

January  
2019

# Service Change Equity Analysis



DETROIT DEPARTMENT OF TRANSPORTATION  
Major Service Change and Reconfiguration  
November 2018

# January 2019 Major Service Change Package

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## INTRODUCTION

Engagement with riders, community groups, bus operators, and city departments fuel the service change proposal for January 2019.

The Federal Transit Administration mandates that all primary recipients complete an equity analysis whenever an agency proposes a major service change. DDOT defines a major service change as a 25% difference of revenue hours, miles, and trips for weekday, Saturday, or Sunday service.

### *Individual Service Change Proposals*

**4 – Woodward** saw a reduction in service during the September 2018 service change in response to the new FAST limited stops transit option along the same corridor. However, after observing vehicle loads and speaking with stakeholders, 15 minute headways during weekday peak and midday services were inadequate. Buses could not stay on schedule and overcrowding became common. Morning peak and midday headways are proposed to improve from 15 minutes to 12 minutes while afternoon peak service is proposed improve from 12 minutes to 10 minutes.

**8 – Warren** proposes to serve W Warren Ave in both directions rather than diverting to Forest for the eastbound trips. Currently, the city is turning that stretch of Warren from a one-way to a two-way and will be ready for eastbound buses by January. See Map A – 4 in the Appendix.

**10 – Greenfield** proposes to move the 10:53pm and 11:53pm trips from Fairlane Town Center seven minutes later to better align with common shift times.

**13 – Conner’s** southern end proposes a significant change during weekday peak service. Currently the route winds around the Jefferson-Chalmers neighborhood. The proposed routing change will end 13 – Conner at Parkway Shopping Center and interline with 68 – Chalmers, just north of the neighborhood. See Maps A – 1 and A – 2 in the Appendix.

**38 – Plymouth** will move part of it’s routing a few streets west to better serve a new major employer. No change to service levels is proposed. See Map A – 5 in the Appendix.

**68 – Chalmers’s** southern end also proposes a significant change in routing. The proposed routing will serve the Jefferson-Chalmers neighborhood with simple routing and less time-consuming turns, for all weekday, Saturday, and Sunday trips. It will end at the Parkway Shopping Center and interline with 13 – Conner. This change increases service for the Jefferson-Chalmers neighborhood. The proposed routing on the northern end will improve access to the Schoenherr and State Fair area full time rather than restricted to weekday peak times. For legible operation, the routing is proposed to use Schoenherr in both directions while removing the one-way loop via State Fair, Waltham, and 8 Mile. See Maps A – 1 and A - 3 in the Appendix.

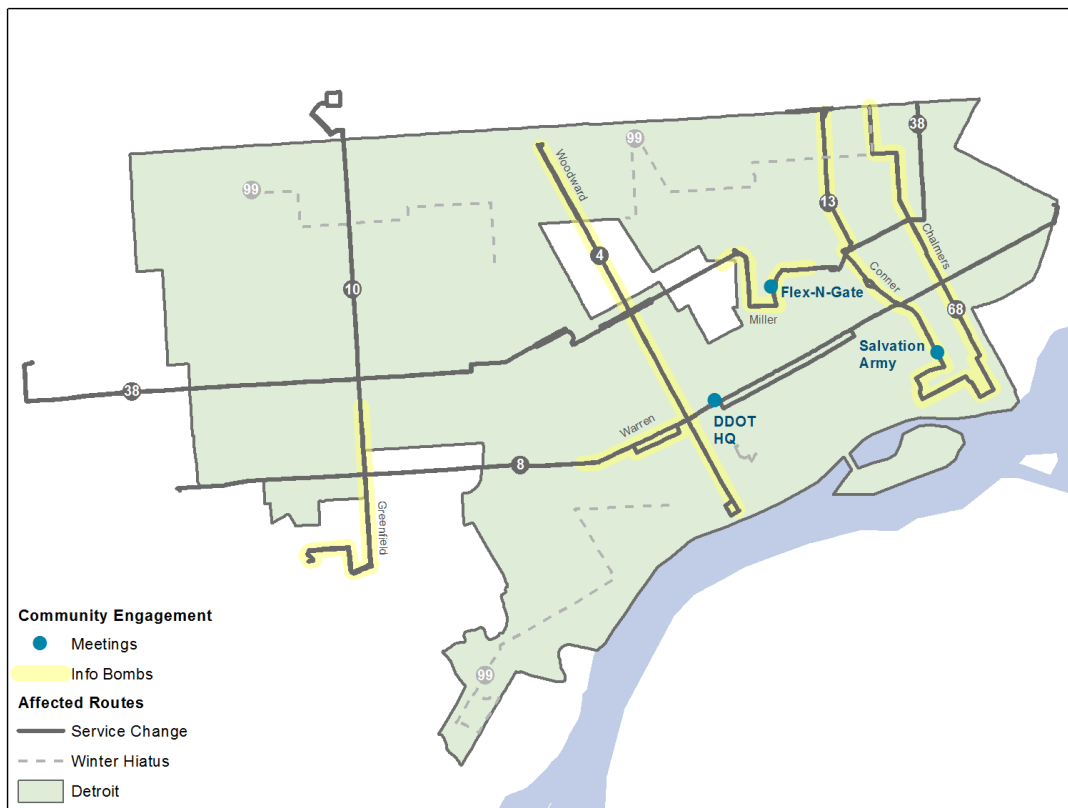
**99 – Fresh Wagon** is a seasonal Saturday service that gives Detroiters better access to Eastern Market, the city’s largest farmers market. The route will go on hiatus throughout the Winter months.

## COMMUNITY ENGAGEMENT

Under its public participation plan, DDOT must host daytime and evening public hearings, allowing 15 days for input after the last hearing and put out a newspaper ad five to ten days prior to the hearings. Flyers for the hearings are in Appendix 1.

In addition to meetings, DDOT staff conducts “info bombs,” in which two to three staff members follow a route, hop on the passing buses to hand out information to riders, and hop off, continuing to the next passing bus.

Type	Location	Date	Time	Specific Routes
Hearing	DDOT Main Office	12/12/2018	5p - 6:30p	All
Hearing	Salvation Army	12/13/2018	11a - 12:30p	13, 68
Info session	Flex N Gate	TBD	TBD	38
Info Bomb	Greenfield	1/9/2019	Afternoon	10
Info Bomb	Greenfield	1/15/2019	Afternoon	10
Info Bomb	Chalmers St	1/15/2019	Morning	68
Info Bomb	Warren Ave	1/16/2019	Afternoon	8
Info Bomb	Miller St	1/16/2019	TBD	38
Info Bomb	Woodward & Conner	1/16/2019	Morning	4, 13



## EQUITY ANALYSIS - DEFINITIONS

Due to Metro Detroit's unique racial and economic makeup, the percent of minorities and the percent of people living under the poverty line are higher than the national average. 80% of DDOT's service area population are minorities and 38% live in poverty.

The analysis used ArcMap for Desktop, American Community Survey 2016 population characteristics data, and TIGER 2016 block groups.

This methodology relies on these definitions:

- **Service area** – The service area for this analysis is any block group with a centroid within a half-mile of a stop, or intersect DDOT stops with a search distance of 60 meters to account for street width.
- **Minority population** – Minority counts are based on all individuals classified not as “white only” for race in the ACS 2016 block group data. This methodology does not account for the large concentration of Arab populations in Southwest Detroit and Dearborn who have historically counted as “white” in the census.
- **Low-income population** – Low-income counts are based on all individuals classified as below poverty for income in the 2016 ACS block group data.
- **Minority and low-income averages** – The total minority population and the total low-income population are each divided by the total population in the system service area to find the system average. The population characteristics are based on ACS 2016 data. The minority average is 80% and the low-income average is 38%
- **Minority route** – A route that has at least 1/3 (33%) of its total revenue mileage in census blocks, block groups, or traffic analysis zone(s) with a percentage of minority population that exceeds the system wide average. DDOT uses block group level data.
- **Low-income route** – The FTA defines this as a route that has at least 1/3 (33%) of its total revenue mileage in census blocks, block groups, or traffic analysis zone(s) with a percentage of below-poverty population that exceeds the system wide average. DDOT uses block group level data.
- **Disparate Impact and Disproportionate Burden** – A facially neutral policy or practice that negatively affects members of FTA protected populations. Disparate impact is based on minority populations and disproportionate burden is based on low-income populations. The impact on these vulnerable populations should be no less than 25% of the impact on non-vulnerable populations. For example, if the percent change in improved service for non-protected populations is 100%, the percent change for protected populations should be no less than 75%. If the percent of change for vulnerable populations is less than the threshold, there may be a disparate impact or disproportionate burden. If either occur, DDOT must present legitimate justification, mitigation efforts, and discuss alternatives that were not pursued.

## EQUITY ANALYSIS – ANALYSIS

### Percent Change

Of the seven affected routes, 13 – Conner and 68 – Chalmers reached or surpassed the major service change threshold of 25%. 99 - Fresh Wagon is going on its scheduled hiatus and does not warrant an analysis for its service type. See tables A-1, A-2, and A-3 in the Appendix for more detailed counts.

### Percent Difference Between Proposed Service Compared to Current Service

Route	Weekday			Saturday			Sunday		
	Hours	Miles	Trips	Hours	Miles	Trips	Hours	Miles	Trips
<b>4</b> Woodward	18.12%	15.81%	15.82%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
<b>8</b> Warren	-2.38%	-1.48%	0.00%	-2.68%	-1.48%	0.00%	-2.76%	-1.48%	0.00%
<b>10</b> Greenfield	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
<b>13</b> Conner	-2.70%	-1.54%	2.27%	<b>28.05%</b>	12.37%	0.00%	<b>41.14%</b>	15.53%	0.00%
<b>38</b> Plymouth	0.00%	-0.44%	0.00%	0.00%	-0.51%	0.00%	0.00%	-0.53%	0.00%
<b>68</b> Chalmers	<b>48.64%</b>	<b>49.56%</b>	-6.52%	<b>72.61%</b>	<b>97.55%</b>	7.14%	<b>96.14%</b>	<b>138.71%</b>	<b>26.32%</b>
<b>99</b> Fresh Wagon	0.00%	0.00%	0.00%	NA	NA	NA	0.00%	0.00%	0.00%

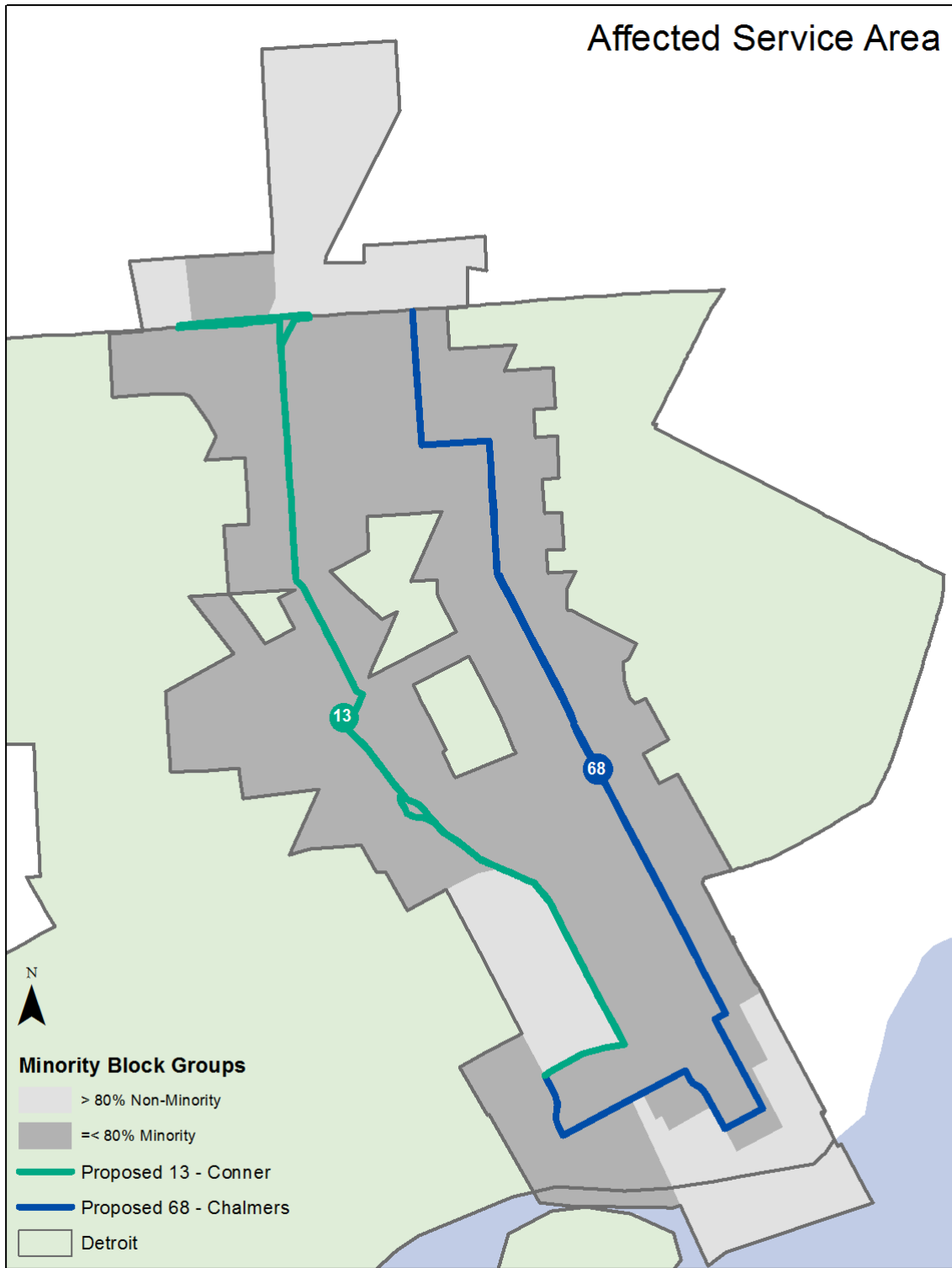
### Classification

Of DDOT's 43 routes, 41 are minority routes, and 37 are low-income routes because one third (33%) of their routing travels through minority block groups. All are classified as minority, low-income, or both. Both routes in this analysis are minority and low-income routes.

### Route Classification

Route	Miles	Minority			Low-Income		
		Miles	%	Classified	Miles	%	Classified
<b>13</b> Conner	16.14	12.55	77.75%	✓	8.02	49.71%	✓
<b>68</b> Chalmers	18.65	18.65	99.98%	✓	9.99	53.55%	✓

Map 1 - Minority Block groups served by 13 - Conner and 68 - Chalmers



*Comparison*

The threshold for disparate impact and disproportionate burden is 25% less service than the cumulative non-minority or low-income routes percent change. 13 – Conner and 68 – Chalmers classify as minority and low-income routes, serving both Title VI protected populations, and both routes are proposed for significant service improvements. The table below reflects both route’s cumulative hours, miles, and trips before and after the proposed changes take effect. The percent change in service for protected populations does not fall below the percent change threshold of non-protected populations.

**Percent Change by Route Classification**

Classification		Weekday			Saturday			Sunday		
	Populations	Before	After	Change	Before	After	Change	Before	After	Change
Hours	Protected	41.98	50.06	<b>19.25%</b>	21.45	31.99	<b>49.14%</b>	15.48	25.55	<b>65.05%</b>
	Non-Protected	0	0	0.00%	0	0	0.00%	0	0	0.00%
	Threshold			-25.00%			-25.00%			-25.00%
Miles	Protected	645.75	771.81	<b>19.52%</b>	369.82	535.30	<b>44.75%</b>	280.03	438.14	<b>56.46%</b>
	Non-Protected	0	0	0.00%	0	0	0.00%	0	0	0.00%
	Threshold			-25.00%			-25.00%			-25.00%
Trips	Protected	90	88	<b>-2.22%</b>	59	61	<b>3.39%</b>	45	50	<b>11.11%</b>
	Non-Protected	0	0	0.00%	0	0	0.00%	0	0	0.00%
	Threshold			-25.00%			-25.00%			-25.00%

**CONCLUSION**

Based on the analysis, there is no disparate impact or disproportionate burden on minority or low-income DDOT riders due to the service change.



## APPENDIX

Table A - 1 Difference in revenue hours. A percent change over 25% triggers an equity analysis

**Revenue Hours**

		Weekday			Saturday			Sunday		
		Before	After	% Change	Before	After	% Change	Before	After	% Change
<b>4</b>	Woodward	108.28	127.90	18.12%	0.00	0.00	0.00%	0.00	0.00	0.00%
<b>8</b>	Warren	130.38	127.28	-2.38%	75.88	73.85	-2.68%	70.32	68.38	-2.76%
<b>10</b>	Greenfield	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%
<b>13</b>	Conner	24.03	23.38	-2.70%	11.30	14.47	28.05%	8.75	12.35	41.14%
<b>38</b>	Plymouth	71.72	71.72	0.00%	44.82	44.82	0.00%	37.90	37.90	0.00%
<b>68</b>	Chalmers	17.95	26.68	48.64%	10.15	17.52	72.61%	6.73	13.20	96.14%
<b>99</b>	Fresh Wagon	NA	NA	0.00%	<i>Scheduled</i>	<i>Hiatus</i>	0.00%	NA	NA	0.00%

Table A - 2 Difference in revenue Miles. A percent change over 25% triggers an equity analysis

**Revenue Miles**

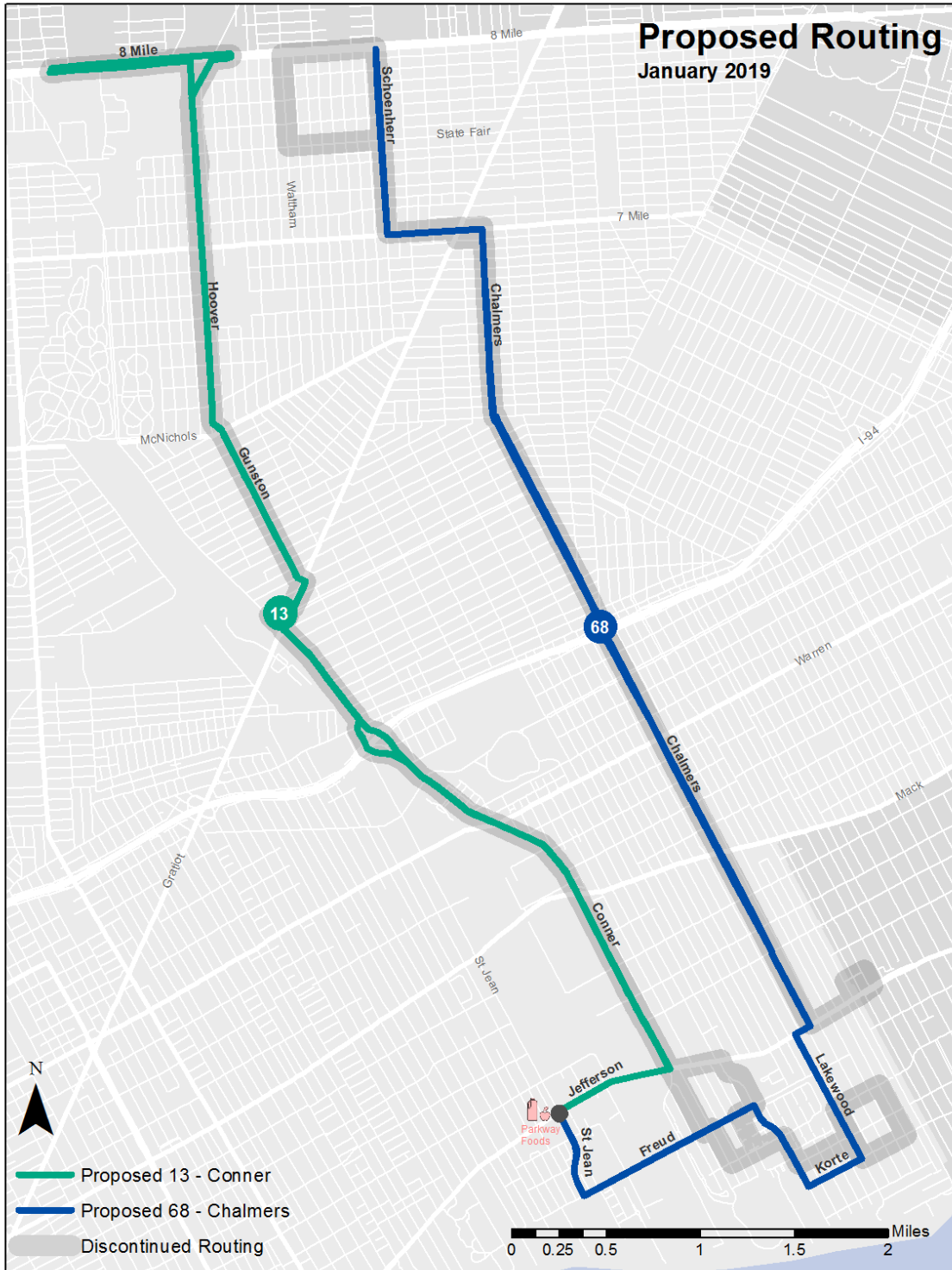
		Weekday			Saturday			Sunday		
		Before	After	% Change	Before	After	% Change	Before	After	% Change
<b>4</b>	Woodward	1,467.44	1,699.48	15.81%	0.00	0.00	0.00%	0.00	0.00	0.00%
<b>8</b>	Warren	1,886.07	1,858.17	-1.48%	1,237.49	1,219.19	-1.48%	1,176.41	1,159.01	-1.48%
<b>10</b>	Greenfield	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%
<b>13</b>	Conner	379.62	373.79	-1.54%	229.26	257.62	12.37%	186.97	216.00	15.53%
<b>38</b>	Plymouth	1,177.53	1,172.33	-0.44%	727.01	723.33	-0.51%	611.13	607.88	-0.53%
<b>68</b>	Chalmers	266.13	398.02	49.56%	140.56	277.68	97.55%	93.06	222.14	138.71%
<b>99</b>	Fresh Wagon	NA	NA	0.00%	<i>Scheduled</i>	<i>Hiatus</i>	0.00%	NA	NA	0.00%

Table A - 3 Difference in revenue trips. A percent change over 25% triggers an equity analysis

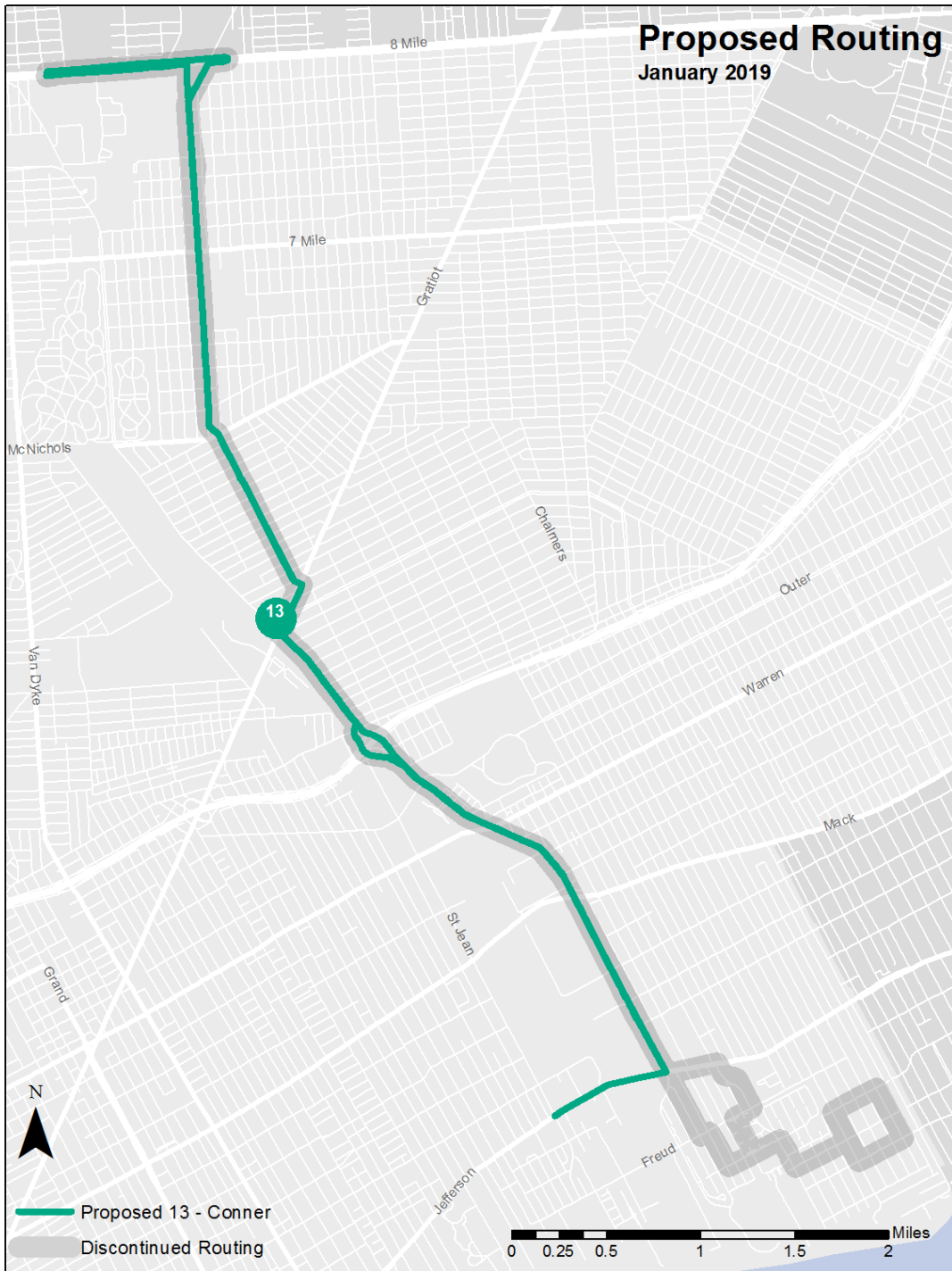
**Revenue Trips**

		Weekday			Saturday			Sunday		
		Before	After	% Change	Before	After	% Change	Before	After	% Change
<b>4</b>	Woodward	158	183	15.82%	0	0	0.00%	0	0	0.00%
<b>8</b>	Warren	93	93	0.00%	61	61	0.00%	58	58	0.00%
<b>10</b>	Greenfield	0	0	0.00%	0	0	0.00%	0	0	0.00%
<b>13</b>	Conner	44	45	2.27%	31	31	0.00%	26	26	0.00%
<b>38</b>	Plymouth	50	50	0.00%	37	37	0.00%	33	33	0.00%
<b>68</b>	Chalmers	46	43	-6.52%	28	30	7.14%	19	24	26.32%
<b>99</b>	Fresh Wagon	NA	NA	0.00%	<i>Scheduled</i>	<i>Hiatus</i>	0.00%	NA	NA	0.00%

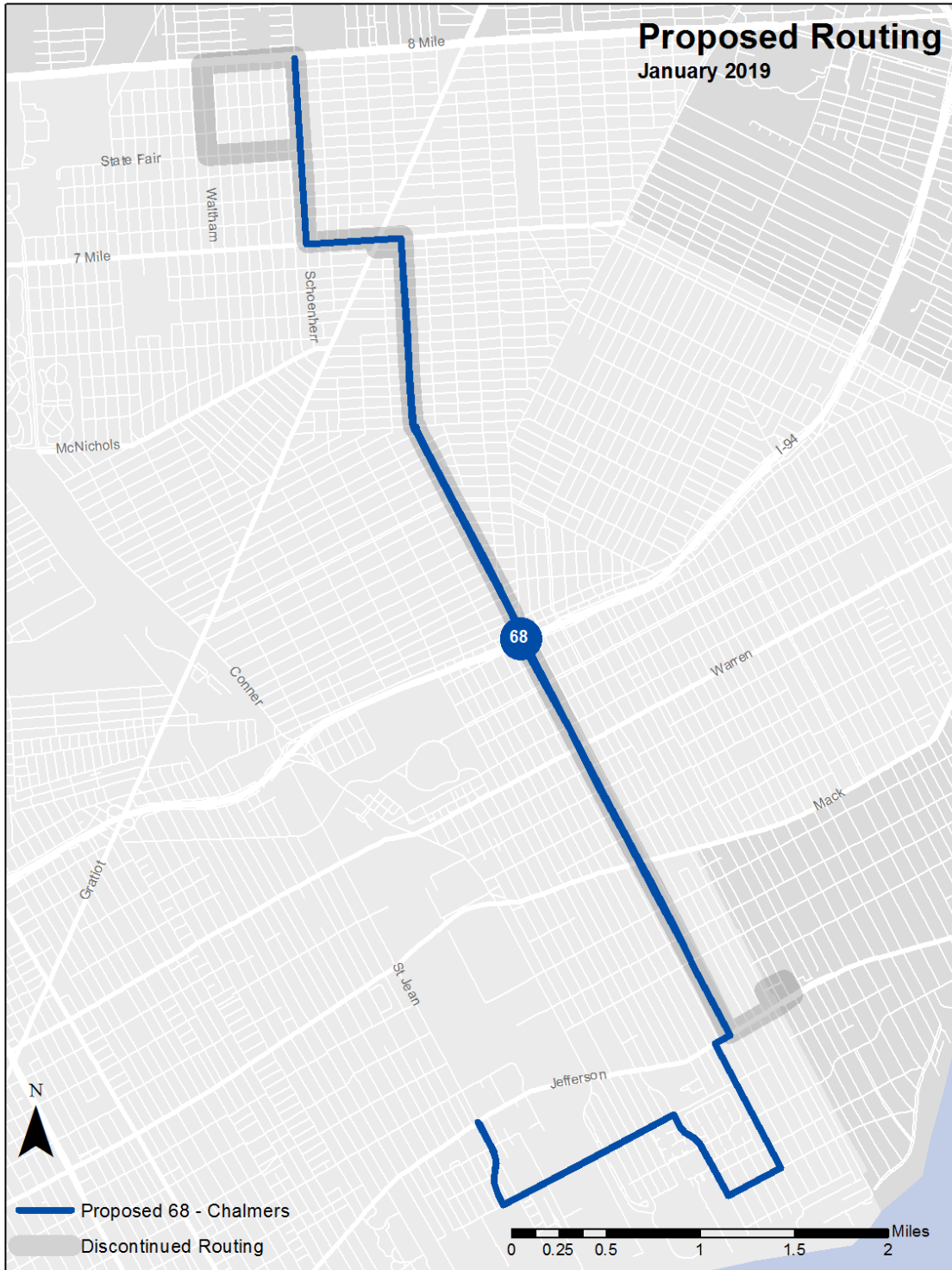
Map A - 1 Proposed new routing and interlining point for 13-Conner and 68-Chalmers



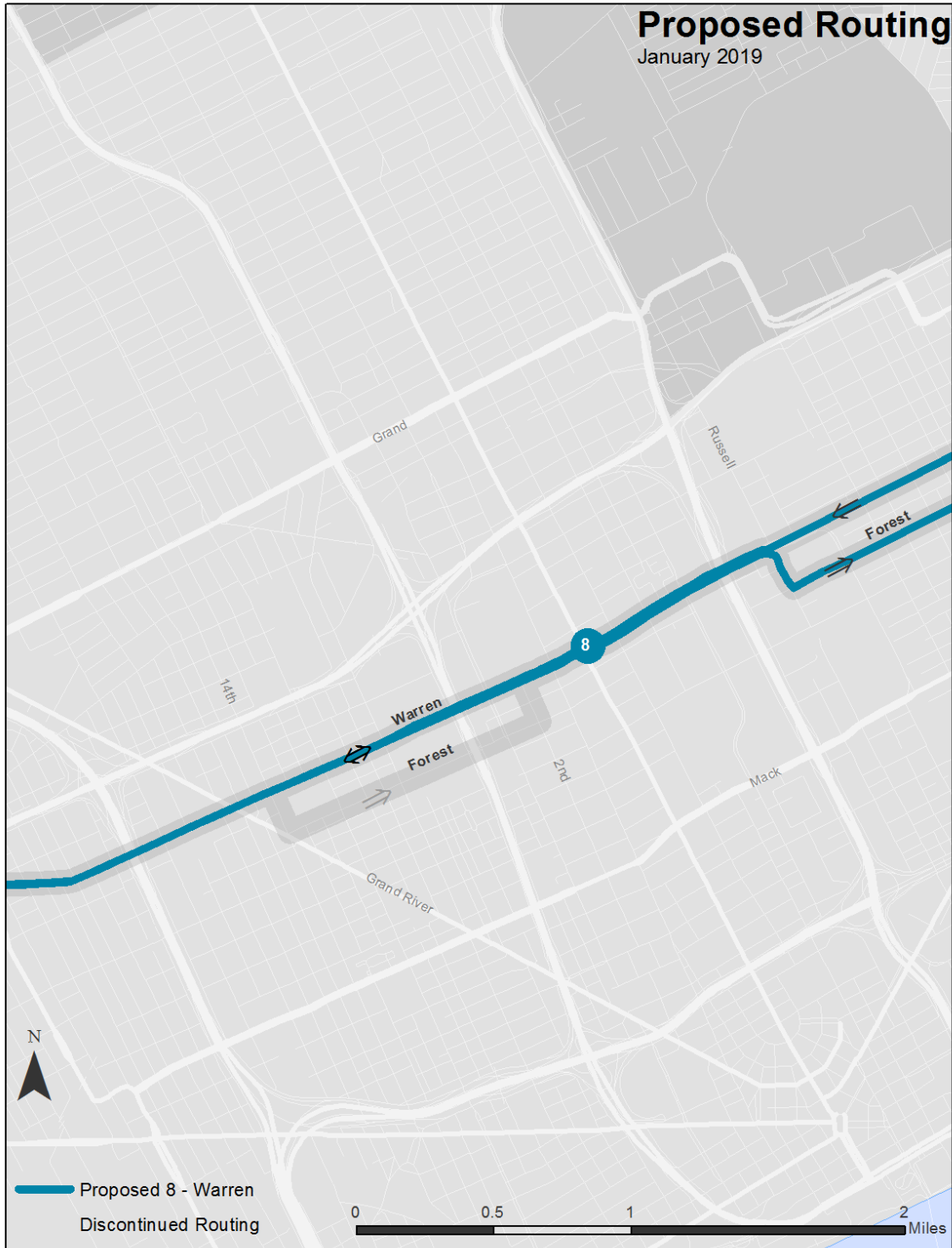
Map A - 2 Proposed new routing for 13-Conner



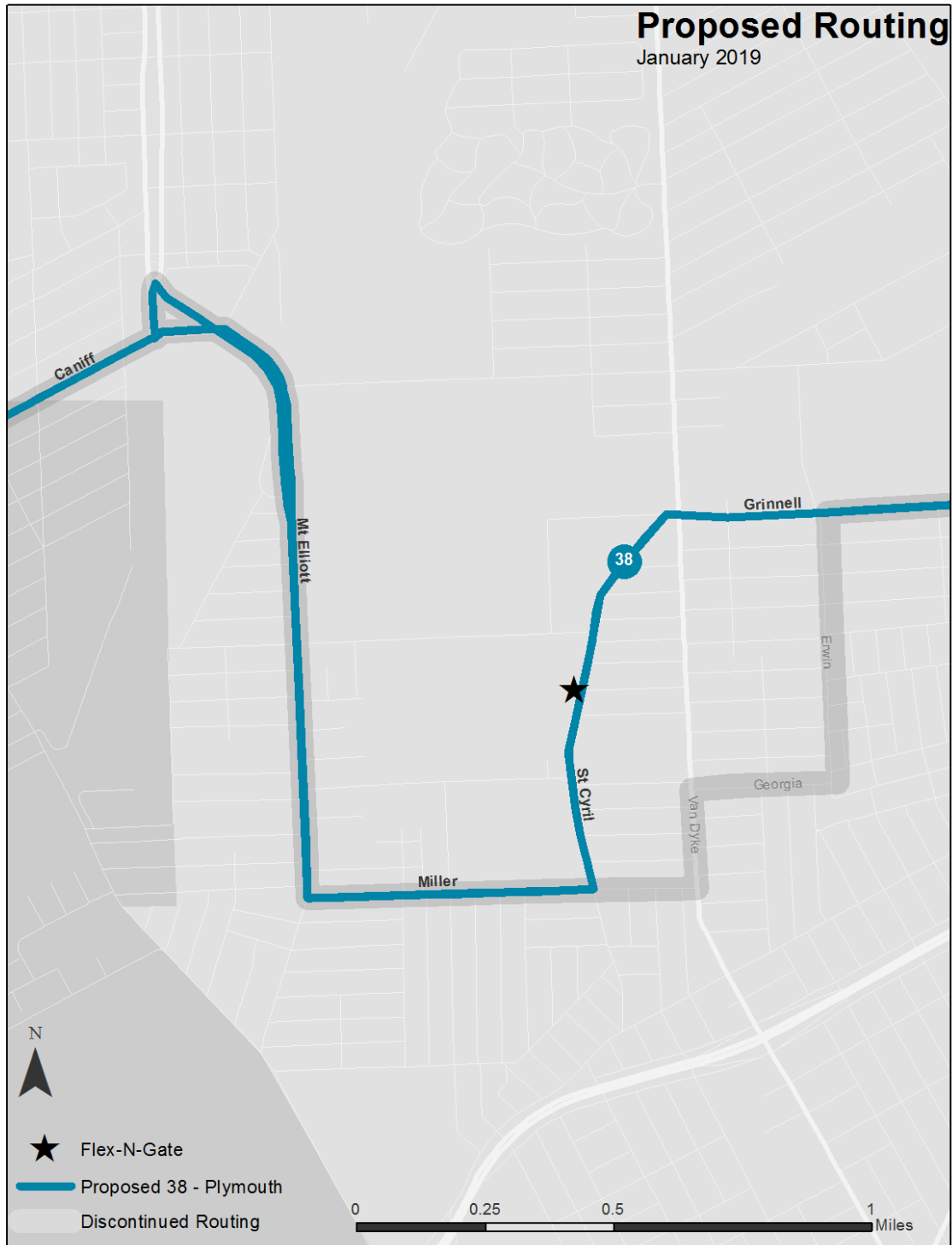
Map A - 3 Proposed new routing for 68-Chalmers



Map A - 4 Proposed routing change from Forest St to Warren Ave after that stretch of Warren Ave becomes bi-directional



Map A - 5 Routing change to better serve a new major employer.







Detroit Department of Transportation

# PUBLIC HEARINGS NOTICE

JANUARY PROPOSED SERVICE CHANGES AND 2020-2023 TRANSPORTATION IMPROVEMENT PROGRAM (TIP)



On January 26, 2019, DDOT is proposing service changes affecting the following routes:

- 8** Warren
- 10** Greenfield
- 13** Conner
- 38** Plymouth
- 68** Chalmers
- 99** Fresh Wagon

DDOT will also be providing the public with an opportunity to review the projects submitted for consideration in the SEMCOG 2020-2023 Transportation Improvement Program (TIP)

**December 12, 2018**

5:00pm - 6:30pm

**DDOT - Administration Office**

1301 E. Warren  
Detroit, MI 48207

**December 13, 2018**

11:00am - 12:30pm

**Salvation Army Conner Center**

3000 Conner  
Detroit, MI 48215



FOLLOW US ON SOCIAL MEDIA  
**@RIDEDDOT**

Any person with a disability or in need of accommodations to participate in this meeting should contact DDOT Customer Service Office at 313-933-1300 or DDOT-ADA@DETROITMI.GOV at least 5 days in advance of the meeting to request assistance.

Cualquier persona con una discapacidad o las necesidades de alojamiento para participar en esta reunión debe dirigirse DDOT oficina de servicio al cliente en 313-933-1300 o DDOT-ADA@DETROITMI.GOV al menos 5 días antes de la reunión para pedir asistencia.

تمدخ بحتكم عامتجالا اذه يف فتراشملل فمافا تاجايتحا و افقاعالا عم صخش يا لصتا نا يغبن يو لبق لقالا ملدع مايأ 5 DDOT-ADA@DETROITMI.GOV و 313-933-1300 يف تود الماعلا تدعاسملا بملطل عامتجالا داقعنا