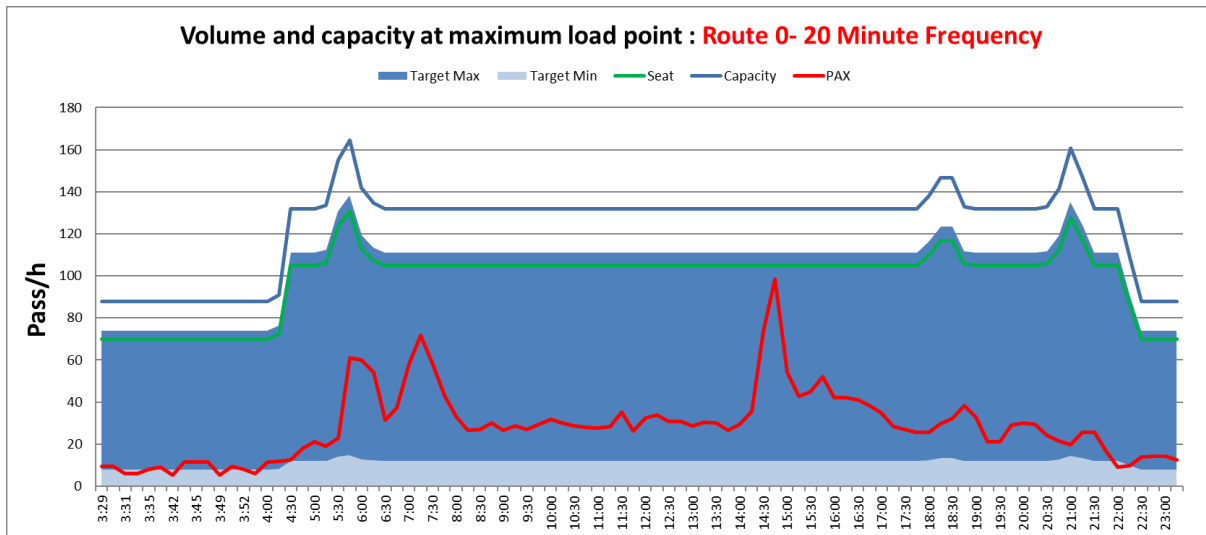
**Step 2- Disparate Impacts and Disproportionate Burden findings and mitigation strategy**

**Route 0 findings:** According to the most recent origin/destination survey, current Route 0 passengers are 71% minority, which is more than five percent above the regional



average of 62% for local routes. The proposed service change on Route 0 qualifies as having disparate impact on minority populations.

**Route 0 Mitigation:** Current passenger loads on Route 0 indicate there are adequate seating capacity at 20-minute weekday frequency. Transit service volume and capacity chart on Route 0 based on Spring 2023 passenger data indicate passenger loads are typically well below target capacity. When lowering route seat capacity by reducing service to every 30 minutes on weekdays, assuming the same passenger demand, there would still be more than enough transit capacity to handle to passenger loads.



Passenger load profiles by hour for Route 0 revealed a high passenger load around 2:00 PM. To handle the surge in passenger demand, larger 60-foot buses can be scheduled to be deployed on specific trips to carry passengers.



In addition to passenger load data showing there are room for service reduction, Route 0 service is further assisted by overlapping Light Rail service between Van Buren Street and Camelback Road on Central Avenue. While passengers traveling to and from Sunnyslope Transit Center and Camelback Road would experience a service reduction, Central Avenue south of Camelback Road is also serviced by the Light Rail system that currently operate every 15 minutes. Although Route 0 proposed service change alone is a negative impact, the proposed change is part of the major frequency investment in the core of Phoenix by adding more frequency on weekdays on more routes.

Route 0 service impact are mitigated by having Light Rail service on Central Avenue as well as another frequent route nearby such as Route 7 on 7th Street.

**Route 27 Findings:** Based on most recent census information, Route 27 service area are 62% minority and 32% low-income. Both indicators are at least five percent higher than the system average for local routes. In addition, the most recent origin/destination survey on Route 27 showed that 55% of riders are considered low-income. As a result, Route 27 service change proposal is considered to cause disparate impact to minority population and place disproportionate burden on low-income populations if the proposal is a negative change.

**Route 27 Mitigation:** The increase of frequency along the highest ridership segment of the route will increase the available service. No further mitigation is required.

**Route 70 Findings:** Based on most recent census information, Route 70 service area are 65% minority and 31% low-income. Both indicators are at least five percent higher than the system average for local routes. As a result, Route 70 service change proposal is considered to cause disparate impact to minority population and place disproportionate burden on low-income populations if the proposal is a negative change.

**Route 70 Mitigation:** The increase of frequency along the highest ridership segment of the route will increase the available service. No further mitigation is required.

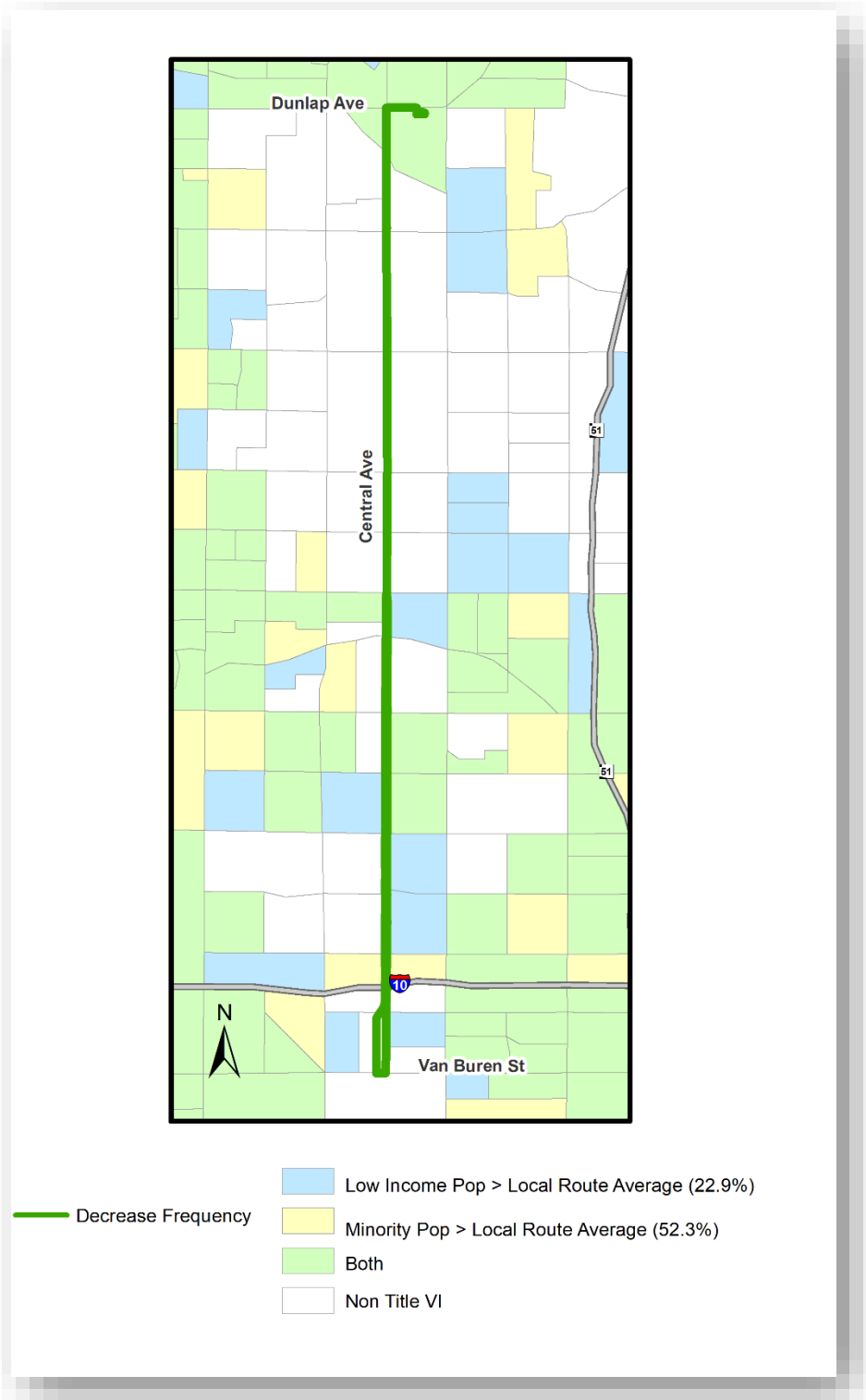
**DASH Circulator Findings:** Based on most recent census information, DASH Circulator service area are 70% minority and 43% low-income. Both indicators are at least five percent higher than the system average for circulator routes. As a result, DASH Circulator service change proposal is considered to cause disparate impact to minority population and place disproportionate burden on low-income populations if the proposal is a negative change.

**DASH Circulator Mitigation:** DASH service changes will offer current patrons additional destinations including a grocery store and a popular arts and entertainment district. In addition, they will have late-night and weekend service, which is currently lacking. No further mitigation is required.



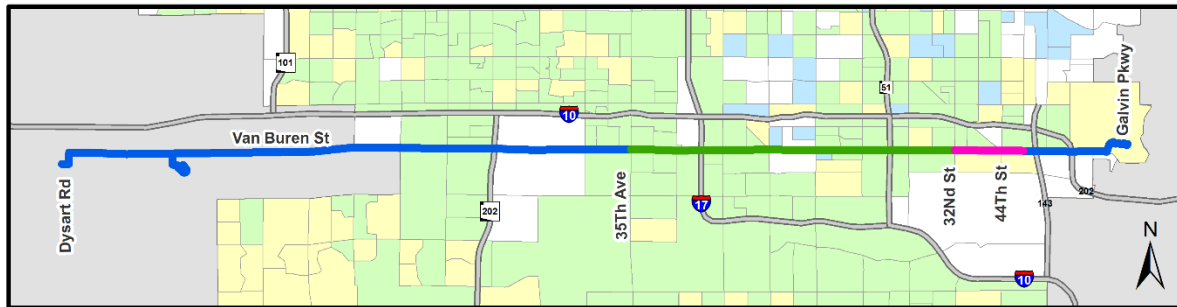
## Demographic Maps

### Map 1: October 2023 Service Change and Title VI Populations Route 0



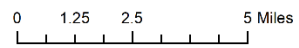


### Map 2: October 2023 Service Change and Title VI Population Route 3



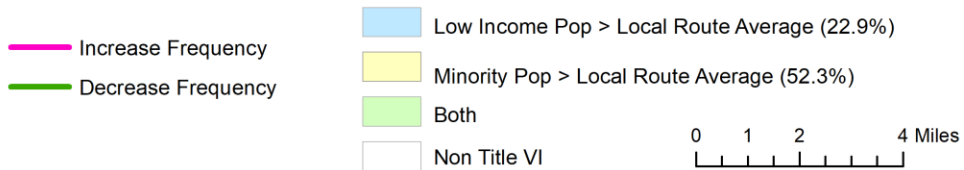
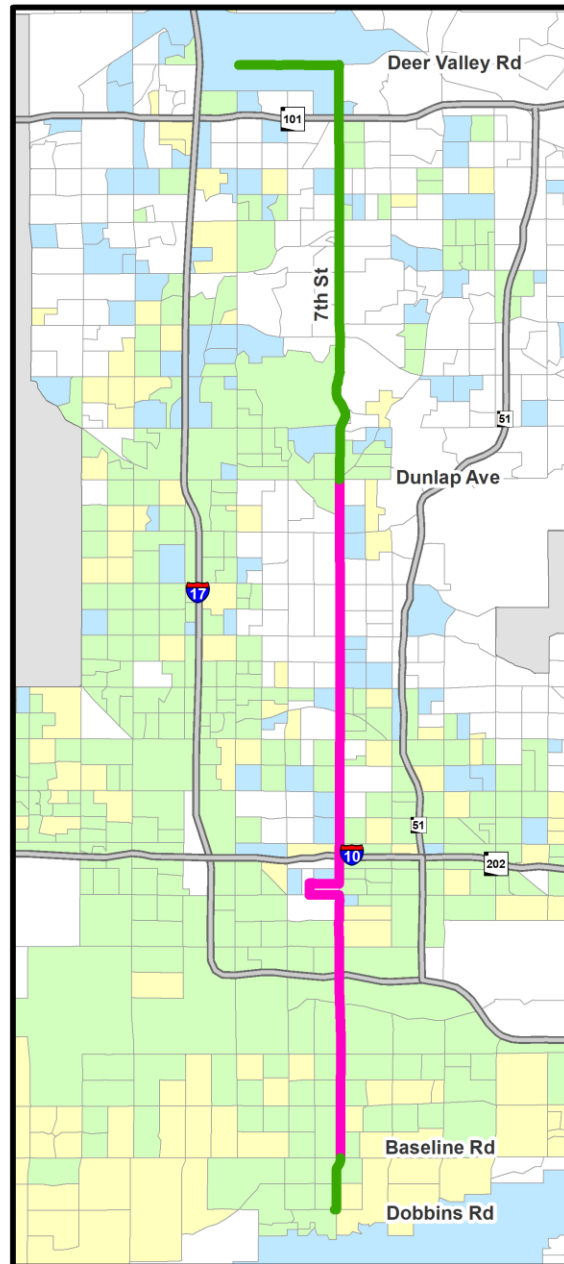
- Increase Frequency
- Decrease Frequency
- Unchanged

- Low Income Pop > Local Route Average (22.9%)
- Minority Pop > Local Route Average (52.3%)
- Both
- Non Title VI





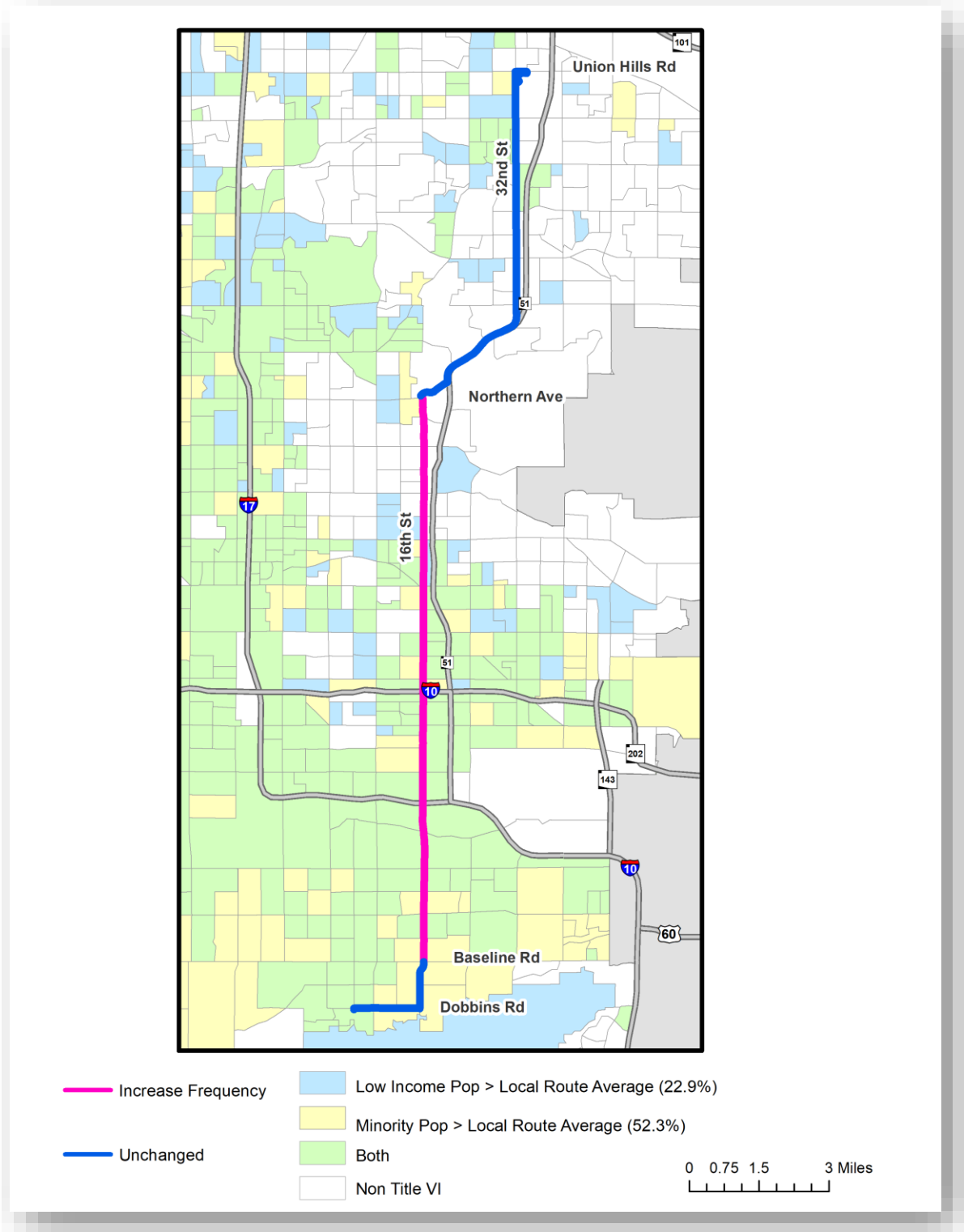
### Map 3: October 2023 Service Change and Minority Population Route 7





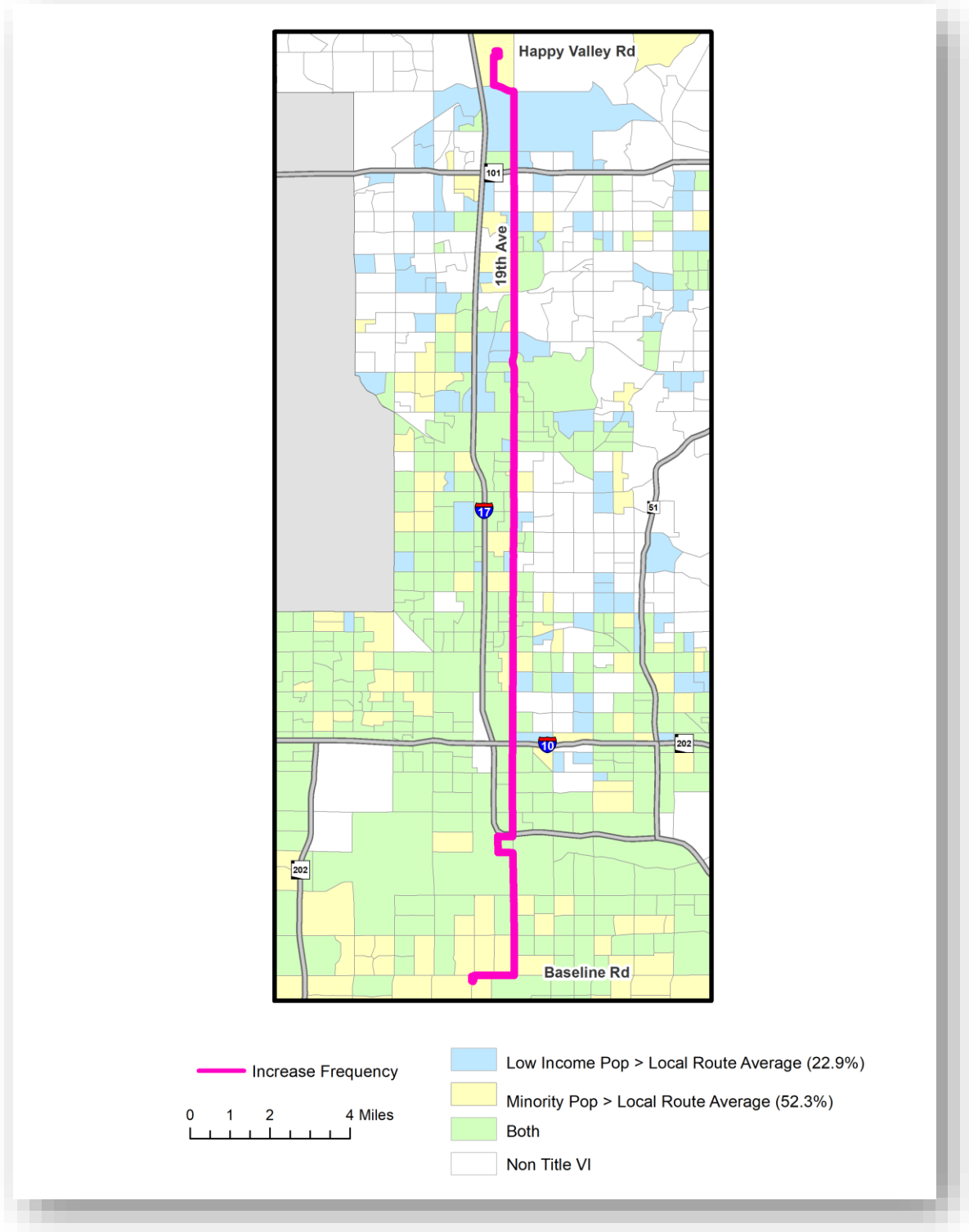


### Map 4: October 2023 Service Change and Title VI Population Route 16



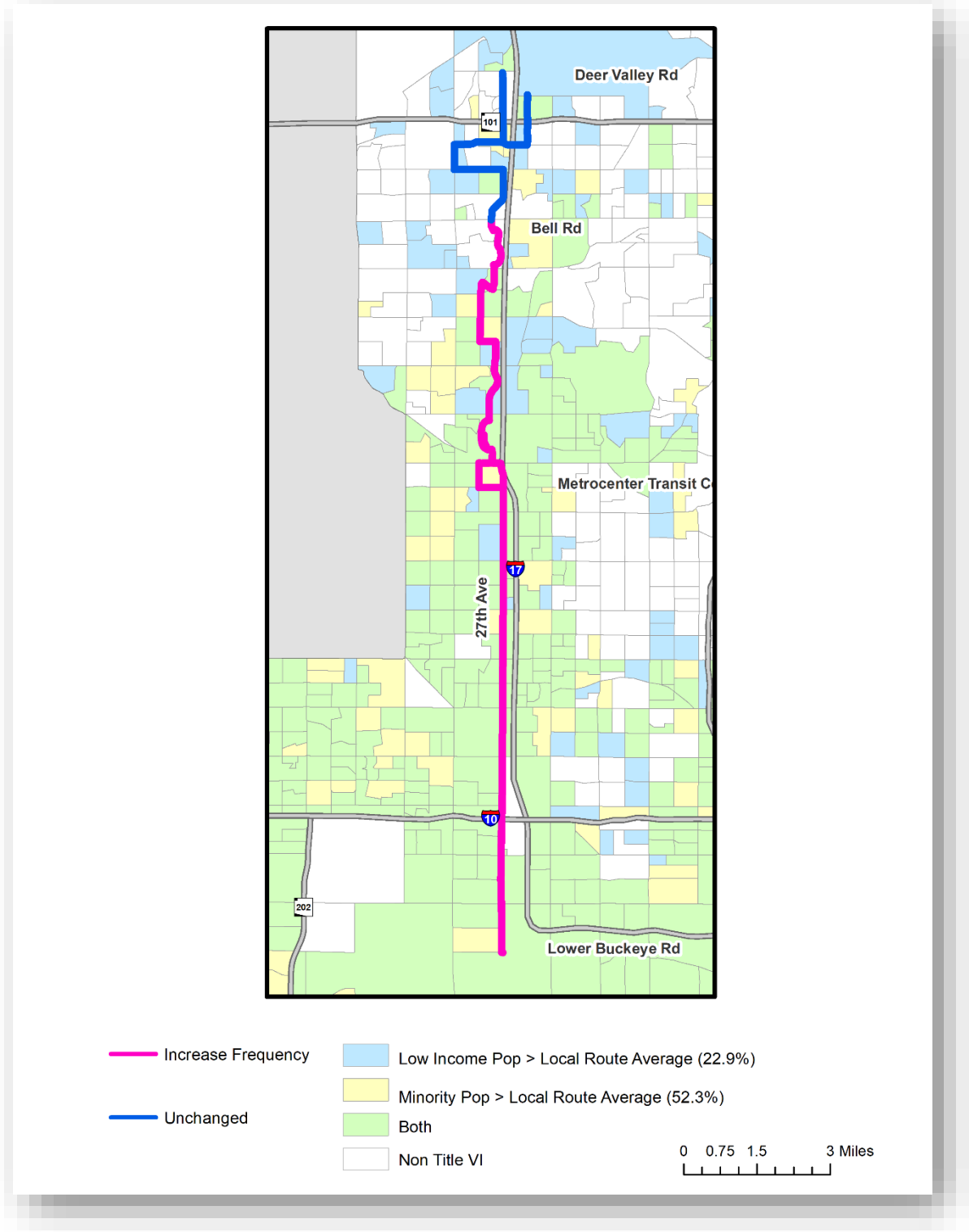


### Map 5: October 2023 Service Change and Title VI Population Route 19



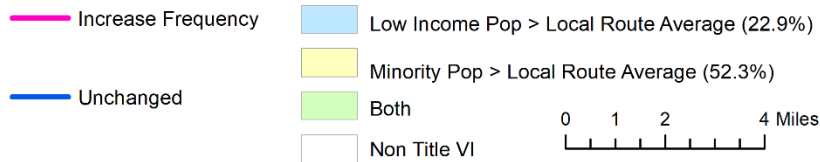
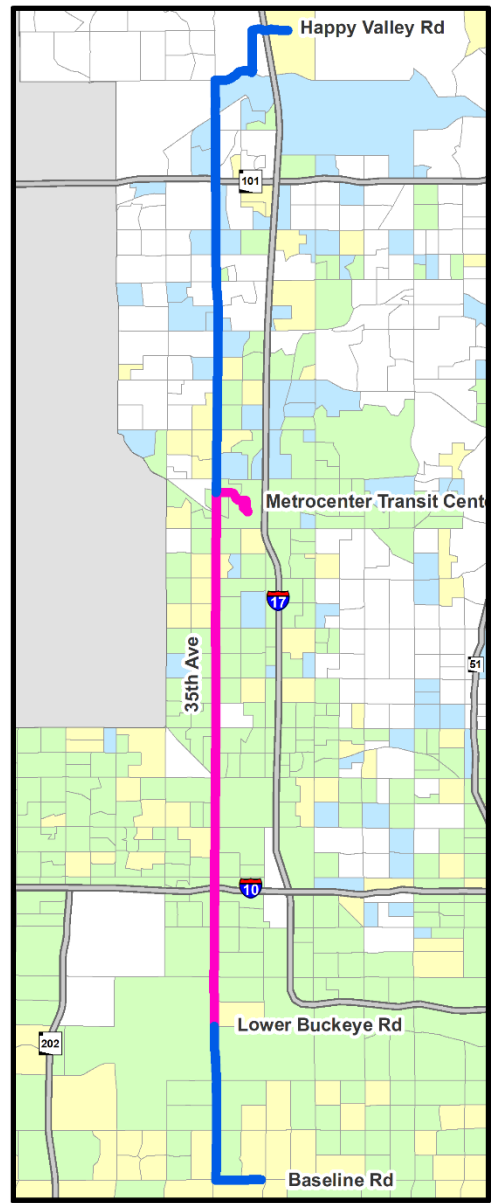


### Map 6: October 2023 Service Change and Title VI Population Route 27



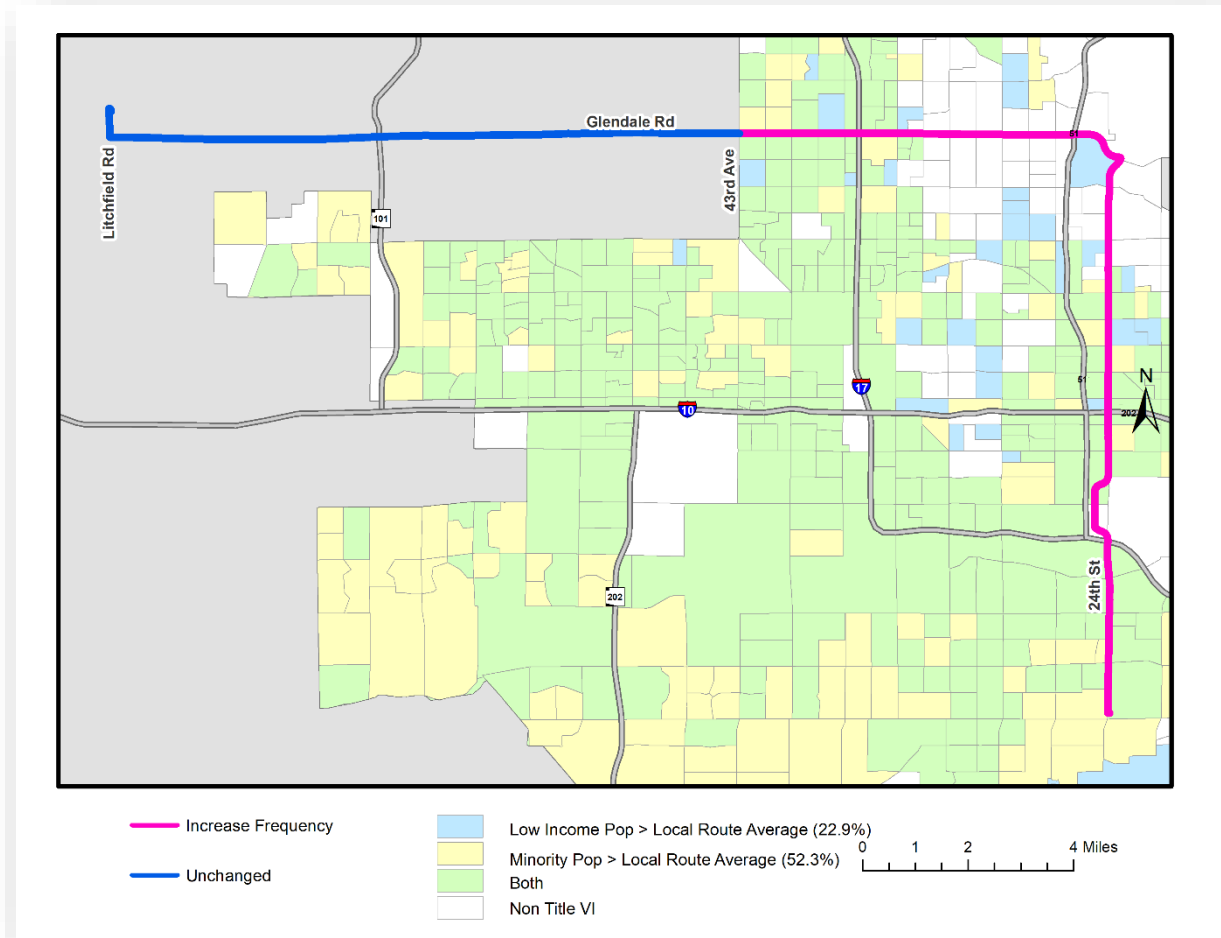


### Map 7: October 2023 Service Change and Title VI Population Route 35





### Map 8: October 2023 Service Change and Title VI Population Route 70





### Map 9: October 2023 Service Change and Title VI Population DASH Circulator

