

PRELIMINARY



Service Equity Analysis for FY2019 Service Change Proposals



Prepared by the
Pioneer Valley
Planning Commission

04/06/18

PRELIMINARY

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PRELIMINARY

Contents

1. Purpose of Analysis and Conformance with Regulatory Requirements	7
2. Scope and Process.....	8
2.1 Scope.....	8
2.2 Process	8
3. Description of Service Change and Mitigation Proposals	10
3.1 Goal and Objectives of Service Change and Mitigation Proposal Process.....	10
3.2 Descriptions of Service Change and Mitigation Proposals	10
4. Service Equity Analysis by Route	20
4.1 Summary of Service Equity Analysis By Route.....	20
4.2 Data Sources and Relevant Policies	21
4.3 Detailed Descriptions and Service Equity Analysis By Route	23
Route G1—Reduce Service Frequency on Weekday Evenings, Saturdays, and Holidays.....	24
Route G2—Reduce Service Frequency on Weekday Evenings and Weekends	26
Route G3—Reduce Service Frequency on Weekday Evenings and Weekends	28
Route B4—Reduce Service Frequency on Saturdays	30
Route G5—Eliminate Saturday Service.....	32
Route B6—Reduce Service Frequency on Weekday Evenings and Weekends	34
Route B7—Reduce Service Frequency on Weekday Evenings and Weekends	36
Route R10—Reduce Saturday and Holiday Service to Match Sunday Levels	38
Route R14—Reduce Saturday and Holiday Service to Match Sunday Levels	40
Route B17—Terminate at Eastfield Mall; Add On-demand Van Service in Wilbraham	42
Route P20—Reduce Service Frequency on Weekday Evenings and Weekends.....	44
Route P20E—Eliminate Saturday Service	46
Route P21E—Eliminate Weekend Service	48
Route P21—Reduce Service Frequency on Saturdays and Eliminate Sundays.....	50
Route R24—Restructure as a Community Circulator, Eliminate Saturdays	52
Route 30—Reduce Frequency on Full Service Saturdays and When School is Not in Session	54
Route 31—Reduce Frequency on Saturdays and When School is Not in Session	57
Route 33—Eliminate Sunday Service When School is Not in Session	60
Route 34 Campus Shuttle—End Weekday Service at 8:00PM.....	62
Route 36—Eliminate Saturday Service	64
Route 38—Reduce Frequency Weekday Evenings and Weekends; Eliminate Sunday Service When School is Not in Session.....	66
Route 39—Reduce Service Weekday Evenings, Weekends.....	69

PRELIMINARY

Route R41—Eliminate Saturday and Holiday Service	71
Route R42—Eliminate Saturday and Holiday Service	73
Route B43—Reduce Express and Weekend Service When School is in Session; Reduce Saturday Service When School is Not in Session	75
Route R44—Reduce Service on Weekends.....	78
Route 45—Eliminate 1 of 8 Trips on Weekdays	80
Route 46—Eliminate Route	82
Route B48—Reduce Saturday and Holiday Service to Match Sunday Levels	84
Route X90—Reduce Saturday Service to Sunday Levels.....	86
Route X92—Reduce Weekday Service Frequency; Eliminate Saturday Service	88
Route X98—Eliminate Route	90
Ware and Palmer Shuttles—Restructure to Offer AM and PM Express Service to Springfield, with Midday Community Circulator Service	92
Nashawannuck Express—Reduce Weekday Service from 7 to 2 Trips Per Day; Eliminate Saturdays	94
5. Systemwide Service Change Equity Impact Analysis	97
5.1 DI/DB Impact Analysis Method	97
5.2 DI/DB Impact Preliminary Findings	97
7. Public Outreach and Comments Received.....	104
7.1 Public Meetings of the PVTA Advisory Board and Subcommittee.....	104
7.2 Public Hearings.....	104
7.4 Other Public Outreach Sessions	106
7.5 Summary of Public Comment Received About Service Change Proposals	107
Service Change Proposal Comments	107
8. Conclusions	116
Appendix 1: PVTA Background Information	117
Appendix 2: PVTA Ridership Profile	119
Fixed Route Customer Demographics	119
Income	119
Race and Ethnicity.....	120
Language and English Proficiency	121
Additional Appendices	122

PRELIMINARY

Figures

Fig. 3-1: FY2019 Service Change Proposals and Mitigation Modifications in Response to Comments.....	11
Fig. 5.2-1 Systemwide Equity Analysis of Service Changes Proposed January 24, 2018 Summary	98
Fig 5.2-2 PRELIMINARY Systemwide Equity Analysis of Service Changes and Mitigation Measures Proposed April 9, 2018.....	98
Fig. 5.2-3: Summary of Equity Impacts of Bus Service Changes Proposed Jan 24, 2018	99
Fig. 5.2-3: Summary of Equity Impacts of Bus Service Changes and Mitigation Proposed April 9, 2018.	101
Table 7.5-1. Total Comments Received	107
Table 7.5-2. Service Reduction Comments by Method Received (tabular format)	108
Figure 7.5-1. Service Change Comments By Method Received Totals (chart format)	110
Table 7.5-3. Service Reduction Comments Category by Route	111
Figure 7.5-2. Service Reduction Comment Category by Type	113
Figure 7.5-3. Unique Service Reduction Commenters	114
Table 7.5-4. Service Reduction Comment Topics made by phone, email, mail, or oral testimony	114
Figure 7.5-4. Service Reduction Respondent Race/Ethnicity.....	115
Figure 7.5-5. Service Reduction Respondent Poverty Status.....	115
Fig. A1-1: PVTA Ridership FY2006 to FY2017	117
Fig. A1-2: PVTA Service Area.....	118
Fig A2-1: Federal Poverty Thresholds 2015	119
Fig. A2-2: PVTA Customers' Annual Income	120
Fig A2--3: Racial Characteristics of PVTA Customers	120
Fig A2-4: Regional Commuting by Public Transportation by Race.....	121

PRELIMINARY

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PRELIMINARY

1. Purpose of Analysis and Conformance with Regulatory Requirements

This service equity analysis has been prepared to meet the requirements and spirit of Title VI of the Civil Rights Act of 1964 in 49 CFR Section 21.5(b)(2), 49 CFR Section 21.5(b)(7), and Appendix C Section 3 to 49 CFR part 21, and in accordance with the guidance in Federal Transit Administration Circular 4702.1B of October 1, 2012 and related guidance to FTA recipients with service areas containing 200,000 or more residents.

Changes to PVTA's fixed route bus services are necessary to reduce operating costs and balance the agency's FY2019 budget, which begins July 1, 2018. The PVTA Advisory Board is required to adopt a balanced budget by June 1. MassDOT has advised PVTA that the amount of state contract assistance that will be provided for operations in FY2019 will be the same as in FY2018 (\$23 million) and the two prior years, which will result in a shortfall currently estimated to be \$3.1 million, or about 7% of the total \$46 million operating budget.

As a recipient of federal funds for public transportation, PVTA is required to perform a Title VI equity analysis in the course of planning a major service change or any magnitude of change to fare prices or fare media (method of payment) to determine whether proposed service or fare changes would have a discriminatory impact with regard to race, color, income, or national origin. Equity analyses are required regardless of whether or not the changes proposed would be beneficial or detrimental to riders.

This analysis assesses the potential impacts of service change proposals that qualify as major service changes as specified by PVTA's local developed policies that may have disparate or disproportionate impacts on PVTA customers of color and/or low-income riders, depending on the nature of the service changes that are implemented. A demographic analysis of PVTA customers who may be affected is presented so that PVTA may determine whether or not there are adverse or disproportionate burdens on minority or low-income populations in the PVTA service area, as well as the types of measures that are likely to be effective and appropriate in mitigating adverse impacts on those transit customers.

Also for the coming FY2019, the PVTA Advisory Board is concurrently considering proposals to raise bus and van fares by either 20% or 25% on average. If approved, a fare increase would go into effect by July 1, 2018. A separate Title VI Fare Equity Analysis will be presented to the PVTA Advisory Board prior to any action to change fares, as required by federal guidelines and PVTA policies. The potential impacts of these pending fare increase proposals on the service change proposals described and evaluated in this document are not addressed herein.

This analysis has benefited from guidance sought and received from the Massachusetts Department of Transportation Office of Civil Rights, which has been consulted regularly throughout the development of this document and which provides technical assistance on Title VI matters to Massachusetts Tier I transit providers in coordination with the Region 1 Office of the Federal Transit Administration.

A NOTE ON LANGUAGE: PVTA avoids the use of the term "minorities," which is frequently used in federal documents, to refer people of color or anyone who is not white. This word can be divisive and is therefore not consistent with the intent and purpose of an equity analysis. In fact, the majority of PVTA customers—more than 62%—are people of color. Therefore, this report uses the term "minorities" only when necessary to conform to federal regulations and definitions.

PRELIMINARY

2. Scope and Process

This document presents analysis of equity impacts of service change proposals affecting PVTA bus routes and associated mitigation measures that are expected to be considered by the PVTA Advisory Board on April 9, 2018. PVTA's policies require that all proposed major service changes undergo a Title VI Service Equity Analysis to evaluate potential disparate impacts (DI) on low-income persons and disproportionate burdens (DB) on people of color.

2.1 Scope

This analysis presents analysis of the 58 of 82 service change proposals initially approved by the PVTA Advisory Board on January 24, 2018 that are considered "major," according to the definitions and requirements of PVTA's policies for major service changes, disparate impacts (DI), and disproportionate burdens (DB). Exceedances of PVTA's 20% DI and DB policy variance thresholds that would occur with the original set of 82 proposals approved January 24, 2018 are reported. Also reported are the reduction in the number of DI/DB exceedances achieved through 31 mitigation measures developed in response to public comments received during a 45-day comment period and proposed April 9, 2018 as modifications to the original proposals. In cases where exceedances of the 20% DI/DB variance cannot be overcome with mitigation, analysis is provided to show that the proposal is the least discriminatory alternative available that still achieves the necessary business purpose of balancing the FY2019 agency budget.

This analysis also presents a systemwide evaluation of the cumulative service equity impacts of all 82 original service change proposals (major and minor), as well as the reduction of severity of impacts achieved with 31 mitigation measures developed in response to public comments and DI/DB analysis. A systemwide analysis is included in this document because of the cumulative nature of all the proposed changes. However, PVTA's current policies for major service changes and DI/DB impact analyses do not require a systemwide evaluation or establish a systemwide statistical variance threshold.

2.2 Process

Throughout this process, PVTA staff has worked with the Advisory Board and its subcommittees to develop, clarify, and confirm the service planning goals and objectives guiding the numerous service change decisions necessary to develop the proposed package of service changes for FY2019. After 15 major service cuts and 3.6% of revenue miles were cut to balance the FY2018 budget, there remain 42 PVTA bus routes—all of which were re-evaluated with respect to ridership, operating costs, impacts on customers of color and low incomes, and the availability of substitute transit service.

To assure that PVTA's FY2019 budget will be balanced, the Advisory Board has taken the following steps:

- November 15, 2017: Began review of possible service changes for the coming fiscal year.
- December 13, 2017: Held meetings of the Finance, Route, and Paratransit Subcommittees to review more than 100 possible service changes packaged in seven scenario groups.
- January 24, 2018: Approved an initial package of some 100 individual service changes (known at the time as "Scenario 5: Reduce Off-peak and Restructure Low-performing Routes and Services") to be presented to the public for comments in accordance with the PVTA's public hearing policy.
- February 5 through March 19, 2018: Held a 45-day comment period that engaged 138 individuals and yielding approximately 1,600 comments through 9 public hearings, 10

PRELIMINARY

community and rider outreach sessions, an online survey, email, telephone, and U.S. mail. See Section 7 for detailed information.

- April 9, 2018: Full Board meeting to act on service change proposals.

As of the date of this document, there remains substantial uncertainty about the level of state contract assistance that will be allocated to PVTA in FY2019. PVTA is actively pursuing other non-state sources of financial support to mitigate the impact of service reductions. These include the above-referenced 25% fare increase, multiple CMAQ grant applications for potentially eligible routes, workforce development funds recommended by the Massachusetts Gaming Commission for casino worker commuters, increased contributions from Five College academic institutions, and operating support from local employers. However, the outcome of these efforts will not be known by April 9, and even if all the requested non-state support is received, there may still be an operating budget shortfall in FY2019.

Consequently, the degree and number of modifications in response to public comments and to mitigate DI and DB impacts that can feasibly be implemented by the start of FY2019 (July 1, 2018) may not be known on April 9, 2018, which is the latest date on which the PVTA Advisory Board can act to on service change proposals that will be effective in the coming fiscal year.

PRELIMINARY

3. Description of Service Change and Mitigation Proposals

This section describes how the service change proposals were developed. Mitigation measures developed in response to public comment and DI/DB analysis have been developed are also described.

3.1 Goal and Objectives of Service Change and Mitigation Proposal Process

Development of service change proposals for FY2019 began in October 2017 when a potential budget shortfall was first identified. Since then, PVTA staff has regularly advised and engaged the PVTA Advisory Board and its Subcommittees on the status of proposal development and measures to mitigate impacts to meet the overall goal of balancing the FY2019 operating budget to that service continues.

The objectives of the FY2019 service change planning process to reach this goal were:

1. Achieve the necessary business purpose of reducing the FY2019 operating budget for fixed route and paratransit by \$3.1 million.
2. Minimize the severity of impacts and total number of riders affected.
3. Prioritize fixed route reductions based on relevant performance measures.
4. Avoid eliminating service for life-critical PVTA trip purposes, the top four of which are: school, work, food shopping, and medical appointments.
5. Avoid reductions in travel corridors, or to origins and destinations, where there is no alternative transit by PVTA or others, maintaining service in all PVTA member communities.
6. Assure that proposed service reductions comply with Title VI requirements to minimize and adequately mitigate disproportionate and disparate discrimination impacts systemwide.
7. Advance service changes that can be implemented within 3 months of anticipated Advisory Board action and achieve sufficient cost savings in FY2019.
8. Identify a sufficient number and variety of service change options and cost savings to allow board policy decisions for different strategic approaches.

A universe of more than 200 fixed route service change proposals meeting these objectives were initially developed with the assistance and technical input of PVTA's bus operating contractors. Proposals were then grouped into seven thematic scenarios of operationally and logistically feasible groups of proposals and presented to the Advisory Board and its Subcommittees for consideration.

On January 24, 2018, the PVTA Advisory Board made a preliminary selection of a package of 82 individual bus service change proposals and directed staff to present these to the public for feedback and comment (see Section 7). Subsequently, staff modified the original proposals in response to public comments where feasible. At present, there are 31 modifications proposed to the original 82 service change proposals.

3.2 Descriptions of Service Change and Mitigation Proposals

The preliminary service change proposals approved by the PVTA Advisory Board for public hearing on January 24, 2018 and proposed modifications for mitigation for the Board's consideration on April 9, 2018 are listed in Fig. 3-1 beginning on the next page.

PRELIMINARY

Fig. 3-1: FY2019 Service Change Proposals and Mitigation Modifications in Response to Public Comments

Proposal	Route	Route Name	Preliminary Proposal Approved for Public Hearings January 24, 2018	Proposed Mitigation Modification in Response to Comments April 9, 2018
1	G1	Chicopee Cntr/Big Y/Sumner-Allen	Reduce frequency from 30 min to 60 min after 6 PM on weekdays. Eliminates 5 of 47 of trips/day (-10%) weekdays.	
2	G1	Chicopee Cntr/Big Y/Sumner-Allen	Reduce Saturday service to match Sunday Service Eliminates 9 of 28 of trips/day (-32%) on Saturdays.	Restore 2 evening bus trips on Saturday restoring 7% of service for net loss of -24.5% per day as soon as operationally feasible and funding is available.
3	G1	Chicopee Cntr/Big Y/Sumner-Allen	Reduce Holiday Service to Sunday Levels. Eliminates 9 of 28 trips on holidays (-32%).	
4	G2	Carew/E. Springfield/Belmont-Dwight	Reduce frequency from 30 min to 60 min after 6 PM on weekdays. Eliminates 5 of 52 trips/day (-9%) weekdays.	
5	G2	Carew/E. Springfield/Belmont-Dwight	Reduce Saturday service to match Sunday Service. Eliminates 18 of 32 trips/day (-56%) on Saturdays.	Restore 1-3 morning and 2-3 evening bus trips on Saturday (total 3-6 trips/day, or 9% to 19% of service) reducing net loss to -37% to -47% as soon as operationally feasible and funding is available.
6	G2	Carew/E. Springfield/Belmont-Dwight	Reduce Holiday Service to Sunday Levels. Eliminates 18 of 32 trips/day (-56%) on holidays.	
7	G3	Spfld Plaza via Liberty/King-Westford	Eliminate the 6:05PM and 7:05PM trips departing Union Station. Eliminates 2 of 29 trips/day (-7%) on weekdays.	
8	G3	Spfld Plaza via Liberty/King-Westford	Reduce Saturday service to match Sunday Service. Eliminates 16 of 26 trips/day (-62%).	Restore 2-3 morning bus trips on Saturday (8% to 12%) reducing net loss to -50% to -54% per day as soon as operationally feasible and funding is available.
9	G3	Spfld Plaza via Liberty/King-Westford	Reduce Holiday Service to Sunday Levels. Eliminates 16 of 26 trips/day (-62%) on holidays.	
10	B4	Plainfield Street/Union Station	Reduce Saturday service to match Sunday Service. Eliminates 13 of 25 trips/day (-52%) on Saturdays.	
11	B4	Plainfield Street/Union Station	Reduce Holiday Service to Sunday Levels. Eliminates 13 of 25 trips/day (-52%) on holidays.	
12	G5	Dickinson-Jewish Hm/Longmd/ Enfield	Reduce Saturday service to match Sunday Service. Eliminates 8 of 8 trips/day (-100%) on Saturday.	

PRELIMINARY

Proposal	Route	Route Name	Preliminary Proposal Approved for Public Hearings January 24, 2018	Proposed Mitigation Modification in Response to Comments April 9, 2018
13	G5	Dickinson-Jewish Hm/Longmd/ Enfield	Reduce Holiday service to match Sunday Levels. Eliminates 8 of 8 trips/day (-100%) on holidays.	
14	B6	Ludlow via Bay St	Reduce frequency from 30 to 45 min after 6:00PM on weekdays. Eliminates 3 of 43 trips/day (-7%) weekdays.	
15	B6	Ludlow via Bay St	Reduce Saturday service to match Sunday Service. Eliminates 15 of 26 trips day (-58%) on Saturdays.	
16	B6	Ludlow via Bay St	Reduce Holiday Service to Sunday Levels. Eliminates 15 of 26 trips day (58%) on holidays.	
17	B7	State St/Boston Rd/Walmart/Eastfld Mall	Reduce frequency from 30 to 45 min after 6:00PM on weekdays. Eliminates 3 of 60 trips/day (-5%) weekdays.	
18	B7	State St/Boston Rd/Walmart/Eastfld Mall	Reduce Saturday service to match Sunday Service. Eliminates 46 of 65 bus trips/day (-71%) on Saturdays.	Restore 5 of the 46 bus trips (+8%) that were proposed to be eliminated: 3 trips before 9:00AM; and 2 trips between 7:00PM and 9:00PM. Effective 6/24/18.
19	B7	State St/Boston Rd/Walmart/Eastfld Mall	Reduce Holiday Service to Sunday Levels. Eliminates 46 of 65 bus trips/day (-71%) on holidays.	
20	R10	WSU/Westfield Cntr/W. Springfield	Reduce Saturday service to match Sunday Service. Eliminates 4 of 14 bus trips (-29%) on Saturdays.	Restore up to 2 bus trips on Saturday early mornings (14%) to reduce net loss to -15% per day as soon as operationally feasible and as funding is available.
21	R10	WSU/Westfield Cntr/W. Springfield	Reduce Holiday Service to Sunday Levels. Eliminates 4 of 14 bus trips (-29%) on holidays.	
22	R14	Agawam Feeding Hills/Springfield5	Reduce Saturday service to match Sunday Service. Eliminates 2 of 11 bus trips/day (-18%) on Saturdays.	
23	R14	Agawam Feeding Hills/Springfield5	Reduce Holiday Service to Sunday Levels. Eliminates 2 of 11 bus trips/day (-18%) on holidays.	
24	B17	Eastfield Mall via Worthington-Wilbrm Rd	Terminate at Eastfield Mall. Eliminates 34 of 140 revenue miles per day (-24%) weekdays.	Replace B17 bus service in Wilbraham with on-demand van to/from B17 transfer connection at Eastfield Mall for persons within ¾ mi of prior B17 alignment at 25 cent transfer price. Effective 6/24/18.
25	B17	Eastfield Mall via Worthington-Wilbrm Rd	Reduce Saturday service to match Sunday Service. Eliminates 14 of 14 trips/day (100%) on Saturdays.	Restore 6 of 14 eliminated trips (+43%) on Saturday: 3 trips in the morning, and 3 trips in the afternoon. Effective 6/24/18.

PRELIMINARY

Proposal	Route	Route Name	Preliminary Proposal Approved for Public Hearings January 24, 2018	Proposed Mitigation Modification in Response to Comments April 9, 2018
26	B17	Eastfield Mall via Worthington-Wilbrm Rd	Reduce Holiday Service to Sunday Levels. Eliminates 14 of 14 trips/day (100%) on holidays.	
27	P20	Holyoke/Springfield via Holyoke Mall-Riverdale St	Reduce frequency from 20-30 min to 60 min after 6:00PM weekdays. Eliminates 3 of 44 trips/day (-7%) on weekdays.	
28	P20	Holyoke/Springfield via Holyoke Mall-Riverdale St	Reduce Saturday service to match Sunday Service. Eliminates 23 of 44 bus trips/day (-52%) on Saturdays.	Restore 6 of the 23 trips (+14%) proposed to be eliminated: 3 trips between 7:00AM and 9:00AM; and 3 trips between 7:30PM and 10:00 PM. Effective 6/24/18.
29	P20	Holyoke/Springfield via Holyoke Mall-Riverdale St	Reduce Holiday Service to Sunday Levels. Eliminates 23 of 44 bus trips/day (-52%) on holidays.	
30	P21	Holyoke/Springfield via Chicopee	Reduce Saturday Service to Match Sunday Service. Eliminates 12 of 26 bus trips/day (-46%) on Saturdays.	Restore 3-5 bus bus trips on Saturday evenings (12% to 19%) to reduce net loss of service to -27% to -34% as soon as operationally feasible and funding is available.
31	P21	Holyoke/Springfield via Chicopee	Reduce Holiday Service to Match Sunday Service. Eliminates 12 of 26 bus trips/day (-46%) on holidays.	
32	R24	HTC/Holyoke Hospital	Reduce Saturday service to match Sunday Service. Eliminates 7 of 7 trips/day (-100%) on Saturdays.	
33	R24	HTC/Holyoke Hospital	Reduce Holiday service to Sunday levels. Eliminates 7 of 7 trips/day on holidays (-100%).	
34	R24	HTC/Holyoke Hospital	Restructure route as weekday only deviated fixed circulator. No change in number of trips. Net increase in revenue miles per day of +10%.	No loss of service. Add new stop at Holyoke Mall. Applied for CMAQ funds to operate service for 1 year. Effective 6/24/18.
35	30	North Amherst/Old Belchertown Rd	End service at 9:00PM on non-academic "reduced service" days. Eliminates 3 of 28 bus trips/day (-11%) on weekdays during reduced service.	
36	30	North Amherst/Old Belchertown Rd	Eliminate Sunday service during non-academic "reduced service." Eliminates 13 of 13 trips/day on Sundays (-100%) during reduced service.	Restore 6 of 13 trips at 60- and 120-min frequencies on Reduced Service Sundays (reduces net service loss to -46%). Eliminate 2 of 65.5 trips/day (-7%) on full service weekdays by reducing frequency between 6:00 and 8:00PM from 15 to 20 min. Effective 5/11/18.

PRELIMINARY

Proposal	Route	Route Name	Preliminary Proposal Approved for Public Hearings January 24, 2018	Proposed Mitigation Modification in Response to Comments April 9, 2018
37	30	North Amherst/Old Belchertown Rd	Reduce frequency from 30 to 60 min during non-academic "reduced service." Eliminates 11 of 28 trips/day (-50%) weekdays during full service.	Restore 3 of the 11 trips proposed to be eliminated to achieve 30 min frequency during peak times of day (reduces net loss/day from -50% to -25%). Effective 5/11/18.
38	30	North Amherst/Old Belchertown Rd	Reduce Saturday service to match Sunday service.. Eliminates 5 of 19 trips/day (-36%) on Saturdays during full service periods.	Restore 2 of 5 trips proposed to be eliminated on full service Saturdays (9:45AM and last trip of day), which reduces daily net loss of service to -16% on Saturdays. Eliminate the last trip/day (-11%) on full service Mon-Tue-Wed. Effective 9/4/18.
39	31	Sunderland/South Amherst	Eliminate Sunday service during non-academic "reduced service." Eliminates 12 of 12 bus trips/day (-100%) on reduced service Sundays.	Restore 6 of 12 trips proposed to be eliminated on reduced service Sundays (+33%, for net reduction of -66%) at 70 to 120-min frequencies. Reduce frequency on full service weekdays from 6:00 to 8:00PM (-5% loss of service). Effective 5/11/18.
40	31	Sunderland/South Amherst	End service at 9:00PM on non-academic "reduced service" days. Eliminates 3 of 26 bus trips/day (-12%) on reduced service weekdays.	
41	31	Sunderland/South Amherst	Reduce frequency from 35 to 70 min during non-academic "reduced service." Eliminates 10 of 26 bus trips/day (-54%) on reduced service weekdays.	Restore 2 of the 14 trips proposed to be eliminated to achieve 35-min frequencies during peak times of day instead of every 70 minutes (net loss of -5%). Eliminate 2.5 of 57 trips/day (-4%) on full service weekdays by reducing frequency from 15 to 20 min on weekdays between 6:00 and 8:00PM. Effective 5/11/18.
42	31	Sunderland/South Amherst	Reduce Saturday service to match Sunday Service. Eliminate 4 of 16 trips/day (-25%) on full service Saturdays and 2.5 of 13 trips/day (-19%) on "reduced service" Saturdays.	Restore 2 of 4 trips/day proposed to be eliminated on full service Saturday evening (last trip of day). Eliminate the last trip/day on full service Mon-Tue-Wed. Effective 5/11/18.
43	33	Puffers Pond/Stop & Shop	Eliminate Sunday service during non-academic "reduced service." Eliminates 9 of 9 bus trips/day (-100%) on reduced service Sundays.	Restore 5 of 9 trips proposed to be eliminated on Sundays (+56%, reducing net loss to -46%). Eliminate 1 of 24 trips (-4%) per weekday during reduced and full service. Eliminate 1 of 9 trips/day on Saturdays during reduced and full service (-11%; last trip of day). Eliminate 1 of 9 trips/day (-11%; last trip of day) on full service Sundays. Effective 5/11/18.

PRELIMINARY

Proposal	Route	Route Name	Preliminary Proposal Approved for Public Hearings January 24, 2018	Proposed Mitigation Modification in Response to Comments April 9, 2018
44	34	Campus Shuttle Northbound	End service at 8:00PM on weekdays. Eliminates 6 of 51 trips/day (-12%) on weekdays. (Route operates during full service periods only.)	
45	36	Olympia Dr/Atkins (operates during no school schedule only)	Eliminate weekend service. Eliminates 16 of 16 trips/day (-100%) on reduced service Saturdays and Sundays (route does not operate during full service periods).	Restore 9 of 16 trips proposed to be eliminated on Saturday (+56%, reducing net loss to -44%). Eliminate 4 of 16 trips (-25%) on weekdays by reducing frequency from 45 to 60 min (-25%). Effective 5/11/18.
46	38	MHC/Hampshire/Amherst/UMass	Reduce frequency from 40 to 80 min after 8:00PM. Eliminates 3 of 33.5 bus trips/day Mon- Wed, 3 of 34.5 bus trips/day on Thurs and 5 of 36.5 (-11%) on full service weekdays.	Restore 1 of the 3-5 trips proposed to be eliminated on full service weekdays by waiting until 9:00PM to start the 40-min to 80-min frequency reduction. Eliminate 1 of 33.5-34.5 trips/day (-4%, last trip of day) on Mon-Thurs. Reduce frequency from 80 min to 90 min and end service at 9:00PM during winter intersession on both the 38 and 39. No net change to estimated -11% loss of service on weekdays. Effective 9/4/18.
47	38	MHC/Hampshire/Amherst/UMass	Eliminate Sunday service during non-academic "reduced service." Eliminates 13 of 13 trips/day (-100%).	Five Colleges students and staff will be able to ride the R29 by showing ID with fares to be reimbursed by Five Colleges. Effective 9/4/18.
48	38	MHC/Hampshire/Amherst/UMass	Reduce Saturday service to match Sunday service. Eliminates 13 of 25 bus trips/day (-52%) on Saturdays.	Restore 1 of the 13 trips/day proposed to be eliminated (+4%, Saturday late night trip). Eliminate service during Spring Break and during last week of December by eliminating 4 of 4 scheduled bus trips on those days (100% loss on day of service). Eliminate 1 trip (-4%, last trip of the day) on Mon-Thurs. End service at 8:00PM Saturdays during reduced service on the 39 and begin service at 11:00 AM (loss of 4 of 10 trips/day on those days, or -33%). Five Colleges students and staff will be able to ride the R29 by showing ID with fare to be reimbursed by Five Colleges. Effective 9/4/18.
49	39	Smith/Hampshire/Mt Holyoke Colleges	Alternate western terminus between Hampshire Mall/Smith College after 6:00PM weekdays and Sat+Sun. No loss of service, as trips can be completed via transfers to the 38.	Arrival/departure times at Hampshire College will be synced for transfers to/from Route 38. Effective 9/4/18.

PRELIMINARY

Proposal	Route	Route Name	Preliminary Proposal Approved for Public Hearings January 24, 2018	Proposed Mitigation Modification in Response to Comments April 9, 2018
50	39	Smith/Hampshire/Mt Holyoke Colleges	Eliminate Sunday service during non-academic "reduced service." Eliminates 9 of 9 bus trips/day (-100%) on reduced service Sundays.	
51	39	Smith/Hampshire/Mt Holyoke Colleges	Reduce Saturday service to match Sunday service. Eliminates 2 of 12 trips/day (33%) of service on full service Saturdays.	
52	R41	Northampton/Easthampton/HCC/ Holyoke Mall	Reduce Saturday service to match Sunday service. Eliminates 9 of 9 bus trips/day (-100%).	Restore 8 of the 9 trips/day proposed to be eliminated on Saturdays (+67% of service, reducing net loss to -33%) at 90 min frequencies. Terminate at Holyoke Community College instead of Holyoke Mall on all days and reduce frequency on weekdays to 75 min by eliminating 3 of 13 trips. Net loss of approximately -40% of revenue miles/. Effective 5/13/18.
53	R41	Northampton/Easthampton/HCC/ Holyoke Mall	Reduce Holiday service to match Sunday levels. Eliminates 9 of 9 trips/day on holidays (-100%).	
54	R42	Northampton/VA/Williamsburg	Reduce Saturday service to match Sunday service. Eliminates 12 of 12 bus trips/day on Saturdays (-100%).	Restore 9 trips on Saturdays at 75 min frequency (instead of every 60 min). Reduce weekday service frequency from 60 min to 75 min by eliminating 3 of 15 trips/day (-20%). Effective 5/13/18.
55	R42	Northampton/VA/Williamsburg	Reduce Holiday service to match Sunday levels. Eliminates 12 of 12 trips/day on holidays (-100%).	
56	B43	Northampton/Hadley/Amherst	End Sunday service at 10:00PM during "reduced service." Eliminates 1 of 16 trips/day (-6%) of trips on reduced service Sundays.	
57	B43	Northampton/Hadley/Amherst	End Sunday service at 10:00PM during academic year. Eliminates 1 of 16 trips/day (-6%) of trips on full service Sundays.	
58	B43	Northampton/Hadley/Amherst	End Saturday service at 10:00PM during "reduced service." Eliminates 1 of 16 trips/day (-6%) of trips on reduced service Saturdays.	
59	B43	Northampton/Hadley/Amherst	Eliminate 8:15AM and 4:15PM weekday express trips. Eliminates 2 of 44 bus trips/day (-5%) on full service weekdays.	

PRELIMINARY

Proposal	Route	Route Name	Preliminary Proposal Approved for Public Hearings January 24, 2018	Proposed Mitigation Modification in Response to Comments April 9, 2018
60	B43	Northampton/Hadley/Amherst	Reduce Saturday service to match Sunday levels. Eliminates 16 of 32 bus trips/day (-50%) on full service Saturdays.	Restore 12 of the 16 eliminated trips on full service Saturdays, reducing service loss on these days to -3%. On full service weekdays, eliminate 1 morning trip per day (6:20AM) of 44 trips per day. Eliminate the last trip per day Mon-Wed, and the two last trips on Thursday, resulting in a -5% loss of service on full service weekdays. Effective 9/4/18.
61	B43	Northampton/Hadley/Amherst	Reduce Holiday Service to Reduced Service Sunday Levels. Eliminates 17 of 32 bus trips/day (-50%) on holidays.	
62	R44	Florence Hghts via King St-Bridge Rd	Reduce Sunday frequency from 60 to 120 minutes. Eliminates 6 of 12 trips/day (-50%) on Saturdays and 3 of 6 trips/day on Sundays.	Restore 2 of 3 eliminated trips on Sundays, reducing net service loss to -25% on Sundays. (No change to 50% loss on Saturdays.) Effective 5/13/18.
63	R44	Florence Hghts via King St-Bridge Rd	Reduce Saturday Service to Match Sunday Service.	Restore span of service by increasing the headway to 120 minutes from 60 minutes. No change in the number of trips daily . Effective 5/13/18.
64	R44	Florence Hghts via King St-Bridge Rd	Reduce Holiday Service to Sunday Levels. Eliminates 6 of 12 trips/day (-14%) on holidays.	
65	45	Belchertown Center/UMass	Eliminate 1 of 8 weekday trips (12:25PM trip). Eliminates 1 of 8 trips/day (-13%) on weekdays.	Change to eliminate the 9:50AM trip instead (minimizes midday service gap). Effective 5/11/18.
66	46	Whately/S.Deerfield/UMass	Eliminate route. Eliminates 4 of 4 trips/day (-100%) on weekdays.	Restore 2 of the 4 trips proposed to be eliminated by providing 1 one trip in the morning and 1 in the afternoon by extending Route 31 to South Deerfield. Net loss reduced to -50% on day of service. Effective 5/13/18.
67	48	Northampton/Holyoke	Reduce Saturday service to Sunday levels. Eliminates 2 of 13 bus trips/day (-15%) on Saturdays.	
68	48	Northampton/Holyoke	Reduce Holiday service to match Sunday levels. Eliminates 2 of 13 trips/day on holidays (-15%).	

PRELIMINARY

Proposal	Route	Route Name	Preliminary Proposal Approved for Public Hearings January 24, 2018	Proposed Mitigation Modification in Response to Comments April 9, 2018
69	X90	Springfield/Chic/Holyoke Crosstown	Reduce Saturday service to match Sunday service. Eliminates 22 of 32 trips/day (-69%) and approximately -50% revenue mile loss on Saturdays.	Extend route on Saturdays to service Holyoke Transportation Center with alternating A and B trips. Expand service hours to 8:35 AM to 7:45 PM and reduce frequency from 60 to 90 minutes. Effective 6/24/18.
70	X90	Springfield/Chic/Holyoke Crosstown	Reduce Holiday service to Sunday service. Eliminates 22 of 32 trips/day (-69%) and approximately -50% revenue mile loss on holidays.	
71	X92	X92 Springfield Mid-City Crosstown	Reduce weekday frequency from 45 to 60 min. Serve Senior Center. Eliminates 5 of 19 trips/day (-25%) on weekdays.	
72	X92	X92 Springfield Mid-City Crosstown	Reduce Saturday Service to Match Sunday Service. Eliminates 16 of 16 trips/day (-100%) on Saturday.	Restore 14 of the 16 trips/daily proposed to be eliminated (+88%), with service between 7:30AM and 5:45 PM. Reduces net loss of service to 2 trips/day (-12%). Effective 6/24/18
73	X92	X92 Springfield Mid-City Crosstown	Reduce Holiday service to match Sunday service. Eliminates 16 of 16 trips/day (-100%).	
74	X98	X98 Northampton Crosstown	Eliminate route. Eliminates 3 of 3 trips/day (-100%) on weekdays.	Restore service (+100%) by providing demand response van service within 3/4 mile of previous X98 route at regular bus fare when Survival Center's Food Pantry is open. Effective 5/13/18.
75	P20E	Holyoke Mall Express	Reduce Saturday service to match Sunday service. Eliminates 12 of 12 trips/day (-100%) on Saturdays.	
76	P21E	Holyoke/Springfield Express via I-391	Eliminate weekend service. Eliminates 11 of 11 trips on Saturdays, and 9 of 9 trips on Sundays (-100% on both days).	Restore all proposed trip eliminations on (11 on Saturday and 9 on Sunday) by securing CMAQ grant to operate route for 1 year. Effective 8/27/18 if grant is approved (application pending).
77	P21E	Holyoke/Springfield Express via I-391	Reduce Holiday service to Sunday levels. Eliminates 11 of 11 trips/day (-100%) on holidays.	Restore all 11 trips on holidays (+100%) by securing CMAQ grant to operate route for 1 year. Effective 8/27/18 if grant is approved (application pending).
78	NE	Nashawannuck Express Easthampton	Reduce trips from 7 to 2 per day. Eliminates 5 of 7 trips/day (-71%) on weekdays.	Restore all trips on weekdays (+100%). Restructure route to improve transfers to R41. Effective 5/13/18.

PRELIMINARY

Proposal	Route	Route Name	Preliminary Proposal Approved for Public Hearings January 24, 2018	Proposed Mitigation Modification in Response to Comments April 9, 2018
79	NE	Nashawannuck Express Easthampton	Reduce Saturday service to match Sunday levels. Eliminate 9 of 9 trips/day (-100%) on Saturday.	Retain Saturday service but eliminate 1 of 9 trips/day (-11%). Effective 5/13/18.
80	NE	Nashawannuck Express Easthampton	Reduce Holiday service to Sunday levels. Eliminates 9 of 9 trips/day (-100%) on holidays.	
81	PV	Palmer Village Shuttle	Restructure as express to/from Palmer, Ware, and Springfield. Would reduce weekday local circulator trips by approximately 50%, but add 3-4 new daily express trips to Springfield Union Station.	Restructure as peak hour express with midday circulator to/from and within Palmer, Ware, and Springfield. Effective 7/1/18.
82	WS	Ware Shuttle	Restructure as express to/from Palmer, Ware, and Springfield. Would reduce weekday local circulator trips by approximately 50%, but add 3-4 new daily express trips to Springfield Union Station.	Restructure as peak hour express with midday circulator to/from Palmer, Ware, and Springfield. Effective 7/1/18.

PRELIMINARY

4. Service Equity Analysis by Route

This section presents the following information for each of the service change proposals approved by the Advisory Board on January 24, 2018 for public hearings and any subsequent modifications for mitigation to the original proposals made in response to public comments that are expected to be considered by the PVTA Advisory Board on April 9, 2018.

4.1 Summary of Service Equity Analysis By Route

Following are key points of the service equity analysis by route.

- 36 of PVTA's 42 bus routes are affected.
- 1.1 million passenger trips per year would be impacted (either lost or significantly delayed).
- 66 of the 82 original service change proposals are considered "major" and involved the loss of more than 25% of service.
- Of these 66 major service changes, 51 initially exceeded PVTA's 20% impact variance for minority/non-minority, or low-income/non-low-income, or both.
- A total 31 modifications to mitigate the adverse impacts the original proposals have been developed thus far (and more are anticipated) for Board consideration that have reduced the number of Title VI exceedances from 52 to 38.
- For the 38 remaining instances where PVTA's 20% Title VI impact variance is still exceeded, analysis is presented to show there is no less discriminatory alternative available for that route which still accomplishes the necessary business purpose of reducing costs sufficient to balance the FY2019 budget.
- The mitigation modifications have significantly reduced the 1.1 million trips/year that originally would have been impacted, but wait times will be longer for more riders, as service frequencies have been reduced on some routes to gain the resources needed to restore service where it would have been eliminated.

PRELIMINARY

4.2 Data Sources and Relevant Policies

The following information is provided for each route:

Route Description	Describes the travel corridor and route where the proposed change would occur, including trip frequency and key characteristics of the service.
Proposed Change or Changes	Description of the service change as proposed January 24, 2018 as authorized for public hearings by the PVTA Advisory Board.
Communities Affected	The municipality(ies) in which the proposed change(s) would occur.
Effective Date	Date the proposed service change would be implemented.
Major Service Change	Determination whether or not the proposed service change would meet or exceed the PVTA 25% policy threshold in eliminated service on a single service day to be considered a “major service change”.
Customers Affected	An estimate of the number of customers per day who would likely be affected by the proposed service change. Data used for this analysis is from <ul style="list-style-type: none"> • <u>Weekday</u> average riders from automatic passenger counters (APCs) on the buses during the week of October 3-7, 2016 (a typical week with full academic service, and no holidays, or events that would disrupt traffic). • <u>Saturday and Sunday</u> customers were averaged from APCs for each of the Saturdays and/or Sundays in October 2016.
Disparate (Racial Discrimination) Impact Analysis	<p>Explains whether or not there are likely to be differences in the adverse impacts that the proposed service change will have on customers of color in comparison to customers who are white. This is a federally required assessment known as a “disparate impact analysis.” The threshold for this impact is established in the Disparate Impact Policy adopted by the PVTA Advisory Board which states: “If a PVTA planned transit fare rate, fare media change, or major service change results in minority populations (people of color) bearing a variance that is 20 percentage points greater (+20%) in comparison to non-minority (white) populations, the resulting effect will be considered a minority disparate impact. In the course of performing a Title VI Equity Analysis, PVTA must analyze how the proposed action would impact minority as compared to non-minority populations.” (September 23, 2015)</p> <p>Therefore, if the difference in the proportion of customers of color who will be affected by the service change compared to white customers is more than +20%, then the change will be considered to have a disparate impact.</p> <p>For example, if rider surveys show that 60% of the riders on a route are people of color and the remaining 40% are white, then the difference (60% minus 40%) is +20%, which meets the +20% threshold to be considered a disparate impact. As another example, if 35% of riders are people of color and the remaining 65% are white, then the difference (35% minus 65%) is -30%, which is less than +20% and would not be a disparate impact.</p> <p>The data sources for this analysis are the systemwide customer surveys of 2,798 passengers conducted by the Pioneer Valley Planning Commission in 2015 (Hampden County routes) and 2016 (Hampshire County routes).</p>

PRELIMINARY

<p>Disproportionate (Low-income) Burden Analysis</p>	<p>This section explains whether or not the proposed change would have adverse impacts on customers who have low incomes in comparison to those who do not have low incomes. This is a federally required assessment known as “disproportionate impact analysis.” The threshold for such this impact is established by the PVTA Advisory Board’s Disproportionate Impact Policy which states: “If a PVTA planned transit fare rate, fare media or major service change results in low-income populations bearing a variance that is 20 percentage points greater (+20%) in comparison to those who are not low-income populations, the resulting effect will be considered a low-income disproportionate impact.” (September 23, 2015)</p> <p>For example, if 60% of the riders surveyed on a route are low-income (earning \$11,770/year or less), then the remaining 40% are considered not to be low-income, and the difference (60% minus 40%) is +20%. This meets the policy’s +20% threshold and would therefore be considered a disproportionate impact. In another example, if 35% of riders are low-income, then 65% are not low-income, and the difference (35% minus 65%) is -30%, which is less than the +20% policy threshold, and so would not be considered a disproportionate impact.</p> <p>The data sources for this analysis are the systemwide customer surveys of 2,798 passengers conducted by the Pioneer Valley Planning Commission in 2015 (Hampden County routes) and 2016 (Hampshire County routes).</p>
<p>ADA Van Service Impact?</p>	<p>Explains whether or not there would be an impact to ADA van service areas or hours because of the change to the hours or geographic coverage of the underlying fixed route on which the local ADA service is based.</p>
<p>Alternate Transit Service Available?</p>	<p>Description of alternate bus routes and transportation available to make trips in the corridor in which the service change occurs.</p>
<p>Least Discriminatory Alternative</p>	<p>This section provides information on whether or not there is another alternative that could achieve the business purpose (in this case, balancing the PVTA FY2019 operating budget) of the approved service change that would be less discriminatory. This analysis is required by the PVTA Disparate and Disproportionate Impact and Disparate Burdens Policies (adopted September 23, 2015) which states: “...in the event that the proposed service change would have an adverse impact that affects customers of color or those with low-incomes (defined as the federal poverty level) more than the non-low income or non-minority populations with a disparity that exceeds the adopted 20% thresholds, PVTA must evaluate whether there is an alternative that has a more equitable impact... and demonstrate that a legitimate business purpose cannot otherwise be accomplished and that the proposed change is the least discriminatory alternative.”</p>

PRELIMINARY

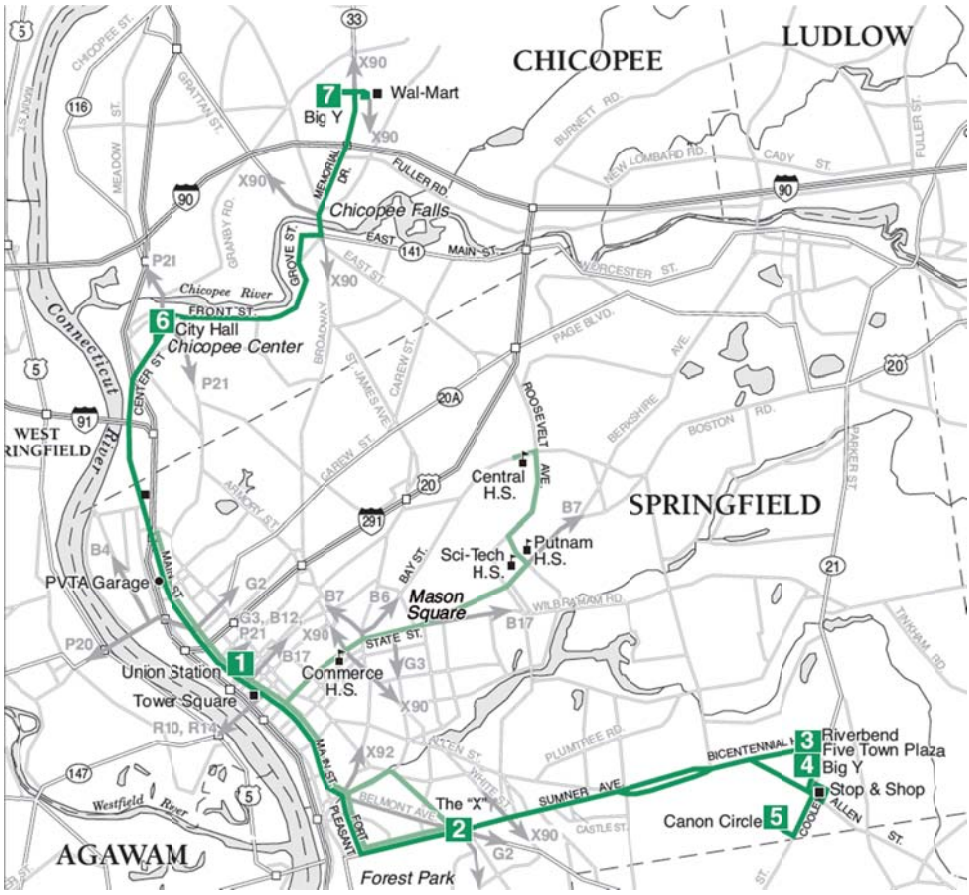
<p>Mitigation and Modifications in Response to Public Comments</p>	<p>If the service change is expected to have either a disparate or disproportionate impact, mitigation must be proposed and implemented to lessen the effects on riders, as required by the PVTA Disparate and Disproportionate Impact Policies (adopted September 23, 2015) which state: “...PVTA must take measures to mitigate the impact of the proposed action on the affected minority population or low income population...”</p> <p>This section describes the public comments received that pertain to the service change proposal. It also describes mitigation measures and modifications made by staff to the original Jan. 24, 2018 proposal to anticipated adverse impacts of the change on riders, as well as future and ongoing monitoring and evaluation and additional service changes to reduce adverse effects on riders.</p>
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4.3 Detailed Descriptions and Service Equity Analysis By Route

This section presents the information described in Section 4.2 by route. Some routes have more than one service change proposal.

PRELIMINARY

Route G1—Reduce Service Frequency on Weekday Evenings, Saturdays, and Holidays

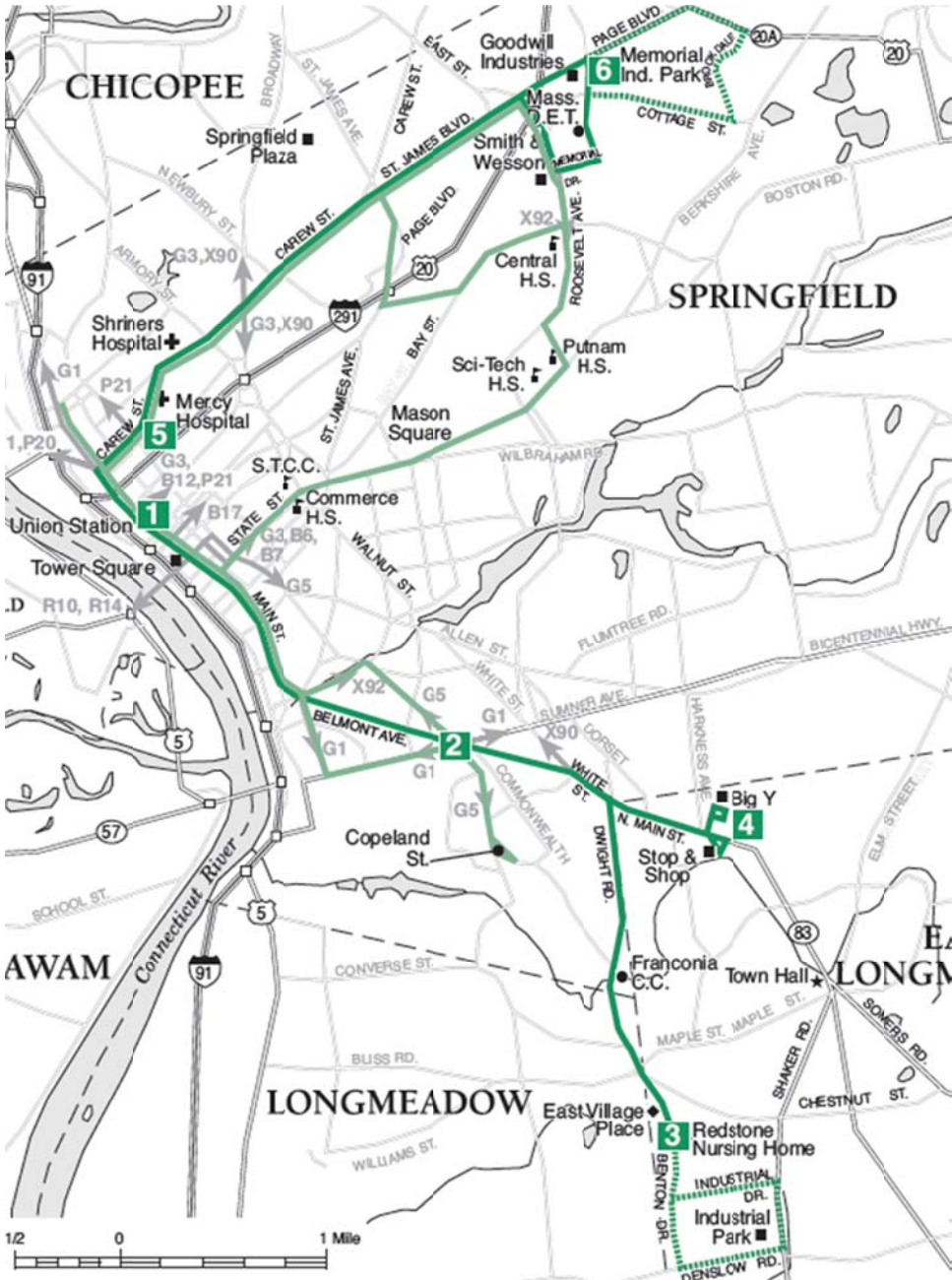
<p>Route Description</p>	<p>G1 Chicopee/Sumner-Allen/Canon Circle</p> 
<p>Proposed Changes</p>	<ol style="list-style-type: none"> 1. Reduce frequency from 30 min to 60 min after 6 PM on weekdays. Eliminates 5 of 47 of trips/day (-10%) weekdays. 2. Reduce Saturday service to match Sunday service: eliminate service to Riverbend Medical Center on Saturday; reduce Saturday headways from 30 min to 45 min; eliminate Saturday service before 7:00AM and after 8:30PM. Eliminates 9 of 28 of trips/day (-32%) on Saturdays. 3. Reduce Holiday Service to match Sunday service (same as Saturday reductions). Eliminates 9 of 28 trips on holidays (-32%).
<p>Communities Affected</p>	<p>Springfield, Chicopee</p>
<p>Effective Date</p>	<p>June 24, 2018</p>
<p>Major Service Change?</p>	<p>YES. The service reductions on Saturdays and Holidays would be approximately -32% (19 instead of 28 trips, a loss of 9 trips) on that day, which exceeds PVTa's -25% threshold to be considered a major service change. Total annual loss of service would be -16.1% of revenue miles and -14.8% of revenue hours.</p>

PRELIMINARY

Customer Trips Affected?	<p>98,913 customers will be affected by reduced frequencies:</p> <ul style="list-style-type: none"> • 13,695 trips per year on weekdays after 6 PM • 85,218 trips per year on Saturdays <p>3,905 customers will be affected by eliminated service:</p> <ul style="list-style-type: none"> • 3,409 Saturday trips per year before 7:00 AM or after 8:30 PM • 496 Saturday trips per year to Riverbend Medical Center
Disparate (race discrimination) Impact?	<p>YES. There would be 65,326 (16.1%) of revenue miles per year lost with the proposed changes. Of these, 44,056 revenue miles (67.4%) would be borne by people of color. Therefore the variance between people of color and whites who would experience the loss of this service is +34.9%, which exceeds PVRTA's DI policy threshold of +20%.</p>
Disproportionate (low-income) Burden Impact?	<p>NO. There would be 65,326 (16.1%) of revenue miles per year lost with the proposed changes. Of these, 33,153 revenue miles (50.8%) would be borne by people considered to have low incomes (less than \$12,880/year). Therefore the variance between low-income and non-low-income riders would experience the loss of this service is +1.5%, which is below PVRTA's DB policy threshold of +20%.</p>
ADA Van Impact?	<p>YES. ADA service hours on Saturdays in Springfield and Chicopee will be reduced to match the new G1 timetable. The new hours will be 7:00 AM to 8:30 PM in Springfield, and 7:10 AM to 7:30 PM in Chicopee.</p>
Alternate Transit Service Available?	<p>NO. Other PVRTA routes serving Springfield and Chicopee (G2, X90, P20) would also have their Saturday and evening service reduced.</p>
Least Discriminatory Alternative?	<p>YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts to weekday service at other times of day would have impacted substantially more of route G1's ridership.</p>
Mitigation	<ol style="list-style-type: none"> 1. Reduce service to hourly frequency after 6:00 PM on weekdays (reduce from 9 to 4 trips after 6:00PM, for a loss of 5 of 47 (-10%) of all trips per weekday. 2. Reduce Saturday service to match Sunday service: eliminate service to Riverbend Medical Center on Saturday; reduce Saturday headways from 30 min to 45 min; eliminate Saturday service before 7:00AM and after 8:30PM. MITIGATION: Restore 2 evening bus trips on Saturday as soon as operationally feasible and funding is available. 3. Reduce Holiday Service to match Sunday service (same as Saturday reductions).

PRELIMINARY

Route G2—Reduce Service Frequency on Weekday Evenings and Weekends

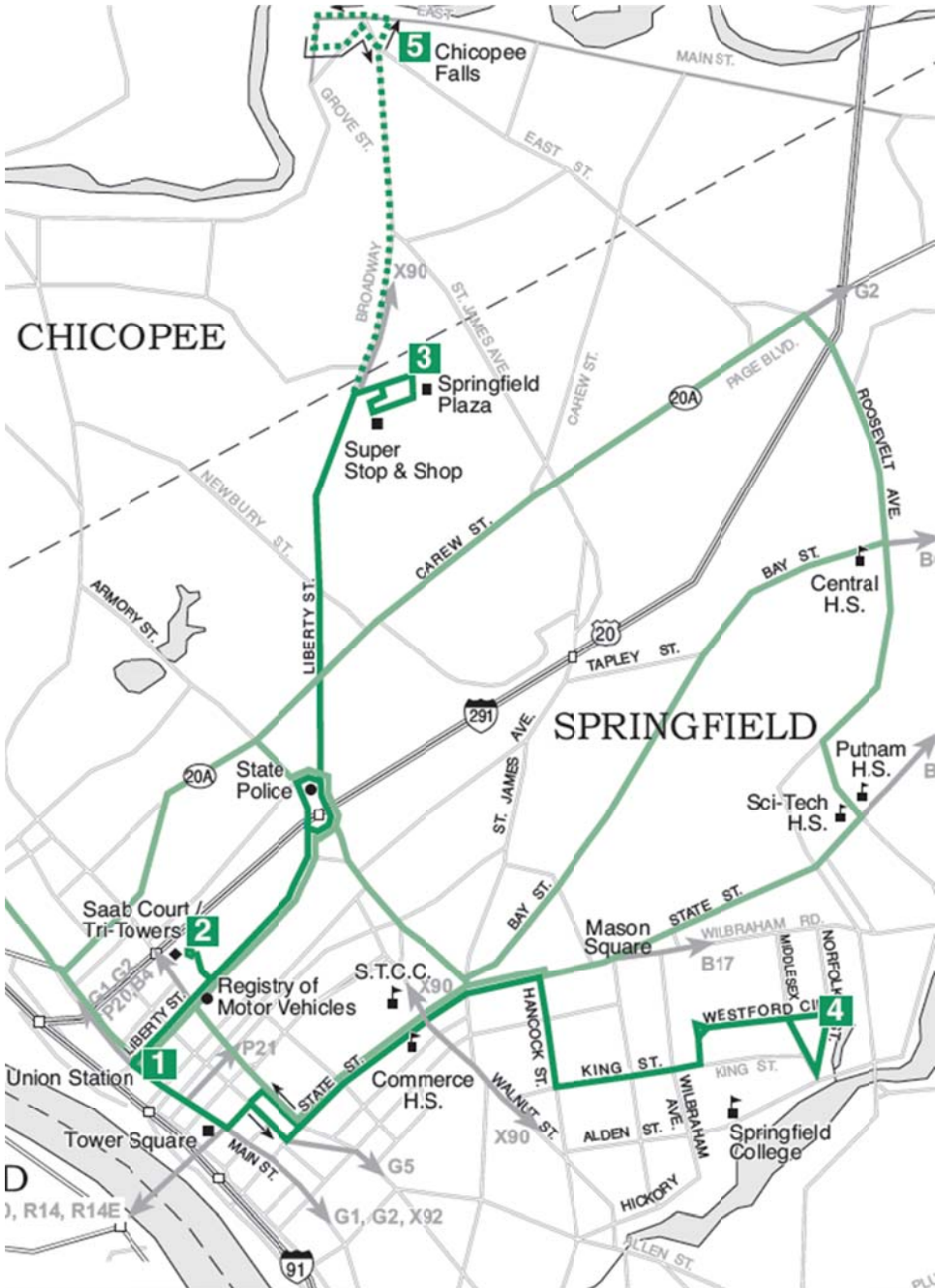
<p>Route Description</p>	<p>G2 Carew/E. Springfield/Belmont-Dwight</p> 
<p>Proposed Change</p>	<ol style="list-style-type: none"> 4. Reduce frequency from 30 min to 60 min after 6 PM on weekdays. Eliminates 5 of 52 trips/day (-9%) weekdays. 5. Reduce Saturday service to match Sunday service: eliminate service to Dwight & Benton; reduce headways from 30 min to 60 min; no service on Saturday before 9:00AM or after 7:00PM. Eliminates 18 of 32 trips/day (-56%) on Saturdays. 6. Reduce Holiday service to match Sundays (same as Saturday reductions). Eliminates 18 of 32 trips/day (-56%) on holidays.

PRELIMINARY

Major Service Change?	YES. This change would eliminate 56% of bus trips on Saturdays and Holidays, which exceeds the PVTA 25% threshold to be considered a major service change on single day of service. On weekdays, there would be a loss of 5 of 52 trips per day, or 9% of service, which is not considered a major service change.
Communities Affected	Springfield, East Longmeadow
Effective Date	June 24, 2018
Customers Trips Affected?	85,353 customers will be affected by reduced frequencies: <ul style="list-style-type: none"> • 10,885 trips per year on weekdays after 6 PM • 74,468 trips per year on Saturdays 18,201 customers will be affected by eliminated service: <ul style="list-style-type: none"> • 17,128 Saturday trips per year before 9:00 AM or after 7:00 PM • 1,073 Saturday trips per year to Benton Drive
Disparate (racial discrimination) Impact?	NO. There would be a total loss of 49,600 revenue miles per year, which is 17.6% of service. Of this loss, 40,806 revenue miles (82.3.0%) would be borne by people of color, and 43% by whites. Therefore, the variance between minority and non-minority is +64.5%, which exceeds the PVTA DI 20% threshold.
Disproportionate (low-income) Burden Impact?	YES. There would be a total loss of 49,600 revenue miles per year, which is 17.6% of service. Of this loss, 28,267 revenue miles (57.0%) would be borne by riders considered to have low incomes, and 43% by those who do not have low incomes. Therefore, the variance between low-income and non-low-income riders is +14%, which does not exceed the PVTA DB 20% threshold.
ADA Van Service Impact?	YES. ADA service hours on Saturdays in Springfield will be reduced to match the new G2 timetable. The new hours will be 7:00 AM to 8:30 PM.
Alternate Transit Service Available?	PARTIAL. Riders may be able to make some trips along parts of the G2 corridor on early mornings on Saturdays and Holidays using the G1 before the proposed 9:00AM start time and 7:00PM end time for the G2.
Least Discriminatory Alternative?	YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts to weekday service at other times of day would have impacted substantially more of route G2's ridership.
Mitigation	<ol style="list-style-type: none"> 4. Reduce service to hourly frequency after 6:00 PM on weekdays (reduce from 9 to 4 trips after 6:00PM, for a loss of 5 of 52 (9%) of all trips per weekday. 5. Reduce Saturday service to match Sunday service: eliminate service to Dwight & Benton; reduce headways from 30 min to 60 min; no service on Saturday before 9:00AM or after 7:00PM. MITIGATION: Restore 1-3 morning and 2-3 evening bus trips on Saturday as soon as operationally feasible and funding is available. 6. Reduce Holiday service to match Sundays (same changes as Saturday above).

PRELIMINARY

Route G3—Reduce Service Frequency on Weekday Evenings and Weekends

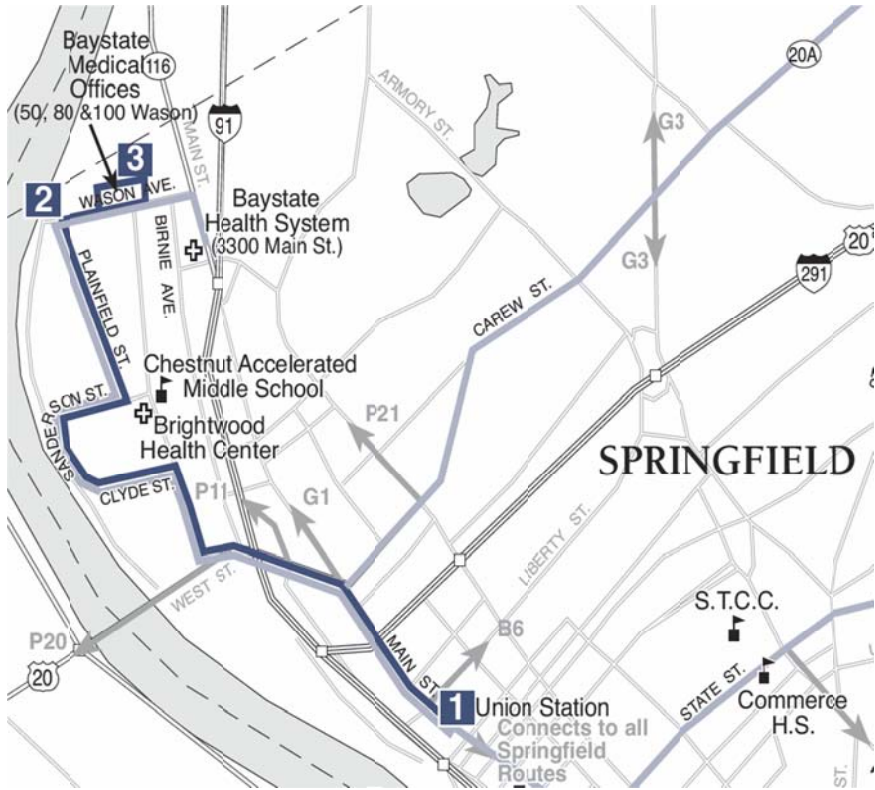
<p>Route Description</p>	<p>G3 Springfield Plaza via Liberty/King-Westford</p> 
<p>Proposed Changes</p>	<ol style="list-style-type: none"> 7. Eliminate the 6:05 PM and 7:05 PM trips departing Union Station on weekdays. Eliminates 2 of 29 trips/day (-7%) on weekdays. 8. Reduced Saturday service to match Sunday levels: reduce frequency from 30 min to 60 min; eliminate Saturday service before 9:00AM and after 6:00PM. Eliminates 16 of 26 trips/day (-62%). 9. Reduce Holiday service to Sunday levels (same as Saturday reductions). Eliminates 16 of 26 trips/day (-62%).

PRELIMINARY

Major Service Change?	YES. This change would eliminate 62% bus trips on Saturdays and Holidays, which exceeds the PVTA 25% threshold to be considered a major service change on single day of service. ON weekdays, there would be a loss of 2 of 29 trips per day, or 7% of service, which is not considered a major service change.
Communities Affected	Springfield, Chicopee
Effective Date	June 24, 2018
Customers Affected?	32,533 customers will be affected by reduced frequencies: <ul style="list-style-type: none"> • 32,533 trips per year on Saturdays 5,363 customers will be affected by eliminated service: <ul style="list-style-type: none"> • 808 trips per year on weekday 6:05 PM and 7:05 PM trips • 4,555 Saturday trips per year before 9:00 AM and 6:00 PM
Disparate (racial discrimination) Impact?	YES. There would be a total loss of 17,869 revenue miles per year, which is 13.9% of all service. Of this loss, 14,441 revenue miles (81%) would be borne by people of color, and the remaining 19% by whites. Therefore, the variance between minority and non-minority is +61.3%, which exceeds the PVTA DI +20% threshold.
Disproportionate (low-income) Impact?	NO. There would be a total loss of 17,869 revenue miles per year, which is 13.9% of all service. Of this loss, 9,928 revenue miles (56%) would be borne by riders considered to have low incomes, and the remaining 44% by those who do not have low incomes. Therefore, the variance between low-income and non-low-income riders is +11%, which does not exceed the PVTA DB +20% threshold.
ADA Van Service Impact?	NO.
Alternate Transit Service Available?	PARTIAL. Riders may be able to make some trips along parts of the G2 corridor on early mornings on Saturdays and Holidays using the G1 before the proposed 9:00AM start time and 7:00PM end time for the G3.
Least Discriminatory Alternative?	YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts to weekday service at other times of day would have impacted substantially more of route G3's ridership.
Mitigation	7. Eliminate the 6:05 PM and 7:05 PM trips departing Union Station on weekdays. Eliminates 2 of 29 trips/day (-7%) on weekdays. 8. Reduced Saturday service to match Sunday levels: reduce frequency from 30 min to 60 min; eliminate Saturday service before 9:00AM and after 6:00PM. Eliminates 16 of 26 trips/day (-62%). MITIGATION: Restore 2-3 morning bus trips on Saturday as soon as operationally feasible and funding is available. 9. Reduce Holiday service to Sunday levels (same as Saturday reductions). Eliminates 16 of 26 trips/day (-62%).

PRELIMINARY

Route B4—Reduce Service Frequency on Saturdays

Route Description	<p>B4 Plainfield Street/Union Station</p> 
Proposed Changes	<p>10. Reduce Saturday service to match Sunday service: reduce headways from 30 min to 60 min; eliminate service before 9:00AM. Eliminates 13 of 25 trips/day (-52%) on Saturdays.</p> <p>11. Reduce Holiday service to Sunday levels (same as Saturday reductions). Eliminates 13 of 25 trips/day (-52%) on holidays.</p>
Communities Affected	Springfield
Effective Date	June 24, 2018
Major Service Change?	YES. A total 13 of existing 25 trips on Saturday would be eliminated (-52%) which exceeds the major service change threshold of -25% for a single day.
Customers Affected?	<p>11,187 customers will be affected by reduced frequencies:</p> <ul style="list-style-type: none"> • 11,187 trips per year on Saturdays <p>1,790 customers will be affected by eliminated service:</p> <ul style="list-style-type: none"> • 1,790 Saturday trips per year before 9:00 AM
Disparate (racial discrimination) Impact?	YES. 89% of route riders are people of color and 11% are white. The minority/non-minority difference is therefore +78%, which exceeds the +20% policy threshold for a disparate impact of a major change.

PRELIMINARY

Disproportionate (low-income) Impact?	YES. 63% of route riders are considered “low-income” and the remaining 37% are not low-income. Therefore, the low-income/non-low-income difference is +26%, which exceeds the +20% policy threshold for a disproportionate impact of a major service change.
ADA Van Service Impact?	NO.
Alternate Transit Service Available?	PARTIAL. Route B4 is the only transit service on most of its travel corridor, so passengers will not be able to use other routes if their travel is impacted by changes to span and frequency. However, all parts of the travel corridor will retain service.
Least Discriminatory Alternative?	YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts to weekday service would have impacted substantially more of route B4’s ridership.
Mitigation	None

PRELIMINARY

Route G5—Eliminate Saturday Service

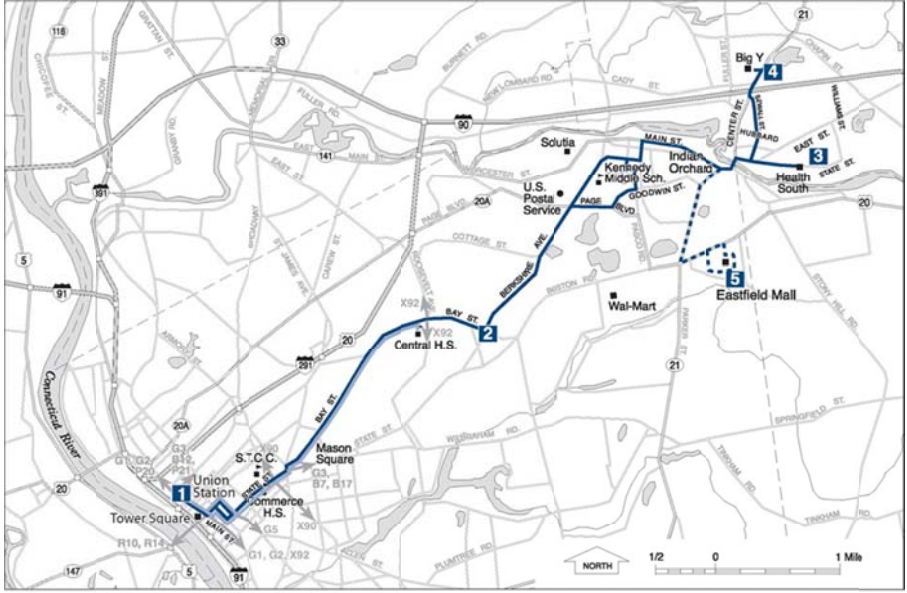
Route Description	<p>G5 Dickinson-Jewish Home/Longmeadow/Enfield</p> <p>The map shows the route G5 starting at Union Station in Springfield, heading south through Enfield and Longmeadow. Key stops include Tower Square, Forest Park, Jewish Community Center of Springfield, and Jewish Home. The route is marked with green lines and numbered stops 1 through 5. A callout box near Longmeadow indicates a connection to Mass Mutual Bright Meadow Campus and CTtransit service. The map also shows major roads like I-91, I-83, and various local streets.</p>
Proposed Change	12. Reduce Saturday service to match Sunday Service. Eliminates 8 of 8 trips/day (-100%) on Saturday. Eliminate holiday service.
Major Service Change?	YES. This change would eliminate 100% of the route miles on a single day of service (Saturday) and therefore would meet the 25% threshold for being a “major service change.”
Communities Affected	Springfield, Longmeadow, Enfield CT (not a PVTA community)
Effective Date	June 24, 2018
Customers Affected?	7,567 customers will be affected by eliminated service: <ul style="list-style-type: none"> • 7,567 trips per year on Saturdays
Disparate (racial discrimination) Impact?	YES. 77% of route riders are people of color and 23% are white. The minority/non-minority difference is therefore +54%, which exceeds the +20% policy threshold for a disparate impact of a major change.
Disproportionate (low-income) Impact?	NO. 48% of route riders are considered “low-income” and the remaining 52% are not low-income. Therefore, the low-income/non-low-income difference is -4%, which does not exceed the +20% policy threshold for a disproportionate impact of a major service change.

PRELIMINARY

ADA Van Service Impact?	YES. ADA service hours in Longmeadow (and Enfield where applicable) will be reduced to match the new G5 timetable. Saturday service will be eliminated, and weekday service hours will be from 6:40 AM to 7:25 PM (6:50 AM to 5:10 PM in Enfield).
Alternate Transit Service Available?	NONE.
Least Discriminatory Alternative?	YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts to weekday service would have impacted substantially more of route G5's ridership.
Mitigation	None

PRELIMINARY

Route B6—Reduce Service Frequency on Weekday Evenings and Weekends

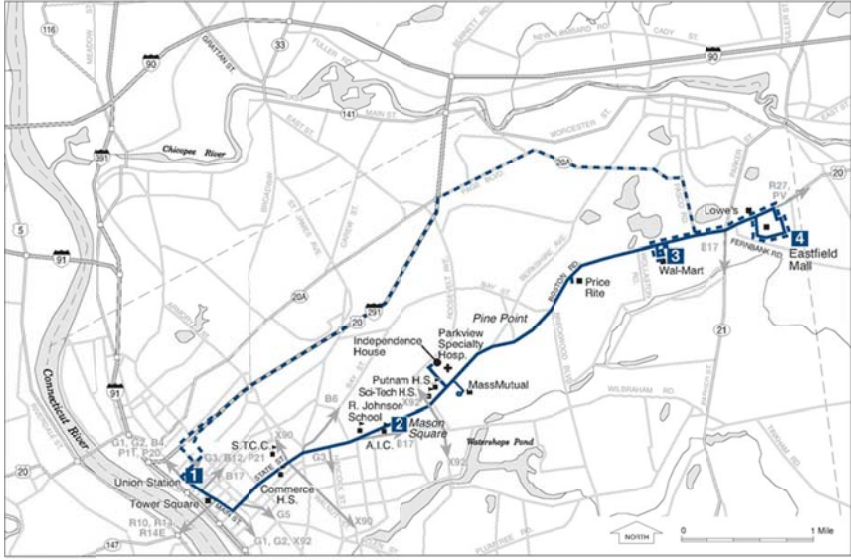
<p>Route Description</p>	<p>B6 Ludlow via Bay St</p>  <p> — Route B6 - - - Helper Service . . . Sunday Service — Connecting Route </p>
<p>Proposed Changes</p>	<p>13. Reduce frequency from 30 to 45 min after 6:00PM on weekdays. Eliminates 3 of 43 trips/day (-7%) weekdays.</p> <p>14. Reduce Saturday service to match Sunday Service. Reduce Saturday headway from 30 min to 60 min. Eliminate Saturday service before 8:30 am and after 7:30 pm. Keep B6 routing the same as on weekdays. Eliminates 15 of 26 trips day (-58%) on Saturdays.</p> <p>15. Reduce Holiday Service to Sunday Levels. Eliminates 15 of 26 trips day (58%) on holidays.</p>
<p>Major Service Change?</p>	<p>YES. This change would eliminate 58% of the route miles on a single day of service (Saturday) and therefore would meet the 25% threshold for being a “major service change.”</p>
<p>Communities Affected</p>	<p>Springfield, Ludlow</p>
<p>Effective Date</p>	<p>June 24, 2018</p>
<p>Customers Affected?</p>	<p>39,771 customers will be affected by reduced frequencies:</p> <ul style="list-style-type: none"> • 8,040 trips per year on weekdays after 6 PM • 31,731 trips per year on Saturdays <p>4,173 customers will be affected by eliminated service:</p> <ul style="list-style-type: none"> • 3,490 Saturday trips per year before 8:30 AM or after 7:30 PM • 683 trips per year on Sundays between Ludlow and Eastfield Mall

PRELIMINARY

Disparate (racial discrimination) Impact?	YES. 76% of riders of Route B6 are people of color, and the remaining 24% are white. The difference is therefore +52%, which is more than the +20% policy threshold that is considered to be a disparate impact.
Disproportionate (low-income) Impact?	NO. 58% of riders of Route B6 are considered “low-income” (defined for purpose of this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 42% do not have low incomes. Therefore, the low-income/non-low-income difference is +16%, which is less than the +20% policy threshold that is considered to be a disproportionate impact.
ADA Van Service Impact?	YES. ADA service hours on Saturdays in Ludlow will be reduced to match the new B6 timetable. The new hours will be 9:05 AM to 7:05 PM, matching the current Sunday hours.
Alternate Transit Service Available?	PARTIAL. Route B6 is the only transit service on most of its travel corridor, so passengers will not be able to use other routes if their travel is impacted by changes to span and frequency. However, all parts of the travel corridor will retain service. Passengers traveling between Ludlow and Eastfield Mall on Sundays will now need to transfer onto the B7 at STCC Technology Park.
Least Discriminatory Alternative?	YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts to weekday service at other times of day would have impacted substantially more of route B6’s ridership.
Mitigation	None

PRELIMINARY

Route B7—Reduce Service Frequency on Weekday Evenings and Weekends

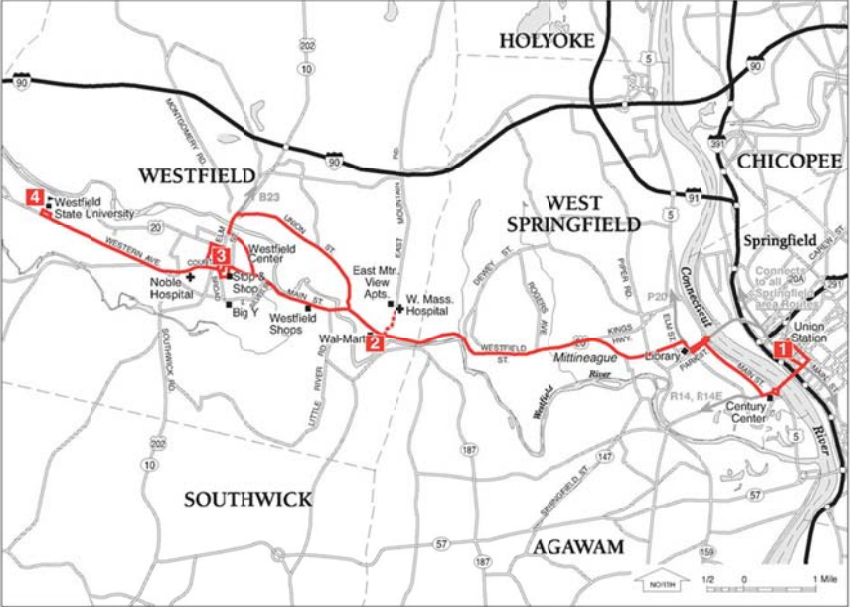
<p>Route Description</p>	<p>B7 State St/Boston Rd/Walmart/Eastfield Mall</p>  <p> — BLUE 7 — Connecting Route - - - Saturday Express Service </p>
<p>Proposed Changes</p>	<p>16. Reduce weekday service from 30 min to 45 min headway after 6:00 PM. Eliminates 3 of 60 trips/day (-5%) weekdays.</p> <p>17. Reduce Saturday service to Sunday levels. Eliminate Saturday service before 9:00 am and after 8:00 pm. Reduce Saturday frequency from 20 to 30 minutes. Eliminate express trips via I-291 on Saturdays. Eliminates 46 of 65 bus trips/day (-71%) on Saturdays.</p> <p>18. Reduce Holiday Service to Sunday Levels. Eliminates 46 of 65 bus trips/day (-71%) on holidays.</p>
<p>Major Service Change?</p>	<p>YES. This change would eliminate 66% of the route miles on a single day of service (Saturday) and therefore would meet the 25% threshold for being a “major service change.”</p>
<p>Communities Affected</p>	<p>Springfield</p>
<p>Effective Date</p>	<p>June 24, 2018</p>
<p>Customers Affected?</p>	<p>133,987 customers will be affected by reduced frequencies:</p> <ul style="list-style-type: none"> • 19,410 trips per year on weekdays after 6 PM • 114,577 trips per year on Saturdays <p>17,094 customers will be affected by eliminated service:</p> <ul style="list-style-type: none"> • 13,749 Saturday trips per year before 9:00 AM or after 8:00 PM • 3,345 trips per year on Saturday expresses
<p>Disparate (racial discrimination) Impact?</p>	<p>YES. 85% of riders of Route B7 are people of color, and the remaining 15% are white. The difference is therefore +70%, which is more than the +20% policy threshold that is considered to be a disparate impact.</p>

PRELIMINARY

Disproportionate (low-income) Impact?	NO. 54% of riders of Route B7 are considered “low-income” (defined for purpose of this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 46% do not have low incomes. Therefore, the low-income/non-low-income difference is +8%, which is less than the +20% policy threshold that is considered to be a disproportionate impact.
ADA Van Service Impact?	NO.
Alternate Transit Service Available?	PARTIAL. Route B7 is the only transit service on much of its travel corridor, so passengers will not be able to use other routes if their travel is impacted by changes to span and frequency. However, all parts of the travel corridor will retain service.
Least Discriminatory Alternative?	YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts to weekday service at other times of day would have impacted substantially more of route B7’s ridership.
Mitigation	<p>16. Reduce weekday service from 30 min to 45 min headway after 6:00 PM. Eliminates 3 of 60 trips/day (-5%) weekdays.</p> <p>17. Reduce Saturday service to Sunday levels. Eliminate Saturday service before 9:00 am and after 8:00 pm. Reduce Saturday frequency from 20 to 30 minutes. Eliminate express trips via I-291 on Saturdays. Eliminates 46 of 65 bus trips/day (-71%) on Saturdays. MITIGATION: Restore 5 of the 46 bus trips (+8%) that were proposed to be eliminated: 3 trips before 9:00 AM, 2 trips between 7:00 PM and 9:00 PM. Effective 6/24/18</p> <p>18. Reduce Holiday Service to Sunday Levels. Eliminates 46 of 65 bus trips/day (-71%) on holidays.</p>

PRELIMINARY

Route R10—Reduce Saturday and Holiday Service to Match Sunday Levels

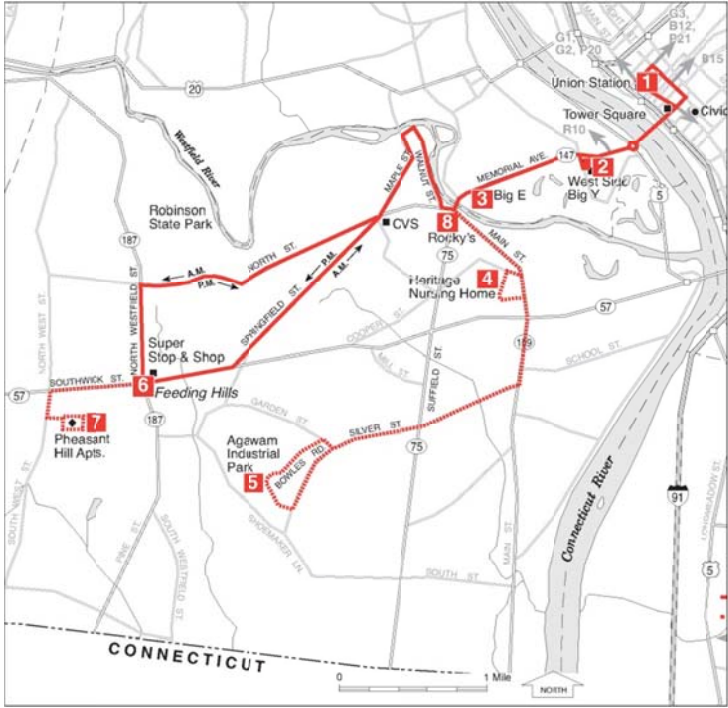
<p>Route Description</p>	<p>R10 Westfield/WSU/West Springfield via Route 20</p>  <p> — PVTA Route RED 10 ⋯ Limited Service ← Connecting Route </p>
<p>Proposed Changes</p>	<p>19. Reduce Saturday service to match Sunday service. Eliminate Saturday service before 9:00 am and after 8:00 pm. Eliminates 4 of 14 bus trips (-29%) on Saturdays.</p> <p>20. Reduce Holiday service to Sunday levels. Eliminates 4 of 14 bus trips (-29%) on holidays.</p>
<p>Major Service Change?</p>	<p>YES. This change would eliminate 29% of the route miles on a single day of service (Saturday) and therefore would meet the 25% threshold for being a “major service change.”</p>
<p>Communities Affected</p>	<p>Springfield, West Springfield, Westfield</p>
<p>Effective Date</p>	<p>June 24, 2018</p>
<p>Customers Affected?</p>	<p>4,453 customers will be affected by eliminated service:</p> <ul style="list-style-type: none"> • 4,453 Saturday trips per year before 9:00 AM or after 8:00 PM
<p>Disparate (racial discrimination) Impact?</p>	<p>NO. 51% of riders of Route R10 are people of color, and the remaining 49% are white. The difference is therefore +2%, which is less than the +20% policy threshold that is considered to be a disparate impact.</p>
<p>Disproportionate (low-income) Impact?</p>	<p>NO. 50% of riders of Route R10 are considered “low-income” (defined for purpose of this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 50% do not have low incomes. Therefore, the low-income/non-low-income difference is 0%, which is less than the +20% policy threshold that is considered to be a disproportionate impact.</p>

PRELIMINARY

ADA Van Service Impact?	YES. ADA service hours on Saturdays in Westfield will be reduced to match the new R10 timetable. The new hours will be 9:30 AM to 7:15 PM, matching the current Sunday hours.
Alternate Transit Service Available?	PARTIAL. Route R10 is the only transit service on much of its travel corridor, so passengers will not be able to use other routes if their travel is impacted by changes to span. However, all parts of the travel corridor will retain service.
Least Discriminatory Alternative?	YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts to weekday service would have impacted substantially more of route R10's ridership.
Mitigation	19. Reduce Saturday service to match Sunday service. Eliminate Saturday service before 9:00 am and after 8:00 pm. Eliminates 4 of 14 bus trips (-29%) on Saturdays. MITIGATION: Restore up to 2 bus trips on Saturday early mornings as soon as operationally feasible and as funding is available. 20. Reduce Holiday service to Sunday levels. Eliminates 4 of 14 bus trips (-29%) on holidays.

PRELIMINARY

Route R14—Reduce Saturday and Holiday Service to Match Sunday Levels

Route Description	<p>R14 Feeding Hills/Springfield</p> 
Proposed Changes	<p>21. Reduce Saturday service to match Sunday service. Eliminate Saturday service before 8:30 am and after 5:00 pm. Eliminates service beyond Rocky's Plaza. Eliminates 2 of 11 bus trips (-18%) on Saturdays.</p> <p>22. Reduce Holiday service to Sunday levels. Eliminates 2 of 11 bus trips (-18%) on holidays.</p>
Major Service Change?	<p>YES. This change would eliminate 69% of the route miles on a single day of service (Saturday) and therefore would meet the 25% threshold for being a "major service change."</p>
Communities Affected	<p>Springfield, West Springfield, Agawam</p>
Effective Date	<p>June 24, 2018</p>
Customers Affected?	<p>11,375 customers will be affected by reduced frequencies:</p> <ul style="list-style-type: none"> • 11,375 trips per year on Saturdays <p>6,257 customers will be affected by eliminated service:</p> <ul style="list-style-type: none"> • 3,413 Saturday trips per year before 8:30 AM or after 5:00 PM • 2,844 Saturday trips per year beyond Rocky's Plaza
Disparate (racial discrimination) Impact?	<p>NO. 43% of riders of Route R14 are people of color, and the remaining 57% are white. The difference is therefore -14%, which is less than the +20% policy threshold that is considered to be a disparate impact.</p>

PRELIMINARY

Disproportionate (low-income) Impact?	YES. 68% of riders of Route R14 are considered “low-income” (defined for purpose of this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 32% do not have low incomes. Therefore, the low-income/non-low-income difference is 36%, which is greater than the +20% policy threshold that is considered to be a disproportionate impact.
ADA Van Service Impact?	YES. ADA service hours in Agawam will be updated to match the new R10 timetable. The new hours will be 6:20 AM to 7:00 PM on weekdays and 8:45 AM to 4:45 PM on Saturdays and Sundays.
Alternate Transit Service Available?	NO.
Least Discriminatory Alternative?	YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts to weekday service would have impacted substantially more of route R14’s ridership.
Mitigation	None

PRELIMINARY

Route B17—Terminate at Eastfield Mall; Add On-demand Van Service in Wilbraham

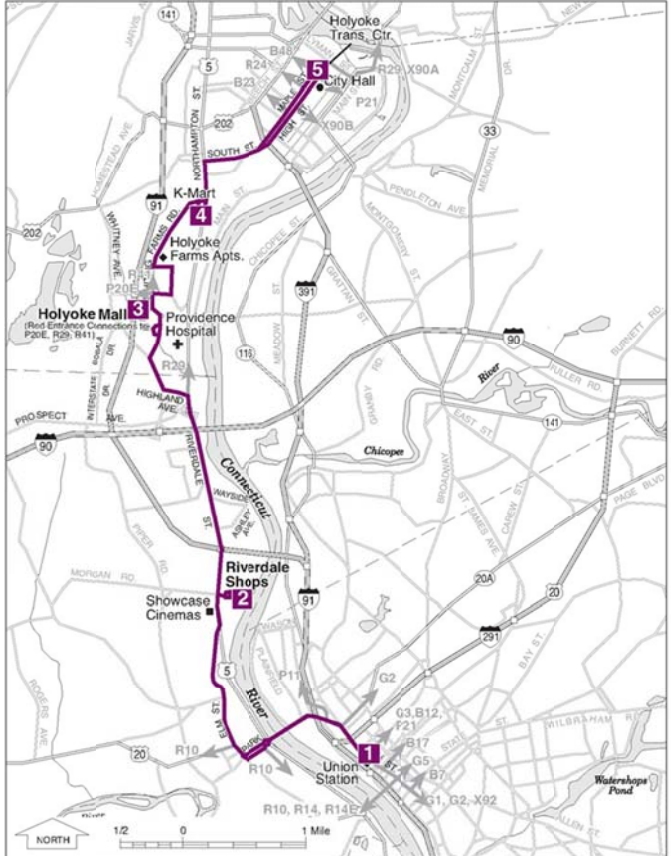
<p>Route Description</p>	<p>B17 Eastfield Mall via Worthington-Wilbraham Rd</p> <p> — Route BLUE 17 ⋯ Limited Service - - - - - Connecting Route </p>
<p>Proposed Changes</p>	<p>23. Terminate at Eastfield Mall. Eliminates 34 of 140 revenue miles per day (-24%) weekdays.</p> <p>24. Reduce Saturday service to match Sunday Service. Eliminates 14 of 14 trips/day (100%) on Saturdays.</p> <p>25. Reduce Holiday Service to Sunday Levels. Eliminates 14 of 14 trips/day (100%) on holidays.</p>
<p>Major Service Change?</p>	<p>YES. This change would eliminate 100% of the route miles on a single day of service (Saturday) and therefore would meet the 25% threshold for being a “major service change.”</p>
<p>Communities Affected</p>	<p>Springfield, Wilbraham</p>
<p>Effective Date</p>	<p>June 24, 2018</p>
<p>Customers Affected?</p>	<p>15,579 customers will be affected by eliminated service:</p> <ul style="list-style-type: none"> • 189 trips per year in Wilbraham • 15,390 trips per year on Saturdays
<p>Disparate (racial discrimination) Impact?</p>	<p>YES. 82% of riders of Route B17 are people of color, and the remaining 18% are white. The difference is therefore +64%, which is more than the +20% policy threshold that is considered to be a disparate impact.</p>

PRELIMINARY

Disproportionate (low-income) Impact?	NO. 55% of riders of Route B17 are considered “low-income” (defined for purpose of this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 45% do not have low incomes. Therefore, the low-income/non-low-income difference is +10%, which is less than the +20% policy threshold that is considered to be a disproportionate impact.
ADA Van Service Impact?	PARTIAL. ADA service hours in Wilbraham will be reduced to match the new on-demand van timetable. The new hours will be weekdays from 7:30 AM to 6:10 PM.
Alternate Transit Service Available?	PARTIAL. Route B17 is the only transit service on most of its travel corridor, so passengers will not be able to use other routes. Passengers traveling between Wilbraham and Springfield will now need to transfer onto the B17 or B7 at Eastfield Mall.
Least Discriminatory Alternative?	YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts to weekday service would have impacted substantially more of route B17’s ridership.
Mitigation	<p>23. Terminate at Eastfield Mall. Eliminates 34 of 140 revenue miles per day (-24%) weekdays. MITIGATION: Replace B17 bus service in Wilbraham with on-demand van to/from B17 transfer connection at Eastfield Mall for persons within ¾ mi of prior B17 alignment at 25 cent transfer price. Effective 6/24/18.</p> <p>24. Reduce Saturday service to match Sunday Service. Eliminates 14 of 14 trips/day (100%) on Saturdays. MITIGATION: Restore 6 of 14 eliminated trips (+43%) on Saturday; 3 trips in the morning and 3 trips in the afternoon. Effective 6/24/18.</p> <p>25. Reduce Holiday Service to Sunday Levels. Eliminates 14 of 14 trips/day (100%) on holidays.</p>

PRELIMINARY

Route P20—Reduce Service Frequency on Weekday Evenings and Weekends

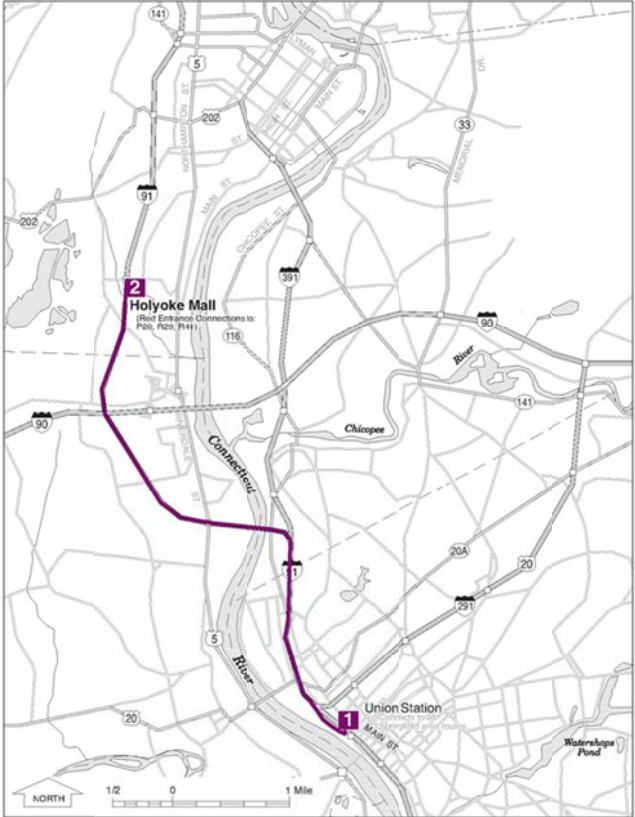
<p>Route Description</p>	<p>P20 Holyoke/Springfield via Holyoke Mall-Riverdale St</p> 
<p>Proposed Changes</p>	<p>26. Reduce weekday service to 60 min headway after 6 pm. Eliminates 3 of 44 trips/day (-7%) on weekdays.</p> <p>27. Reduce Saturday service to match Sunday service. Reduce Saturday headway from 20 min to 30 min. Eliminate Saturday service before 9:00 am. Eliminate Saturday service after 7:30 pm. Eliminates 23 of 44 bus trips/day (-52%) on Saturdays.</p> <p>28. Reduce Holiday Service to Sunday Levels. Eliminates 23 of 44 bus trips/day (-52%) on holidays.</p>
<p>Major Service Change?</p>	<p>YES. This change would eliminate 52% of the route miles on a single day of service (Saturday) and therefore would meet the 25% threshold for being a “major service change.”</p>
<p>Communities Affected</p>	<p>Springfield, West Springfield, Holyoke</p>
<p>Effective Date</p>	<p>June 24, 2018</p>

PRELIMINARY

Customers Affected?	<p>138,589 customers will be affected by reduced frequencies:</p> <ul style="list-style-type: none"> • 21,038 trips per year on weekdays after 6 PM • 117,551 trips per year on Saturdays <p>22,630 customers will be affected by eliminated service:</p> <ul style="list-style-type: none"> • 22,630 Saturday trips per year before 9:00 AM or after 7:30 PM
Disparate (racial discrimination) Impact?	YES. 71% of riders of Route P20 are people of color, and the remaining 29% are white. The difference is therefore +42%, which is more than the +20% policy threshold that is considered to be a disparate impact.
Disproportionate (low-income) Impact?	NO. 49% of riders of Route P20 are considered “low-income” (defined for purpose of this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 51% do not have low incomes. Therefore, the low-income/non-low-income difference is -2%, which is less than the +20% policy threshold that is considered to be a disproportionate impact.
ADA Van Service Impact?	YES. ADA service hours on Saturdays in West Springfield and Holyoke will be reduced to match the new P20 schedule. The new hours will be 8:35 AM to 7:30 PM in West Springfield, and 8:45 AM to 7:30 PM in Holyoke.
Alternate Transit Service Available?	PARTIAL. Route P20 is the only transit service on most of its travel corridor, so passengers will not be able to use other routes if their travel is impacted by changes to span and frequency. However, all parts of the travel corridor will retain service.
Least Discriminatory Alternative?	YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts to weekday service at other times of day would have impacted substantially more of route P20’s ridership.
Mitigation	<p>26. Reduce weekday service to 60 min headway after 6 pm. Eliminates 3 of 44 trips/day (-7%) on weekdays.</p> <p>27. Reduce Saturday service to match Sunday service. Reduce Saturday headway from 20 min to 30 min. Eliminate Saturday service before 9:00 am. Eliminate Saturday service after 7:30 pm. Eliminates 23 of 44 bus trips/day (-52%) on Saturdays. MITIGATION: Restore 6 of the 23 trips (+14%) proposed to be eliminated: 3 trips between 7:00 AM and 9:00 AM; 3 trips between 7:30 PM and 10:00 PM. Effective 6/24/18.</p> <p>28. Reduce Holiday Service to Sunday Levels. Eliminates 23 of 44 bus trips/day (-52%) on holidays.</p>

PRELIMINARY

Route P20E—Eliminate Saturday Service

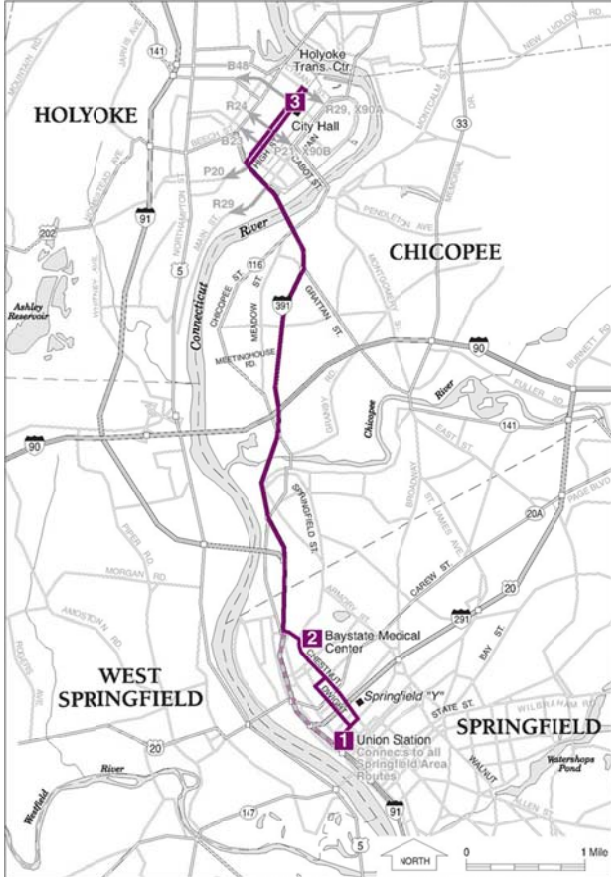
Route Description	<p>P20E Holyoke Mall/ Downtown Springfield I-91 Express</p> 
Proposed Changes	69. Reduce Saturday service to match Sunday service. Eliminates 12 of 12 trips/day (-100%) on Saturdays.
Major Service Change?	YES. 100% of route miles would have been eliminated on service days (Saturdays and Sundays), which exceeds the major service change threshold of 25%.
Communities Affected	Holyoke, Springfield
Effective Date	June 24, 2018
Customers Affected?	16,375 customers will be affected by eliminated service: <ul style="list-style-type: none"> • 16,375 trips per year on Saturdays
Disparate (racial discrimination) Impact?	<p>YES. 71% of riders of the underlying P20 local bus route are people of color, and the remaining 29% are white. The difference is therefore +42%, which exceeds the +20% policy threshold that is considered to be a disparate impact.</p> <p><i>(Similar rider characteristics are assumed for the P20E, as it serves the same corridor and customer base; rider surveys of the P20E were not performed during the most recent customer survey cycle.)</i></p>

PRELIMINARY

Disproportionate (low-income) Impact?	NO. 49% of riders of the underlying P20 local bus route are considered “low-income” (defined in this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 51% do not have low incomes. Therefore, the low-income/non-low-income difference is -2%, which is less than the +20% policy threshold that is considered to be a disproportionate impact.
ADA Van Service Impact?	NONE.
Alternate Transit Service Available?	YES. The same boarding and destinations stops are available during the same hours of service by using Route P20 local.
Least Discriminatory Alternative?	YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts to weekday service would have impacted substantially more of route P20E’s ridership.
Mitigation	None

PRELIMINARY

Route P21E—Eliminate Weekend Service

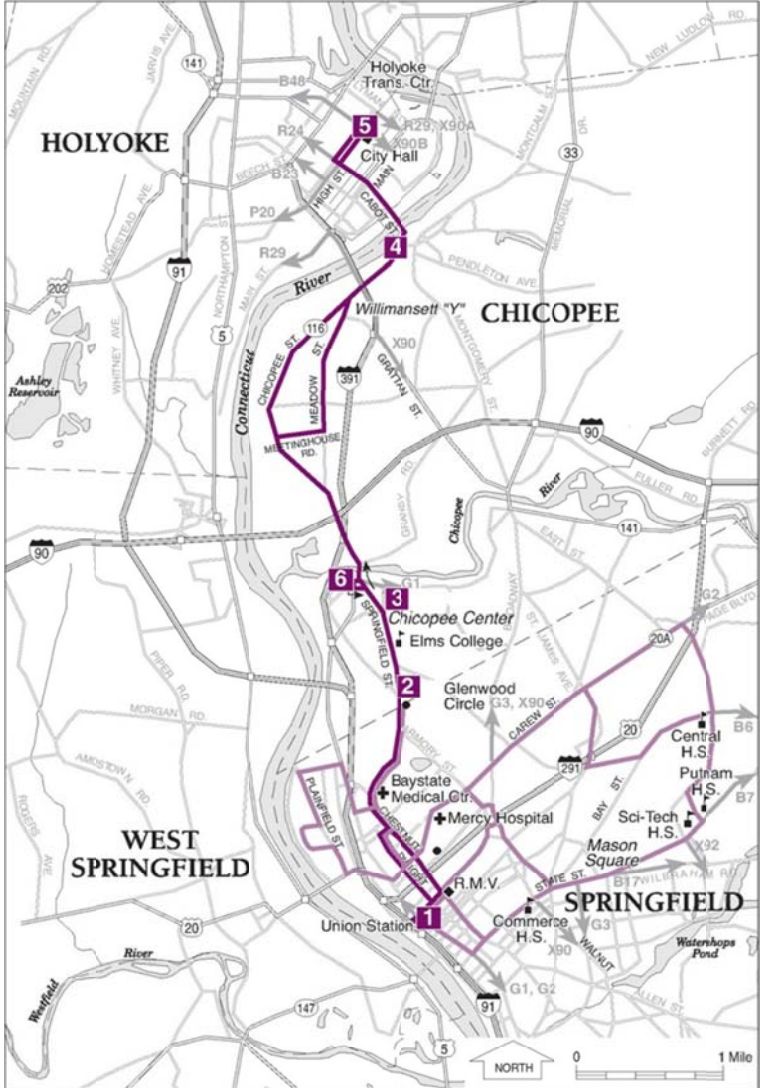



<p>Route Description</p>	<p>P21E Holyoke/Springfield Express via I-391</p>  <p> — Route P21E (Express) - - - Limited Service ← Connecting Route </p>
<p>Proposed Changes</p>	<p>70. Eliminate weekend service. Eliminates 11 of 11 trips on Saturdays, and 9 of 9 trips on Sundays (-100% on both days).</p> <p>71. Reduce holiday service to Sunday levels. Eliminates 11 of 11 trips/day (-100%) on holidays.</p>
<p>Major Service Change?</p>	<p>YES. 100% of route miles would have been eliminated on service days (Saturdays and Sundays), which exceeds the major service change threshold of 25%.</p>
<p>Communities Affected</p>	<p>Holyoke, Springfield</p>
<p>Effective Date</p>	<p>June 24,2018</p>
<p>Customers Affected?</p>	<p>19,906 customers will be affected by eliminated service:</p> <ul style="list-style-type: none"> • 19,906 trips per year on Saturdays and Sundays

PRELIMINARY

Disparate (racial discrimination) Impact?	<p>YES. 86% of riders of the underlying P21 local bus route are people of color, and the remaining 14% are white. The difference is therefore +72%, which exceeds the +20% policy threshold that is considered to be a disparate impact.</p> <p><i>(Similar rider characteristics are assumed for the P21E, as it serves the same corridor and customer base; rider surveys of the P21E were not performed during the most recent customer survey cycle.)</i></p>
Disproportionate (low-income) Impact?	<p>YES. 60% of riders of the underlying P21 local bus route are considered “low-income” (defined in this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 40% are not low-income. Therefore, the low-income/not-low-income difference is +20%, which meets the +20% policy threshold that is considered to be a disproportionate impact.</p>
ADA Van Service Impact?	NONE.
Alternate Transit Service Available?	YES. The same boarding and destinations stops are available during the same hours of service by using Route P21 local.
Least Discriminatory Alternative?	YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts to weekday service would have impacted substantially more of route P21E’s ridership.
Mitigation	<p>70. Eliminate weekend service. Eliminates 11 of 11 trips on Saturdays, and 9 of 9 trips on Sundays (-100% on both days). MITIGATION: Restore all proposed trip eliminations (11 on Saturdays and 9 on Sundays) by securing CMAQ grant funds to operate route for 1 year. Effective 8/27/18 if grant is approved (application pending).</p> <p>71. Reduce holiday service to Sunday levels. Eliminates 11 of 11 trips/day (-100%) on holidays.</p>

PRELIMINARY

Route P21—Reduce Service Frequency on Saturdays and Eliminate Sundays

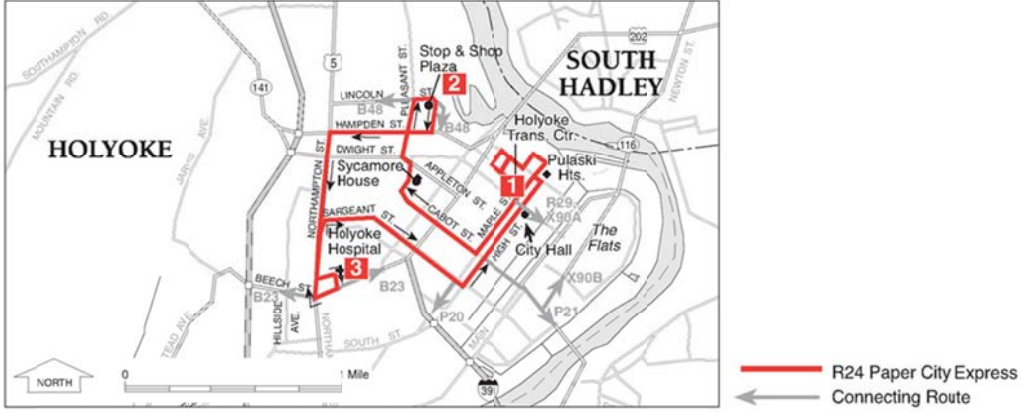
<p>Route Description</p>	<p>P21 Holyoke/Springfield via Chicopee</p>  <p>  PVTA Route PURPLE 21  Helper Service  Connecting Route </p>
<p>Proposed Changes</p>	<p>29. Reduce Saturday service to match Sunday service. Reduce Saturday headway from 30 min to 45 min. Eliminate Saturday service after 7:00 pm. Eliminates 12 of 26 bus trips/day (-46%) on Saturdays.</p> <p>30. Reduce Holiday service to match Sunday service. Eliminates 12 of 26 bus trips/day (-46%) on holidays.</p>
<p>Major Service Change?</p>	<p>YES. This change would eliminate 46% of the route miles on a single day of service and therefore would meet the 25% threshold for being a “major service change.”</p>
<p>Communities Affected</p>	<p>Springfield, Chicopee</p>

PRELIMINARY

Effective Date	June 24, 2018
Customers Affected?	<p>41,944 customers will be affected by reduced frequencies:</p> <ul style="list-style-type: none"> • 41,944 trips per year on Saturdays <p>3,775 customers will be affected by eliminated service:</p> <ul style="list-style-type: none"> • 3,775 Saturday trips per year after 7:00 PM
Disparate (racial discrimination) Impact?	YES. 86% of riders of Route P21 are people of color, and the remaining 14% are white. The difference is therefore +72%, which is more than the +20% policy threshold that is considered to be a disparate impact.
Disproportionate (low-income) Impact?	YES. 60% of riders of Route P21 are considered “low-income” (defined for purpose of this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 40% do not have low incomes. Therefore, the low-income/non-low-income difference is +20%, which meets the +20% policy threshold that is considered to be a disproportionate impact.
ADA Van Service Impact?	NO.
Alternate Transit Service Available?	PARTIAL. Route P21 is the only transit service on most of its travel corridor, so passengers will not be able to use other routes if their travel is impacted by changes to span and frequency. However, all parts of the travel corridor will retain service.
Least Discriminatory Alternative?	YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts to weekday service would have impacted substantially more of route P21’s ridership.
Mitigation	<p>29. Reduce Saturday service to match Sunday service. Reduce Saturday headway from 30 min to 45 min. Eliminate Saturday service after 7:00 pm. Eliminates 12 of 26 bus trips/day (-46%) on Saturdays. MITIGATION: Restore 3-5 bus trips on Saturday evenings as soon as operationally feasible and funding is available.</p> <p>30. Reduce Holiday service to match Sunday service. Eliminates 12 of 26 bus trips/day (-46%) on holidays.</p>

PRELIMINARY

Route R24—Restructure as a Community Circulator, Eliminate Saturdays

<p>Route Description</p>	<p>R24 Paper City Express</p> 
<p>Proposed Change</p>	<p>31. Reduce Saturday service to match Sunday service. Eliminate Saturday service. Eliminates 7 of 7 trips/day (-100%) on Saturdays.</p> <p>32. Restructure entire route as weekday only deviated fixed circulator. No change in number of trips. Net increase in revenue miles per day of +10%.</p>
<p>Major Service Change?</p>	<p>YES. This change would eliminate 100% of the route miles on a single day of service (Saturday) and therefore would meet the 25% threshold for being a “major service change.”</p>
<p>Communities Affected</p>	<p>Holyoke</p>
<p>Effective Date</p>	<p>June 24, 2018</p>
<p>Customers Affected?</p>	<p>1,712 customers will be affected by eliminated service:</p> <ul style="list-style-type: none"> • 1,712 trips per year on Saturdays
<p>Disparate (racial discrimination) Impact?</p>	<p>YES. 64% of riders of Route R24 are people of color, and the remaining 36% are white. The difference is therefore +28%, which is more than the +20% policy threshold that is considered to be a disparate impact.</p>
<p>Disproportionate (low-income) Impact?</p>	<p>YES. 67% of riders of Route R24 are considered “low-income” (defined for purpose of this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 33% do not have low incomes. Therefore, the low-income/non-low-income difference is +34%, which is more than the +20% policy threshold that is considered to be a disproportionate impact.</p>
<p>ADA Van Service Impact?</p>	<p>NO.</p>
<p>Alternate Transit Service Available?</p>	<p>NO.</p>

PRELIMINARY

Least Discriminatory Alternative?	YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts to weekday service would have impacted substantially more of route R24's ridership.
Mitigation	31. Reduce Saturday service to match Sunday service. Eliminate Saturday service. Eliminates 7 of 7 trips/day (-100%) on Saturdays. 32. Restructure entire route as weekday only deviated fixed circulator. No change in number of trips. Net increase in revenue miles per day of +10%. MITIGATION: No loss of service. Add new stop at Holyoke Mall. Applied for CMAQ funds to operate service for 1 year. Effective 6/24/18

PRELIMINARY

Route 30—Reduce Frequency on Full Service Saturdays and When School is Not in Session

<p>Route Description</p>	<p>Route 30 North Amherst/Old Belchertown Rd</p>
<p>Proposed Changes</p>	<p>33. End service at 9:00 PM on non-academic “reduced service” days. Eliminates 3 of 28 bus trips/day (-11%) on weekdays during reduced service.</p> <p>34. Eliminate Sunday service during non-academic “reduced service.” Eliminates 14 of 14 trips/day on Sundays (-100%) during reduced service.</p> <p>35. Reduce frequency from 30 to 60 minutes during non-academic “reduced service.” Eliminates 11 of 28 trips/day (-39%) on weekdays during reduced service.</p> <p>36. Reduce Saturday service to match Sunday service. Eliminates service before 10:45 AM and after 12:45 AM. Eliminates 5 of 19 trips/day (-36%) on Saturdays during full service periods.</p>
<p>Communities Affected</p>	<p>Amherst</p>
<p>Effective Date</p>	<p>May 13, 2018</p>

PRELIMINARY

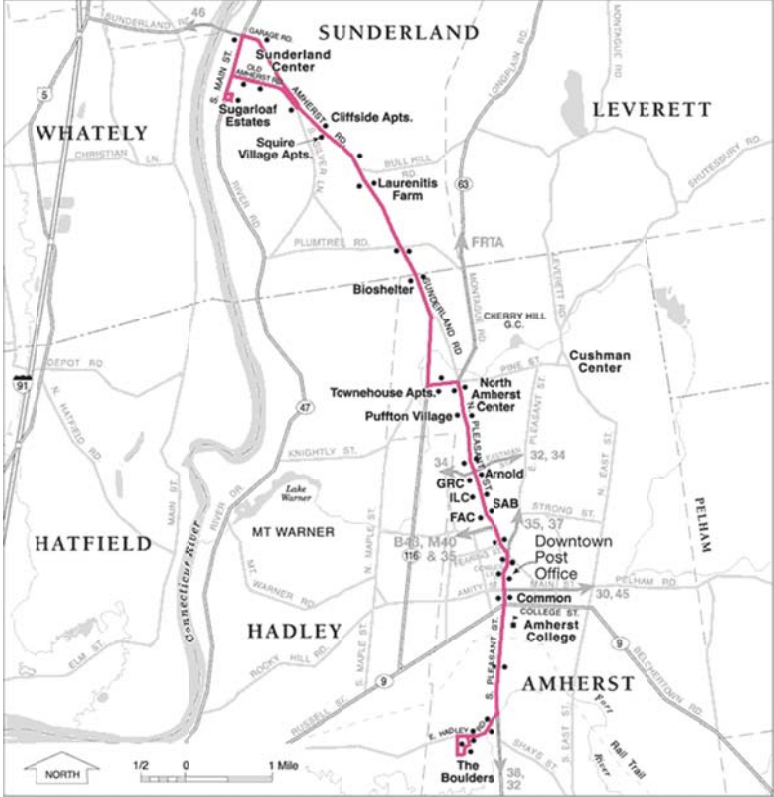
Major Service Change?	YES. This change would eliminate 100% of the route miles on a single day of service (reduced service Sunday) and therefore would meet the 25% threshold for being a “major service change.”
Customers Affected?	115,478 passengers will be affected by reduced frequency: <ul style="list-style-type: none"> • 115,478 trips per year on weekdays during reduced service 32,763 passengers will be affected by eliminated service: <ul style="list-style-type: none"> • 9,730 trips per year after 9:00 PM on weekdays during reduced service • 9,790 trips per year on Sundays during reduced service • 13,243 Saturday trips per year before 10:45 AM or after 12:45 AM
Disparate Impact?	NO. 36% of riders of Route 30 are people of color, and the remaining 64% are white. The minority/non-minority difference is therefore -28%, which is less than the +20% policy threshold that is considered to be a disparate impact.
Disproportionate Impact?	YES. 74% of riders of Route 30 are considered “low-income” (defined for purpose of this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 26% do not have low incomes. Therefore, the low-income/non-low-income difference is +48%, which exceeds the +20% policy threshold that is considered to be a disproportionate impact.
ADA Van Service Impact?	YES. ADA service hours in Amherst will be reduced to match the new route 30 schedule. The new hours will be as follows: <ul style="list-style-type: none"> • 6:25 AM to 1:35 AM, Monday thru Wednesday • 6:10 AM to 2:55 AM, Thursday and Friday • 8:30 AM to 1:00 AM, Saturday and Sunday • 6:55 AM to 11:20 PM, “reduced service” weekdays • 8:30 AM to 10:00 PM, “reduced service” weekends
Alternate Transit Service Available?	YES. Route 31 duplicates part of Route 30, from Amherst Center stops till North Amherst. Route 45 also duplicates parts of Route 30 and extends further south to Belchertown.
Least Discriminatory Alternative?	YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts to full service periods, or to weekdays during reduced service, would have impacted substantially more of route 30’s ridership.
Mitigation	33. End service at 9:00 PM on non-academic “reduced service” days. Eliminates 3 of 28 bus trips/day (-11%) on weekdays during reduced service. 34. Eliminate Sunday service during non-academic “reduced service.” Eliminates 14 of 14 trips/day on Sundays (-100%) during reduced service. MITIGATION: Restore 4 of 13 trips at 120-min frequency on Reduced Service Sundays (reduces net lost service to -71%). Eliminate 2 of 66 trips/day (-7%) on full service weekdays by reducing frequency between 6:00 PM and 8:00 PM from 15 to 20 minutes. Effective 5/13/18. 35. Reduce frequency from 30 to 60 minutes during non-academic “reduced service.” Eliminates 11 of 28 trips/day (-39%) on weekdays during reduced service.

PRELIMINARY

	<p>MITIGATION: Restore 3 of the 11 trips proposed to be eliminated to achieve 30 min frequency during peak times of day. Effective 5/13/18.</p> <p>36. Reduce Saturday service to match Sunday service. Eliminates service before 10:45 AM and after 12:45 AM. Eliminates 5 of 19 trips/day (-36%) on Saturdays during full service periods. MITIGATION: Restore 2 of 5 trips proposed to be eliminated on full service Saturdays (9:45 AM and last trip of day), which reduces daily net lost service to -16% on Saturdays. Eliminate the last trip/day on full service Mon-Tue-Wed. Effective 9/4/18.</p>
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PRELIMINARY

Route 31—Reduce Frequency on Saturdays and When School is Not in Session

<p>Route Description</p>	<p>Route 31 Sunderland/South Amherst</p> 
<p>Proposed Changes</p>	<p>37. Eliminate Sunday service during non-academic “reduced service.” Eliminates 12 of 12 trips/day on Sundays (-100%) during reduced service.</p> <p>38. End service at 9:00 PM on non-academic “reduced service” days. Eliminates 3 of 26 bus trips/day (-12%) on weekdays during reduced service.</p> <p>39. Reduce frequency from 35 to 70 minutes during non-academic “reduced service.” Eliminates 10 of 26 trips/day (-38%) on weekdays during reduced service.</p> <p>40. Reduce Saturday service to match Sunday service. Eliminates service before 11:00 AM and after 1:00 AM. Eliminates 4 of 16 trips/day (-25%) on Saturdays during full service periods.</p>
<p>Communities Affected</p>	<p>Amherst, Sunderland</p>
<p>Effective Date</p>	<p>May 13, 2018</p>
<p>Major Service Change?</p>	<p>YES. This change would eliminate 100% of the route miles on a single day of service (reduced service Sunday) and therefore would meet the 25% threshold for being a “major service change.”</p>

PRELIMINARY

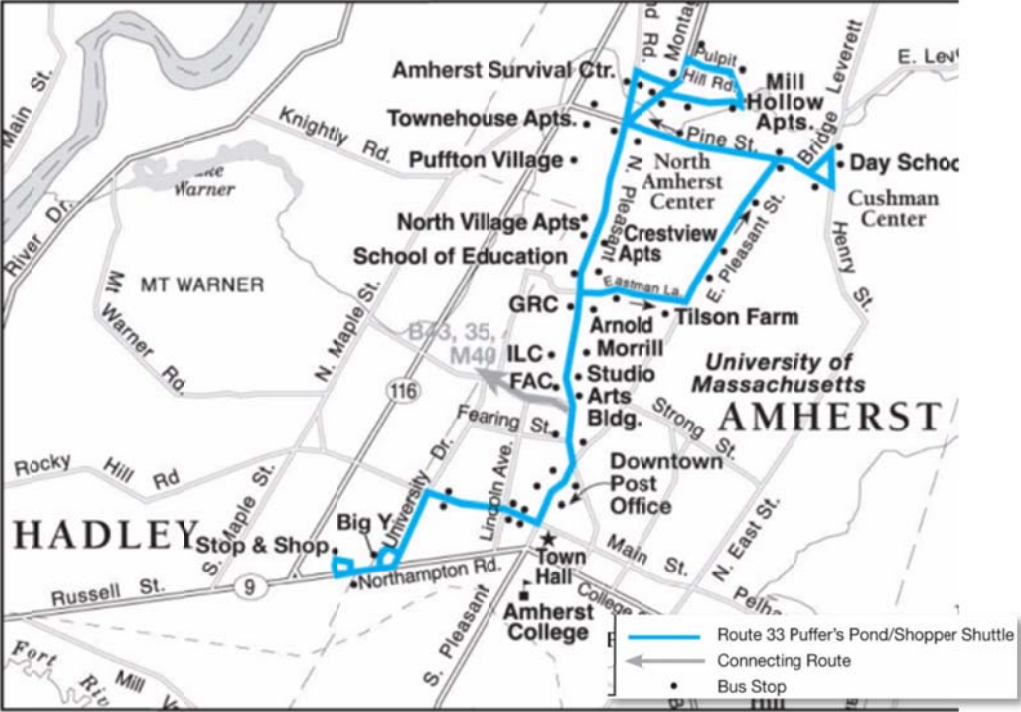
Customers Affected?	<p>119,416 passengers will be affected by reduced frequency:</p> <ul style="list-style-type: none"> • 119,416 trips per year on weekdays during reduced service <p>32,785 passengers will be affected by eliminated service:</p> <ul style="list-style-type: none"> • 11,785 trips per year after 9:00 PM on weekdays during reduced service • 8,910 trips per year on Sundays during reduced service • 12,090 Saturday trips per year before 11:00 AM or after 1:00 AM
Disparate Impact?	<p>NO. 47% of riders of Route 31 are people of color, and the remaining 53% are white. The minority/non-minority difference is therefore -6%, which is less than the +20% policy threshold that is considered to be a disparate impact.</p>
Disproportionate Impact?	<p>YES. 67% of riders of Route 31 are considered “low-income” (defined for purpose of this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 33% do not have low incomes. Therefore, the low-income/non-low-income difference is +34%, which exceeds the +20% policy threshold that is considered to be a disproportionate impact.</p>
ADA Van Service Impact?	<p>YES. ADA service hours in Sunderland will be reduced to match the new route 31 schedule. The new hours will be as follows:</p> <ul style="list-style-type: none"> • 7:15 AM to 12:35 AM, Monday thru Wednesday • 7:15 AM to 1:45 AM, Thursday and Friday • 11:00 AM to 1:00 AM, Saturday and Sunday • 6:45 AM to 9:00 PM, “reduced service” weekdays • 11:00 AM to 9:00 PM, “reduced service” Saturdays • Eliminated on “reduced service” Sundays
Alternate Transit Service Available?	<p>YES. Route 30 duplicates part of Route 31, from the Amherst Center stops till North Village stop in North Amherst. Routes 46 and 38 also duplicate parts of Route 31 and extend further north to South Deerfield and further south to South Hadley respectively.</p>
Least Discriminatory Alternative?	<p>YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts to full service periods, or to weekdays during reduced service, would have impacted substantially more of route 31’s ridership.</p>

PRELIMINARY

Mitigation	<p>37. Eliminate Sunday service during non-academic “reduced service.” Eliminates 12 of 12 trips/day on Sundays (-100%) during reduced service. MITIGATION: Restore 4 of 12 trips proposed to be eliminated on reduced service Sundays (+33%, for net reduction of -66%) at 120-min frequency. Reduce frequency on full service weekday evenings from 6:00 to 8:00 PM. Effective 5/13/18</p> <p>38. End service at 9:00 PM on non-academic “reduced service” days. Eliminates 3 of 26 bus trips/day (-12%) on weekdays during reduced service.</p> <p>39. Reduce frequency from 35 to 70 minutes during non-academic “reduced service.” Eliminates 10 of 26 trips/day (-38%) on weekdays during reduced service. MITIGATION: Restore 2 of the 10 trips proposed to be eliminated to achieve 35-min frequencies during peak times of day instead of every 70 minutes. Eliminate 3 of 57 trips/day on full service weekdays by reducing frequency from 15 to 20 min on weekdays between 6:00 PM and 8:00 PM. Effective 5/13/18.</p> <p>40. Reduce Saturday service to match Sunday service. Eliminates service before 11:00 AM and after 1:00 AM. Eliminates 4 of 16 trips/day (-25%) on Saturdays during full service periods. MITIGATION: Restore 2 of 4 trips/day proposed to be eliminated on full service Saturday evenings (last trip of day). Eliminate the last trip/day on full service Mon-Tue-Wed. Effective 5/13/18.</p>
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PRELIMINARY

Route 33—Eliminate Sunday Service When School is Not in Session

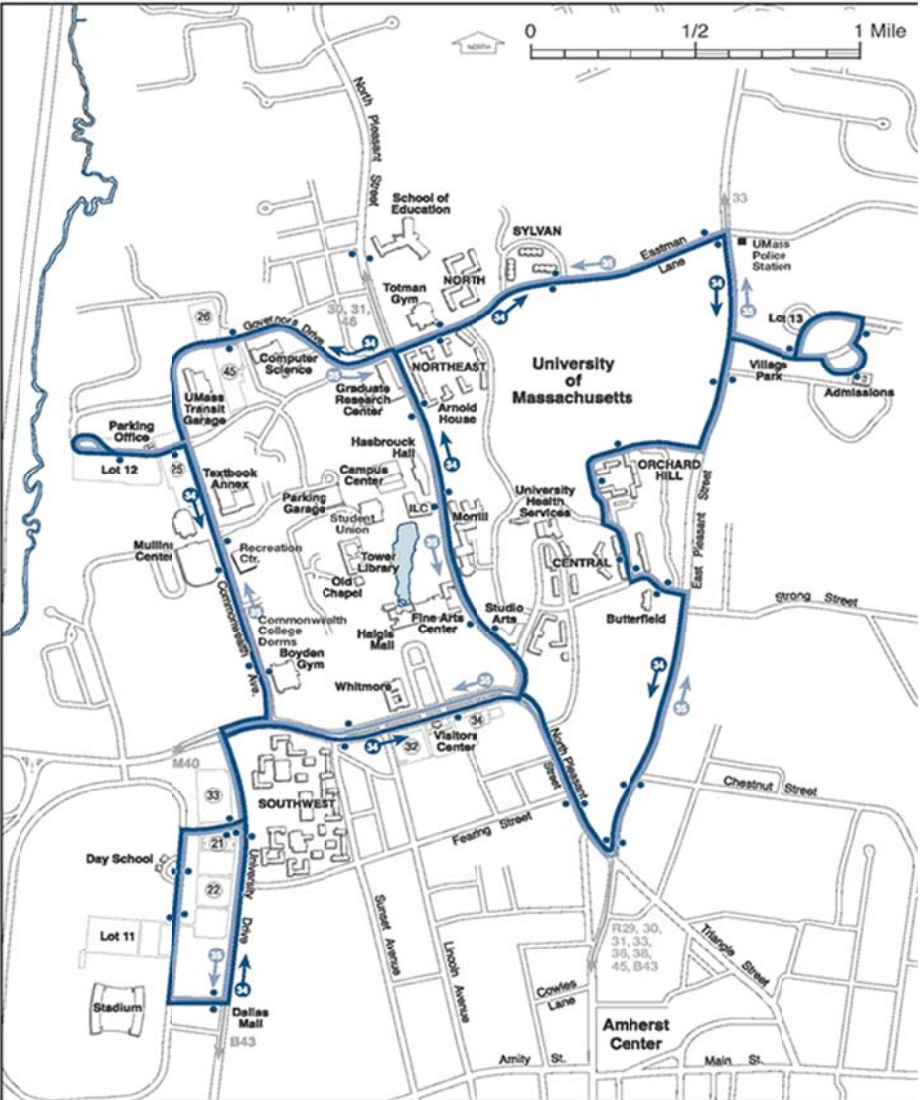
<p>Route Description</p>	<p>Route 33 Puffers Pond/Shopper Shuttle</p> 
<p>Proposed Change</p>	<p>41. Eliminate Sunday service during non-academic “reduced service” period. Eliminates 9 of 9 bus trips/day (-100%) on reduced service Sundays.</p>
<p>Major Service Change?</p>	<p>YES. This change would eliminate 100% of the route miles on a single day of service (reduced service Sunday) and therefore would meet the 25% threshold for being a “major service change.”</p>
<p>Communities Affected</p>	<p>Amherst, Hadley</p>
<p>Effective Date</p>	<p>May 13, 2018</p>
<p>Customers Affected?</p>	<p>5,566 passengers will be affected by eliminated service:</p> <ul style="list-style-type: none"> • 5,566 trips per year on reduced service Sundays
<p>Disparate (racial discrimination) Impact?</p>	<p>NO. 32% of riders of Route 33 are people of color, and the remaining 68% are white. The minority/non-minority difference is therefore -36%, which is less than the +20% policy threshold that is considered to be a disparate impact.</p>
<p>Disproportionate (low-income) Impact?</p>	<p>YES. 64% of riders of Route 33 are considered “low-income” (defined for purpose of this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 36% do not have low incomes. Therefore, the low-income/non-low-income difference is +30%, which exceeds the +20% policy threshold that is considered to be a disproportionate impact.</p>
<p>ADA Van Service Impact?</p>	<p>NO.</p>

PRELIMINARY

Alternate Transit Service Available?	PARTIAL. No alternate service available to Amity Street, East Pleasant Street, Pine Street, Cushman, or Mill Hollow.
Least Discriminatory Alternative?	YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts to full service periods, or to weekdays during reduced service, would have impacted substantially more of route 33's ridership.
Mitigation	41. Eliminate Sunday service during non-academic "reduced service" period. Eliminates 9 of 9 bus trips/day (-100%) on reduced service Sundays. MITIGATION: Restore 5 of 9 trips proposed to be eliminated on Sundays (+56%, reducing net loss to -44%). Eliminate 1 of 24 trips per weekday during reduced service. Eliminate 1 of 9 trips/day on Saturdays during reduced service. Eliminate 1 of 9 trips/day on Sundays during full service. Effective 5/13/18.

PRELIMINARY

Route 34 Campus Shuttle—End Weekday Service at 8:00PM

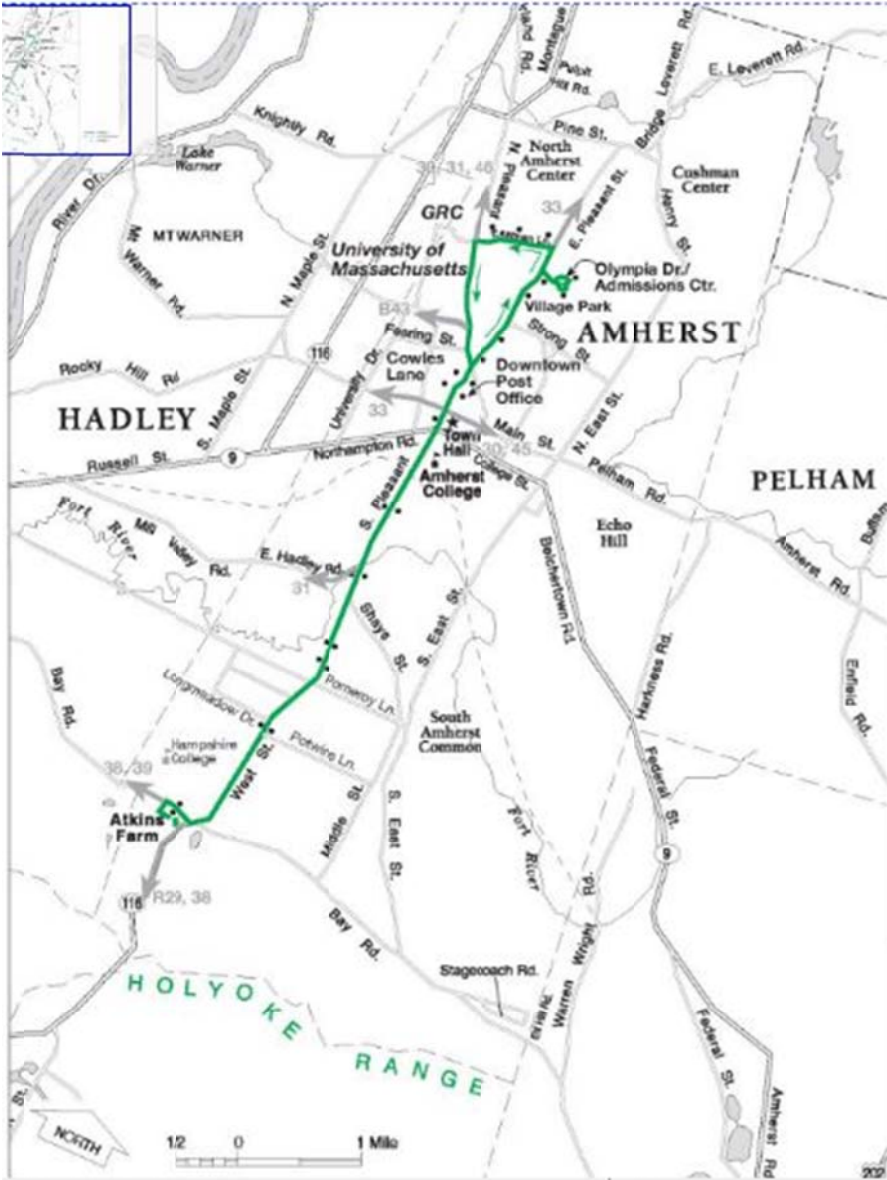
Route Description	<p>Route 34 Orchard Hill/Mullins Center Campus Shuttle</p> 
Proposed Change	42. End service at 8:00 PM on weekdays. Eliminates 6 of 51 trips/day (-12%) on weekdays (route only operates during full service periods).
Communities Affected	Amherst, Hadley
Effective Date	9/4/18
Major Service Change?	No. 12% of route miles would be eliminated on days that the service currently operates (Mon-Fri), which is below the major service change threshold of 25%.
Customers Affected?	22,650 passengers would be affected by eliminated service: <ul style="list-style-type: none"> • 22,650 trips per year after 8:00 PM

PRELIMINARY

Disparate Impact?	NO. 42% of riders of Route 34 are people of color, and the remaining 58% are white. The minority/non-minority difference is therefore -16%, which is less than the +20% policy threshold that is considered to be a disparate impact.
Disproportionate Impact?	YES. 84% of riders of Route 34 are considered “low-income” (defined for purpose of this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 16% do not have low incomes. Therefore, the low-income/non-low-income difference is +68%, which exceeds the +20% policy threshold that is considered to be a disproportionate impact.
ADA Van Service Impact?	NONE.
Alternate Transit Service Available?	YES. Route 35 duplicates Route 34, but in the opposite direction. Routes 30, 31, 33, 36, B43, 45, and 46 also duplicate parts of Route 34.
Least Discriminatory Alternative?	YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts during other times of day would have impacted substantially more of route 34’s ridership.
Mitigation	None

PRELIMINARY

Route 36—Eliminate Saturday Service

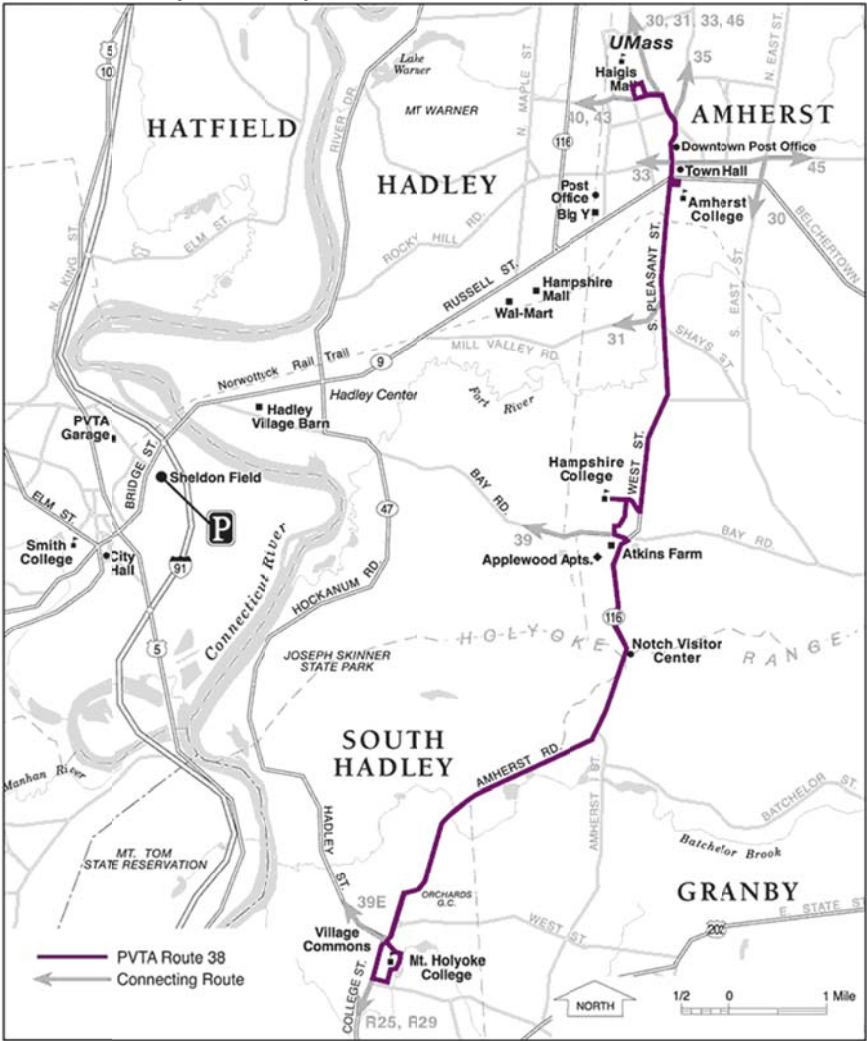
Route Description	<p>Route 36 Olympia Drive/Atkins Farm</p> 
Proposed Change	43. Eliminate Saturday service. Eliminates 16 of 16 trips/day (-100%) on reduced service Saturdays.
Communities Affected	Amherst
Effective Date	May 13, 2018
Major Service Change?	YES. This change would eliminate 100% of the route miles on a single day of service (Saturday) and therefore would meet the 25% threshold for being a “major service change.”

PRELIMINARY

Customers Affected?	3,498 passengers would be affected by eliminated service: <ul style="list-style-type: none"> • 3,498 trips per year on Saturdays
Disparate Impact?	NO. 32% of riders of Route 33, which serves a similar customer base, are people of color, and the remaining 68% are white. The minority/non-minority difference is therefore -36%, which is less than the +20% policy threshold that is considered to be a disparate impact. <i>(Similar rider characteristics are assumed for route 36, as it serves similar destinations and customers; rider surveys of route 36 were not performed during the most recent customer survey cycle.)</i>
Disproportionate Impact?	YES. 64% of riders of Route 33, which serves a similar customer base, are considered “low-income” (defined for purpose of this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 36% do not have low incomes. Therefore, the low-income/non-low-income difference is +30%, which exceeds the +20% policy threshold that is considered to be a disproportionate impact. <i>(Similar rider characteristics are assumed for route 36, as it serves similar destinations and customers; rider surveys of route 36 were not performed during the most recent customer survey cycle.)</i>
ADA Van Service Impact?	NONE.
Alternate Transit Service Available?	PARTIAL. Route R29 duplicates much of route 36; other parts are duplicated by routes 30, 31, 33, and B43.
Least Discriminatory Alternative?	YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts during weekdays would have impacted substantially more of route 36’s ridership.
Mitigation	43. Eliminate Saturday service. Eliminates 16 of 16 trips/day (-100%) on reduced service Saturdays. MITIGATION: Restore 9 of 16 trips proposed to be eliminated on Saturday (+56%, reducing net loss to -44%) and operate at 60 minute frequency. Reduce weekday frequency from 45 to 60 minutes and end service at 7:00 PM. Eliminates 4 of 16 trips on weekdays. Effective 5/11/18.

PRELIMINARY

Route 38—Reduce Frequency Weekday Evenings and Weekends; Eliminate Sunday Service When School is Not in Session

<p>Route Description</p>	<p>Route 38 Mount Holyoke/Hampshire/Amherst/UMass</p> 
<p>Proposed Changes</p>	<p>44. Reduce frequency from 40 to 80 minutes after 8:00 PM. Eliminates 3 of 34 trips/day Mon-Wed, 3 of 35 trips/day on Thursdays, and 5 of 37 trips/day on Fridays.</p> <p>45. Eliminate Sunday service during non-academic “reduced service.” Eliminates 13 of 13 trips/day (-100%).</p> <p>46. Reduce Saturday service to match Sunday service. Eliminates 13 of 25 trips/day (-52%) on Saturdays.</p>
<p>Communities Affected</p>	<p>Amherst, Granby, South Hadley.</p>
<p>Effective Date</p>	<p>9/4/18</p>
<p>Major Service</p>	<p>YES. This change would eliminate 100% of the route miles on a single day of service (reduced service Sunday) and therefore would meet the 25% threshold for being a</p>

PRELIMINARY

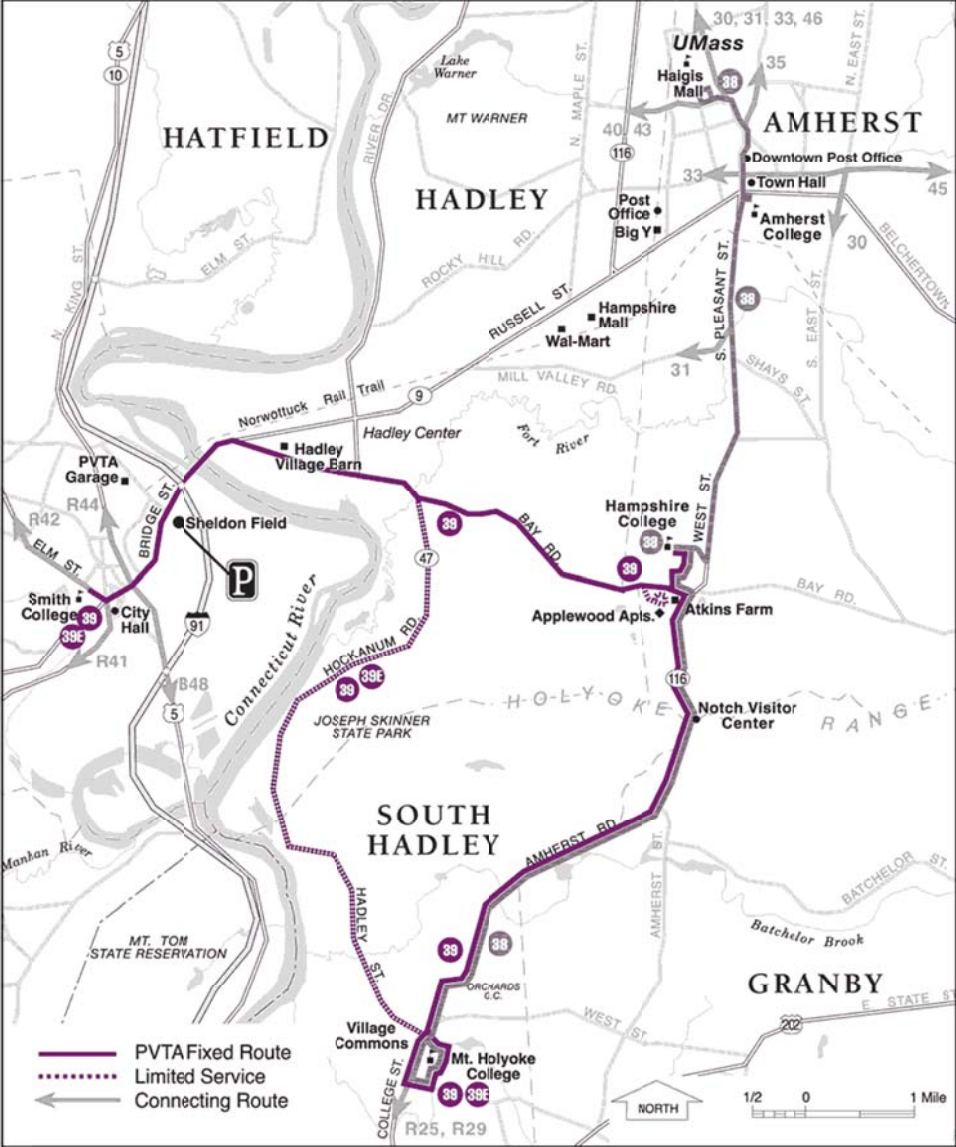
Change?	“major service change.”
Customers Affected?	69,135 passengers will be affected by reduced frequency: <ul style="list-style-type: none"> • 33,930 weekday trips per year after 8:00 PM • 35,205 trips per year on Saturdays 2,340 passengers will be affected by eliminated service: <ul style="list-style-type: none"> • 228 trips per year on reduced service Sundays • 2,112 Saturday trips per year after 12:45 AM
Disparate Impact?	NO. 55% of riders of Route 38 are people of color, and the remaining 45% are white. The minority/non-minority difference is therefore +10%, which is less than the +20% policy threshold that is considered to be a disparate impact.
Disproportionate Impact?	YES. 88% of riders of Route 38 are considered “low-income” (defined for purpose of this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 12% do not have low incomes. Therefore, the low-income/non-low-income difference is +76%, which exceeds the +20% policy threshold that is considered to be a disproportionate impact.
ADA Van Service Impact?	YES. ADA service hours in Granby and South Hadley will be reduced to match the new route 38 schedule. The new hours will be as follows: Granby: <ul style="list-style-type: none"> • 7:10 AM to 1:05 AM, Monday thru Wednesday • 7:10 AM to 2:25 AM, Thursday and Friday • 8:20 AM to 12:15 AM, Saturday and Sunday • 8:20 AM to 7:30 PM, “reduced service” days South Hadley: <ul style="list-style-type: none"> • 7:10 AM to 1:05 AM, Monday thru Wednesday • 7:10 AM to 2:25 AM, Thursday and Friday • 8:10 AM to 12:15 AM, Saturday and Sunday • 7:30 AM to 8:30 PM, “reduced service” weekdays • 8:10 AM to 7:40 PM, “reduced service” weekends
Alternate Transit Service Available?	PARTIAL. Route R29 duplicates most of route 38
Least Discriminatory Alternative?	YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts at other times of day would have impacted substantially more of route 38’s ridership.
Recommended Mitigation	44. Reduce frequency from 40 to 80 minutes after 8:00 PM. Eliminates 3 of 34 trips/day Mon-Wed, 3 of 35 trips/day on Thursdays, and 5 of 37 trips/day on Fridays. MITIGATION: Restore 1 of the 3-5 trips proposed to be eliminated on full service weekdays by waiting until 9:00 PM to switch from 40 to 80 minute frequency. Eliminate the last trip/day on Mon-Thu. Reduce frequency from 80 to 90 minutes and end service at 9:00 PM during winter intermission on both routes 38 and 39. Effective 9/4/18.

PRELIMINARY

	<p>45. Eliminate Sunday service during non-academic “reduced service.” Eliminates 13 of 13 trips/day (-100%). MITIGATION: Five Colleges students and staff will be able to ride the R29 by showing ID with fare to be reimbursed by Five Colleges. Effective 9/4/18.</p> <p>46. Reduce Saturday service to match Sunday service. Eliminates 13 of 25 trips/day (-52%) on Saturdays. MITIGATION: Restore 1 of the 13 trips proposed to be eliminated (Saturday late night trip). Eliminate service during Spring Break and the last week of December. Being service at 11:00 AM and end at 8:00 PM on reduced service Saturdays on route 39. Five Colleges students and staff will be able to ride the R29 by showing ID with fare to be reimbursed by Five Colleges. Effective 9/4/18.</p>
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PRELIMINARY

Route 39—Reduce Service Weekday Evenings, Weekends

<p>Route Description</p>	<p>Route 39 Smith/Hampshire/Mt Holyoke Colleges</p> 
<p>Proposed Changes</p>	<p>47. Alternate western terminus between Hampshire Mall/Smith College on weekdays after 6:00 PM and on weekends.</p> <p>48. Eliminate Sunday service during non-academic “reduced service.” Eliminates 9 of 9 bus trips/day (-100%) on reduced service Sundays.</p> <p>49. Reduce Saturday service to match Sunday service. Eliminates 2 of 12 trips/day (-17%) on full service Saturdays.</p>
<p>Communities Affected</p>	<p>South Hadley, Amherst, Hadley, Northampton.</p>
<p>Effective Date</p>	<p>9/4/18</p>

PRELIMINARY

Major Service Change?	YES. This change would eliminate 100% of the route miles on a single day of service (reduced service Sunday) and therefore would meet the 25% threshold for being a “major service change.”
Customers Affected?	663 passengers will be affected by eliminated service: <ul style="list-style-type: none"> • 196 trips per year on reduced service Sundays • 467 Saturday trips per year after 11:45 PM
Disparate Impact?	NO. 46% of riders of Route 39 are people of color, and the remaining 54% are white. The minority/non-minority difference is therefore -8%, which is less than the +20% policy threshold that is considered to be a disparate impact.
Disproportionate Impact?	YES. 79% of riders of Route 39 are considered “low-income” (defined for purpose of this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 21% do not have low incomes. Therefore, the low-income/non-low-income difference is +58%, which exceeds the +20% policy threshold that is considered to be a disproportionate impact.
ADA Van Service Impact?	NONE.
Alternate Transit Service Available?	YES. All trips on route 39 can be made by a combination of routes 38 and B43.
Least Discriminatory Alternative?	YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts at other times of day would have impacted substantially more of route 39’s ridership.
Mitigation	<p>47. Alternate western terminus between Hampshire Mall/Smith College on weekdays after 6:00 PM and on weekends. MITIGATION: Arrival and departure times at Hampshire College will be synced for transfers to/from Route 38. Effective 9/4/18.</p> <p>48. Eliminate Sunday service during non-academic “reduced service.” Eliminates 9 of 9 bus trips/day (-100%) on reduced service Sundays.</p> <p>49. Reduce Saturday service to match Sunday service. Eliminates 2 of 12 trips/day (-17%) on full service Saturdays.</p>

PRELIMINARY

Route R41—Eliminate Saturday and Holiday Service

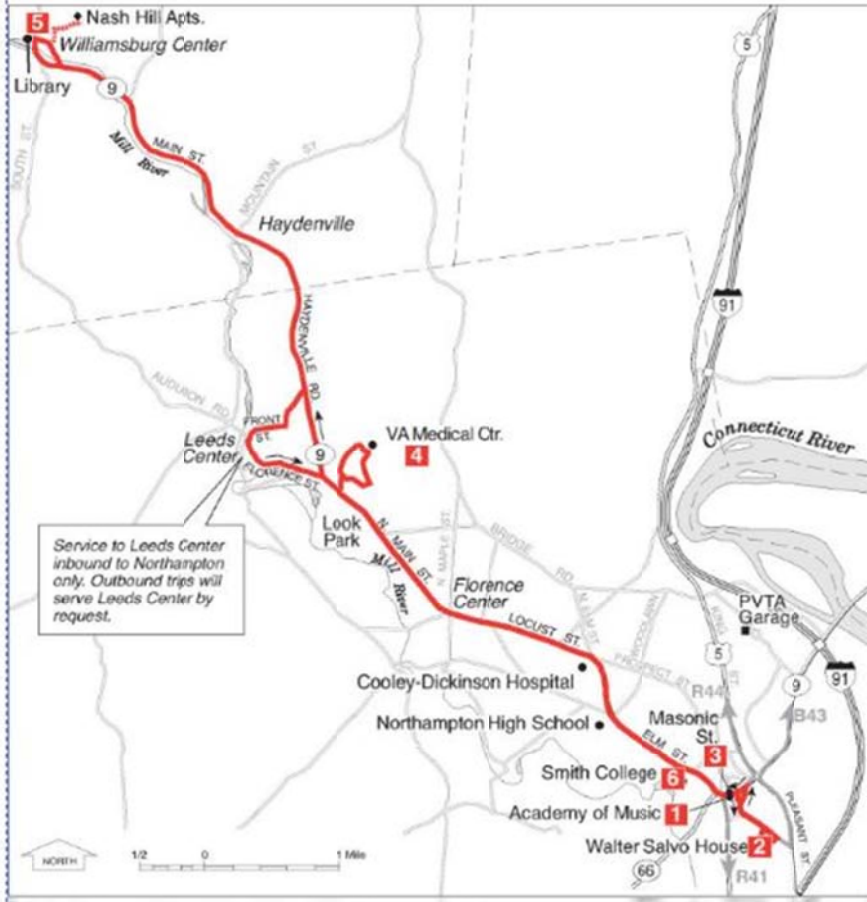
<p>Route Description</p>	<p>R41 - Northampton /Easthampton/ HCC/ Holyoke Mall</p>
<p>Proposed Changes</p>	<p>50. Reduce Saturday and Holiday service to match Sunday service. Eliminates 9 of 9 trips/day (-100%).</p>
<p>Major Service Change?</p>	<p>YES. This change would eliminate 100% of the route miles on a single day of service (Saturday) and therefore would meet the 25% threshold for being a “major service change.”</p>
<p>Communities Affected</p>	<p>Northampton, Easthampton, Holyoke</p>
<p>Effective Date</p>	<p>May 13, 2018</p>

PRELIMINARY

Customers Affected?	7,832 passengers would be affected by eliminated service: <ul style="list-style-type: none"> • 7,832 trips per year on Saturdays
Disparate (racial discrimination) Impact?	NO. 38% of riders of Route R41 are people of color, and the remaining 62% are white. The minority/non minority difference is therefore -24%, which is less than the +20% policy threshold that is considered to be a disparate impact.
Disproportionate (low-income) Impact?	YES. 62% of riders of Route R41 are considered “low-income” (defined for purpose of this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 38% do not have low incomes. Therefore, the low-income/non-low-income difference is +24%, which is less than the +20% policy threshold that is considered to be a disproportionate impact.
ADA Van Service Impact?	YES. ADA service hours in Easthampton will be reduced to match the new R41 schedule. The new hours will be as follows: <ul style="list-style-type: none"> • 6:30 AM to 7:25 PM on weekdays • Eliminated on weekends
Alternate Transit Service Available?	NO.
Least Discriminatory Alternative?	YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts to weekday service would have impacted substantially more of route R41’s ridership.
Mitigation	50. Reduce Saturday service to match Sunday service. Eliminates 9 of 9 trips/day (-100%). MITIGATION: Restore 8 of 9 trips/day on Saturdays at 90 minute frequencies. Terminate at Holyoke Community College instead of Holyoke Mall on all days and reduce frequency on weekdays to 75 minutes by eliminating 3 of 13 trips. Effective 5/13/18.

PRELIMINARY

Route R42—Eliminate Saturday and Holiday Service

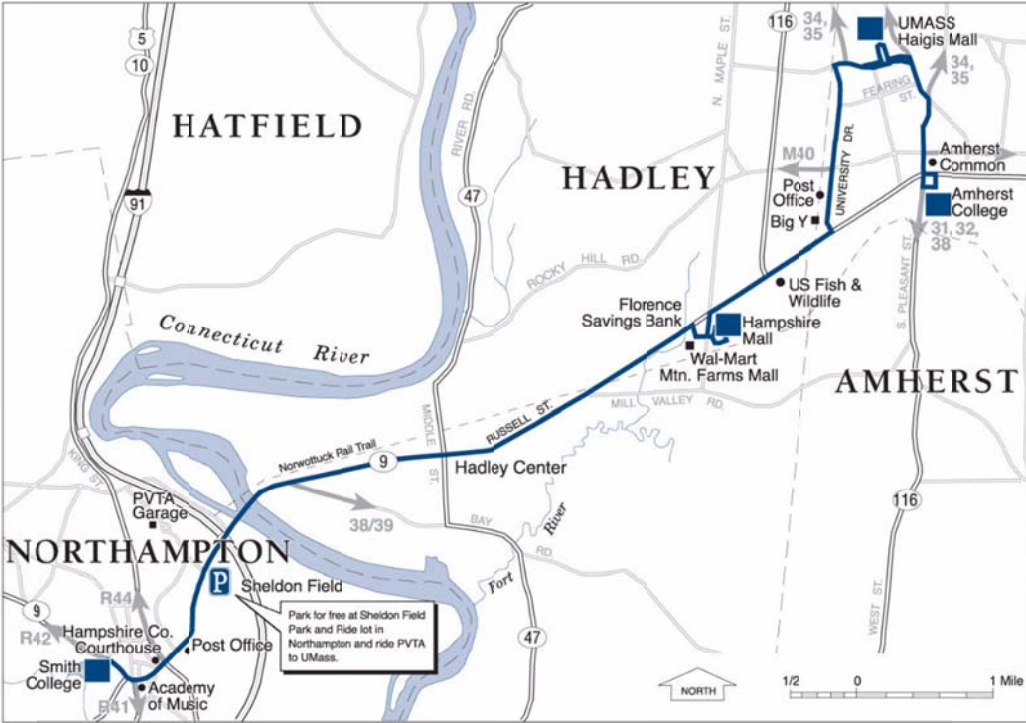
<p>Route Description</p>	<p>R42 - Northampton /Williamsburg</p> 
<p>Proposed Changes</p>	<p>51. Reduce Saturday and Holiday service to match Sunday service. Eliminates 12 of 12 trips/day (-100%) on Saturdays and Holidays.</p>
<p>Major Service Change?</p>	<p>YES. This change would eliminate 100% of the route miles on a single day of service (Saturday) and therefore would meet the 25% threshold for being a “major service change.”</p>
<p>Communities Affected</p>	<p>Northampton, Williamsburg</p>
<p>Effective Date</p>	<p>May 13, 2018</p>
<p>Customers Affected?</p>	<p>6,088 passengers would be affected by eliminated service:</p> <ul style="list-style-type: none"> • 6,088 trips per year on Saturdays
<p>Disparate (racial discrimination) Impact?</p>	<p>NO. 38% of riders of Route R42 are people of color, and the remaining 62% are white. The minority/non minority difference is therefore -24%, which is less than the +20% policy threshold that is considered to be a disparate impact.</p>

PRELIMINARY

Disproportionate (low-income) Impact?	NO. 43% of riders of Route R42 are considered “low-income” (defined for purpose of this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 57% do not have low incomes. Therefore, the low-income/non-low-income difference is -14%, which is less than the +20% policy threshold that is considered to be a disproportionate impact.
ADA Van Service Impact?	YES. ADA service hours in Williamsburg will be reduced to match the new R42 schedule. The new hours will be as follows: <ul style="list-style-type: none"> • 6:15 AM to 8:20 PM on weekdays • Eliminated on weekends
Alternate Transit Service Available?	PARTIAL. Route R44 serves some of the same destinations in Florence on Saturdays.
Least Discriminatory Alternative?	YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts to weekday service would have impacted substantially more of route R42’s ridership.
Mitigation	51. Reduce Saturday service to match Sunday service. Eliminates 12 of 12 trips/day (-100%). MITIGATION: Restore 9 trips on Saturdays at 75 min frequency (instead of 60 min). Reduce weekday frequency from 60 to 75 min by eliminating 3 of 15 trips/day. Effective 5/13/18.

PRELIMINARY

Route B43—Reduce Express and Weekend Service When School is in Session; Reduce Saturday Service When School is Not in Session

<p>Route Description</p>	<p>B43 Northampton/Hadley/Amherst</p>  <p>— PVTA Route BLUE 43 ← Connecting Route</p>
<p>Proposed Changes</p>	<p>52. End Sunday service at 10:00 PM during “reduced service.” Eliminates 1 of 16 trips/day (-6%) on reduced service Sundays.</p> <p>53. End Sunday service at 10:00 PM during academic year. Eliminates 1 of 16 trips/day (-6%) on full service Sundays.</p> <p>54. End Saturday service at 10:00 PM during “reduced service.” Eliminates 1 of 16 trips/day (-6%) on reduced service Saturdays.</p> <p>55. Eliminate 8:15 AM and 4:15 PM weekday express trips. Eliminates 2 of 44 trips/day (-5%) on full service weekdays.</p> <p>56. Reduce Saturday service to match Sunday levels. Frequency will change from 30 minutes to 60 minutes, operating between 8:00 AM and 12:00 AM. Eliminates 16 of 32 bus trips/day (-50%) on full service Saturdays.</p> <p>57. Reduce holiday service to reduced service Sunday levels. Eliminates 17 of 32 trips/day (-50%) on holidays.</p>
<p>Major Service Change?</p>	<p>YES. This change would eliminate 50% of the route miles on a single day of service (Saturday) and therefore would meet the 25% threshold for being a “major service change.”</p>
<p>Communities Affected</p>	<p>Amherst, Hadley, Northampton</p>
<p>Effective Date</p>	<p>May 13, 2018</p>

PRELIMINARY


Customers Affected?	<p>62,970 passengers will be affected by reduced frequency:</p> <ul style="list-style-type: none"> • 62,970 full service Saturday trips per year <p>16,597 passengers will be affected by eliminated service:</p> <ul style="list-style-type: none"> • 88 reduced service Sunday trips per year after 10:00 PM • 955 full service Sunday trips per year after 10:00 PM • 798 reduced service Saturday trips per year after 10:00 PM • 7,556 full service Saturday trips per year before 8:00 AM or after 12:00 AM • 7,200 trips per year on 8:15 AM and 4:15 PM weekday express trips
Disparate (racial discrimination) Impact?	<p>NO. 45% of riders of Route B43 are people of color, and the remaining 55% are white. The minority/non minority difference is therefore -10, which is less than the +20% policy threshold that is considered to be a disparate impact.</p>
Disproportionate (low-income) Impact?	<p>NO. 56% of riders of Route B43 are considered “low-income” (defined for purpose of this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 44% do not have low incomes. Therefore, the low-income/non-low-income difference is +12%, which is less than the +20% policy threshold that is considered to be a disproportionate impact.</p>
ADA Van Service Impact?	<p>YES. ADA service hours in Hadley and Northampton will be reduced to match the new route B43 schedule. The new hours will be as follows:</p> <p>Hadley:</p> <ul style="list-style-type: none"> • 6:10 AM to 12:50 AM, Monday thru Wednesday • 6:10 AM to 2:50 AM, Thursday and Friday • 8:10 AM to 11:45 PM, Saturday and Sunday • 6:40 AM to 11:45 PM, no-school weekdays • 8:15 AM to 10:15 PM, no-school weekends <p>Northampton:</p> <ul style="list-style-type: none"> • 5:45 AM to 1:00 AM, Monday thru Wednesday • 5:45 AM to 3:00 AM, Thursday and Friday • 8:00 AM to 11:30 PM Saturdays • 8:00 AM to 10:00 PM Sundays • 5:45 AM to 12:00 AM, no-school weekdays • 8:00 AM to 10:00 PM, no-school weekends
Alternate Transit Service Available?	<p>NO.</p>
Least Discriminatory Alternative?	<p>YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts at other times of day would have impacted substantially more of route B43’s ridership.</p>

PRELIMINARY

Mitigation	<p>52. End Sunday service at 10:00 PM during “reduced service.” Eliminates 1 of 16 trips/day (-6%) on reduced service Sundays.</p> <p>53. End Sunday service at 10:00 PM during academic year. Eliminates 1 of 16 trips/day (-6%) on full service Sundays.</p> <p>54. End Saturday service at 10:00 PM during “reduced service.” Eliminates 1 of 16 trips/day (-6%) on reduced service Saturdays.</p> <p>55. Eliminate 8:15 AM and 4:15 PM weekday express trips. Eliminates 2 of 44 trips/day (-5%) on full service weekdays.</p> <p>56. Reduce Saturday service to match Sunday levels. Frequency will change from 30 minutes to 60 minutes, operating between 8:00 AM and 12:00 AM. Eliminates 16 of 32 bus trips/day (-50%) on full service Saturdays. MITIGATION: Restore 12 of 16 eliminated trips on full service Saturdays. On full service weekdays, eliminate 1 morning trip (6:20) of 44 trips per day. Eliminate the last trip per day Mon-Wed, and the last two trips on Thursday. Effective 9/4/18.</p> <p>57. Reduce holiday service to reduced service Sunday levels. Eliminates 17 of 32 trips/day (-50%) on holidays.</p>
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PRELIMINARY

Route R44—Reduce Service on Weekends

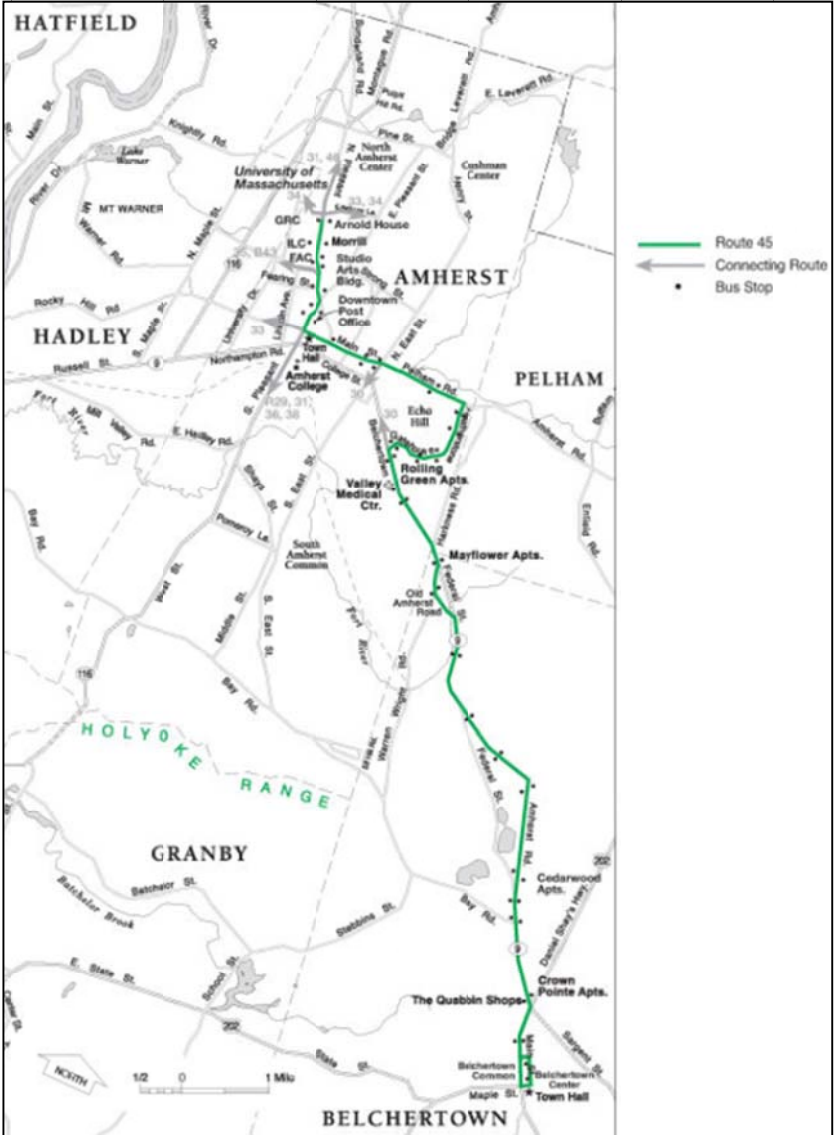
<p>Route Description</p>	<p>R44 Florence Heights via King St-Bridge Rd</p>  <p> — PVTARoute RED 44 ⋯ Limited Service → Connecting Route </p>
<p>Proposed Changes</p>	<p>58. Reduce weekend frequency from 60 to 120 minutes. Eliminates 6 of 12 trips/day (-50%) on Saturdays and 3 of 6 trips/day (-50%) on Sundays.</p> <p>59. Reduce Saturday service to match Sunday service, operating between 11:00 AM and 5:30 PM. Eliminates 6 of 12 trips/day (-50%) on Saturdays.</p> <p>60. Reduce holiday service to Sunday levels. Eliminates 6 of 12 trips/day (-50%) on holidays.</p>
<p>Major Service Change?</p>	<p>YES. This change would eliminate 75% of the route miles on a single day of service (Saturday) and therefore would meet the 25% threshold for being a “major service change.”</p>
<p>Communities Affected</p>	<p>Northampton</p>
<p>Effective Date</p>	<p>May 13, 2018</p>
<p>Customers Affected?</p>	<p>22,349 passengers will be affected by reduced frequency:</p> <ul style="list-style-type: none"> • 22,349 Saturday and Sunday trips per year <p>7,190 passengers will be affected by eliminated service:</p> <ul style="list-style-type: none"> • 7,190 Saturday trips per year before 11:00 AM or after 5:30 PM
<p>Disparate (racial discrimination) Impact?</p>	<p>NO. 18% of riders of Route R44 are people of color, and the remaining 82% are white. The minority/non minority difference is therefore -64, which is less than the +20% policy threshold that is considered to be a disparate impact.</p>

PRELIMINARY

Disproportionate (low-income) Impact?	NO. 48% of riders of Route R44 are considered “low-income” (defined for purpose of this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 52% do not have low incomes. Therefore, the low-income/non-low-income difference is -4%, which is less than the +20% policy threshold that is considered to be a disproportionate impact.
ADA Van Service Impact?	NO.
Alternate Transit Service Available?	NO.
Least Discriminatory Alternative?	YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts to weekday service would have impacted substantially more of route R44’s ridership.
Mitigation	<p>58. Reduce weekend frequency from 60 to 120 minutes. Eliminates 6 of 12 trips/day (-50%) on Saturdays and 3 of 6 trips/day (-50%) on Sundays. MITIGATION: Restore 2 of 3 eliminated trips on Sundays, reducing net service loss to 25% on Sundays. Effective 5/13/18.</p> <p>59. Reduce Saturday service to match Sunday service, operating between 11:00 AM and 5:30 PM. Eliminates 6 of 12 trips/day (-50%) on Saturdays. MITIGATION: Restore span of service by increasing headways to 120 minutes from 60 minutes. Effective 5/13/18.</p> <p>60. Reduce holiday service to Sunday levels. Eliminates 6 of 12 trips/day (-50%) on holidays.</p>

PRELIMINARY

Route 45—Eliminate 1 of 8 Trips on Weekdays

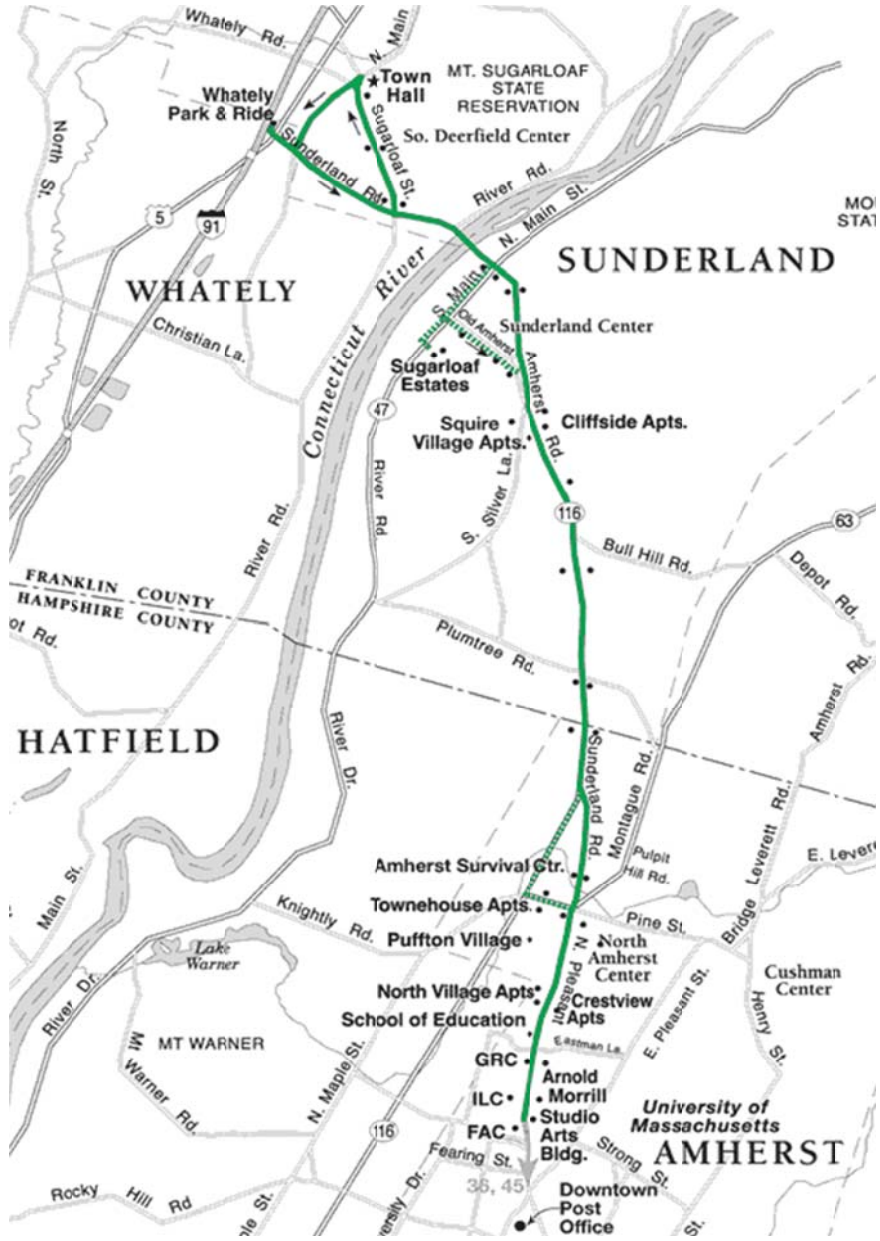
Route Description	<p>Route 45 Belchertown Center/UMass</p> 
Proposed Change	61. Eliminate 1 of 8 weekday trips (12:25 PM trip). (-13%)
Communities Affected	Amherst, Belchertown
Effective Date	9/4/18
Major Service Change?	NO. There would be a loss of 13% of route miles on weekdays, which does not exceed the major service change threshold of 25%.
Customers Affected?	3,721 passengers will be affected by eliminated service: <ul style="list-style-type: none"> • 3,721 trips per year on 12:25 PM trip

PRELIMINARY

Disparate Impact?	NO. 50% of riders of Route 45 are people of color, and 50% are white. The minority/non-minority difference is therefore -0%, which is less than the +20% policy threshold that is considered to be a disparate impact.
Disproportionate Impact?	YES. 62% of riders of Route 45 are considered “low-income” (defined for purpose of this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 38% do not have low incomes. Therefore, the low-income/non-low-income difference is +24%, which exceeds the +20% policy threshold that is considered to be a disproportionate impact.
ADA Van Service Impact?	NONE.
Alternate Transit Service Available?	PARTIAL. Route 30 duplicates part of Route 45 within Amherst. No alternate transit service exists within Belchertown.
Least Discriminatory Alternative?	YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts to other weekday trips would have impacted substantially more of route 45’s ridership.
Mitigation	61. Eliminate 1 of 8 weekday trips (12:25 PM trip). (-13%) MITIGATION: Change to eliminate 9:50 AM trip instead, minimizing midday service gap. Effective 5/11/18.

PRELIMINARY

Route 46—Eliminate Route

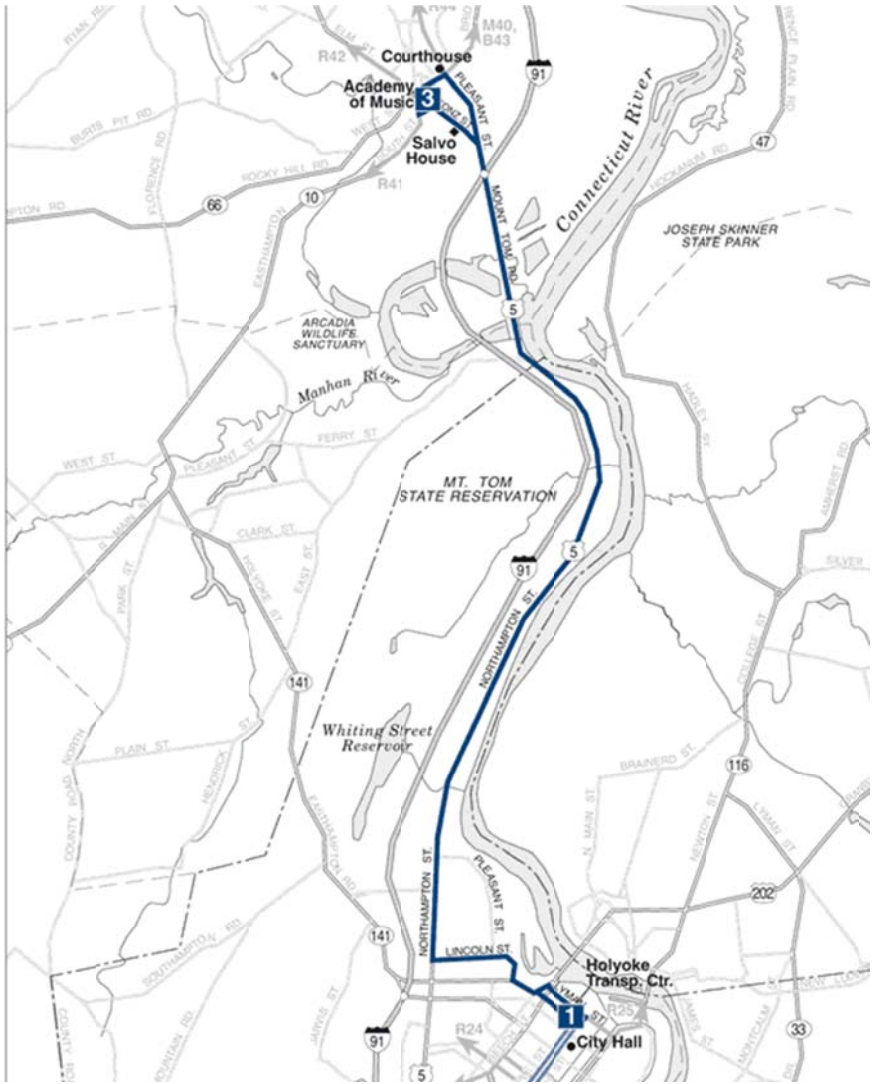
Route Description	<p>Route 46 UMass/South Deerfield</p>  <p>The map shows the proposed route for Route 46, which is highlighted in green. The route starts in Whately at Whately Park & Ride, travels south through Sunderland, and ends in Amherst at the University of Massachusetts. Key locations along the route include Whately, Sunderland, and Amherst. The route passes through the Connecticut River and various local roads. Key locations include Whately Park & Ride, Town Hall, Sugarloaf Estates, Sunderland Center, Amherst Survival Str., and the University of Massachusetts.</p>
Proposed Change	62. Eliminate route. Eliminates 4 of 4 trips/day (-100%) on weekdays.
Major Service Change?	YES. This change would eliminate 100% of the route miles on a single day of service and therefore would meet the 25% threshold for being a “major service change.”
Communities Affected	Amherst, Sunderland, South Deerfield (not a PVTa community), Whately (not a PVTa community)
Effective Date	May 13, 2018

PRELIMINARY

Customers Affected?	25,345 passengers would be affected by eliminated service: <ul style="list-style-type: none"> • 25,345 trips per year on route 46
Disparate (racial discrimination) Impact?	NO. 20% of riders of Route 46 are people of color, and the remaining 80% are white. The minority/non-minority difference is therefore -60%, which is less than the +20% policy threshold that is considered to be a disparate impact.
Disproportionate (low-income) Impact?	NO. 32% of riders of Route 46 are considered “low-income” (defined for purpose of this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 68% do not have low incomes. Therefore, the low-income/non-low-income difference is -36%, which is less than the +20% policy threshold that is considered to be a disproportionate impact.
ADA Van Service Impact?	YES. ADA and senior service provided by PVRTA within the ¾-mile buffer in South Deerfield and Whately would no longer be available. There would be no change to ADA and Senior Service paratransit in Sunderland or Amherst.
Alternate Transit Service Available?	PARTIAL. For trips between Sunderland and the UMass campus, identical service is available on Route 31, which operates every 15 minutes. For trips to/from Whately Park and Ride or South Deerfield Center, riders can take FRTA Route 31 to Northampton Academy of Music and transfer to PVRTA Route B43 to UMass.
Least Discriminatory Alternative?	YES. This is the least discriminatory cost-saving alternative in this travel corridor. It affects the smallest proportion of low-income riders and riders of color. In this corridor, PVRTA also considered the possibility of reducing service frequencies on Route 31 to achieve savings. However, the proportion and numbers of low-income riders and riders of color using Route 31 is substantially larger than Route 46, and would therefore be more discriminatory.
Mitigation	62. Eliminate route. Eliminates 4 of 4 trips/day (-100%) on weekdays. MITIGATION: Restore 2 of 4 trips proposed to be eliminated by providing 1 trip in the morning and 1 in the afternoon by extending Route 31 to South Deerfield. Effective 5/13/18.

PRELIMINARY

Route B48—Reduce Saturday and Holiday Service to Match Sunday Levels

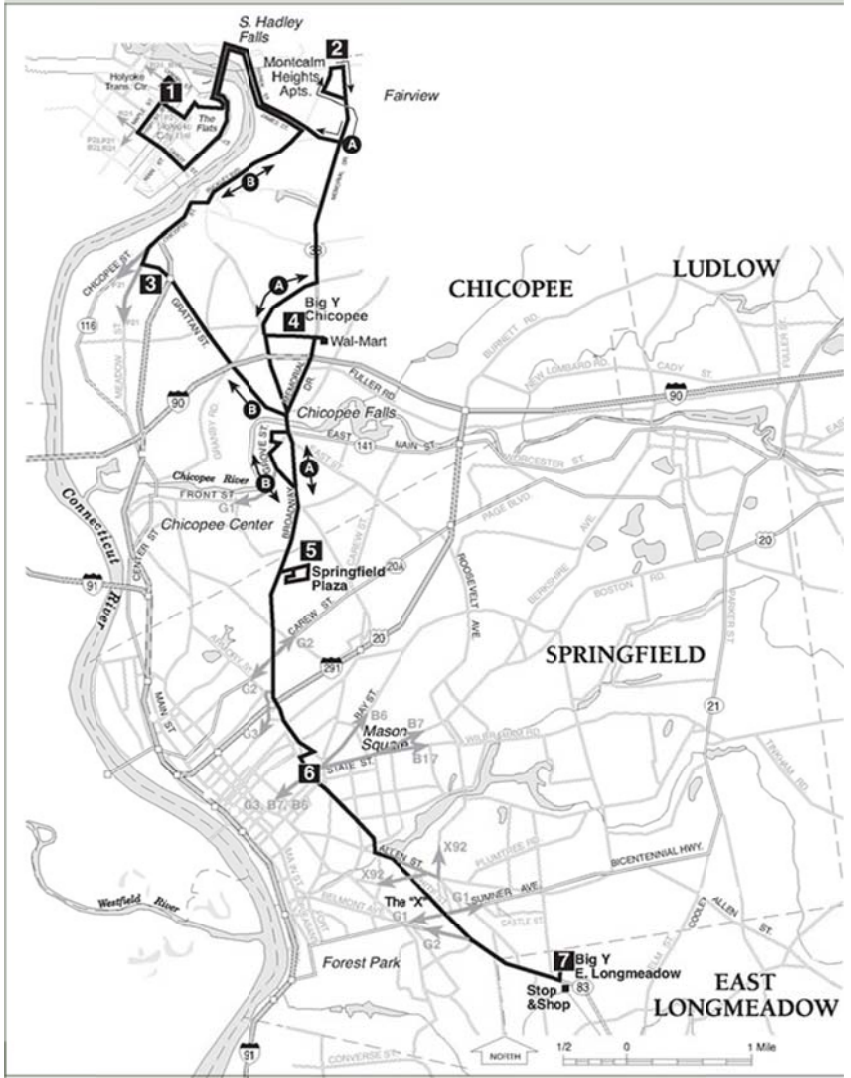
Route Description	<p>B48 Northampton/HTC connection to Holyoke Mall</p> 
Proposed Change	63. Reduce Saturday and Holiday service to Sunday levels. Eliminates 2 of 13 trips/day (-15%) on Saturdays and Holidays.
Communities Affected	Northampton, Holyoke, Easthampton (flag stop area on Route 5 only)
Effective Date	May 11, 2018
Major Service Change?	NO. There would be a loss of 15% of route miles on Saturdays and holidays, which does not exceed the major service change threshold of 25%.
Customers Affected?	2,152 customers would be affected by eliminated service <ul style="list-style-type: none"> • 2,152 Saturday trips per year after 7:00 PM

PRELIMINARY

Disparate (racial discrimination) Impact?	NO. 40% of riders of Route B48 are people of color, and the remaining 60% are white. The minority/non-minority difference is therefore -20%, which is less than the +20% policy threshold that is considered to be a disparate impact.
Disproportionate (low-income) Impact?	NO. 53% of riders of Route B48 are considered “low-income” (defined for purpose of this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 47% do not have low incomes. Therefore, the low-income/non-low-income difference is +6%, which is less than the +20% policy threshold that is considered to be a disproportionate impact.
ADA Van Service Impact?	NO.
Alternate Transit Service Available?	NO.
Least Discriminatory Alternative?	YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts at other times of day, or on other days of the week, would have impacted substantially more of route B48’s ridership.
Mitigation	None

PRELIMINARY

Route X90—Reduce Saturday Service to Sunday Levels

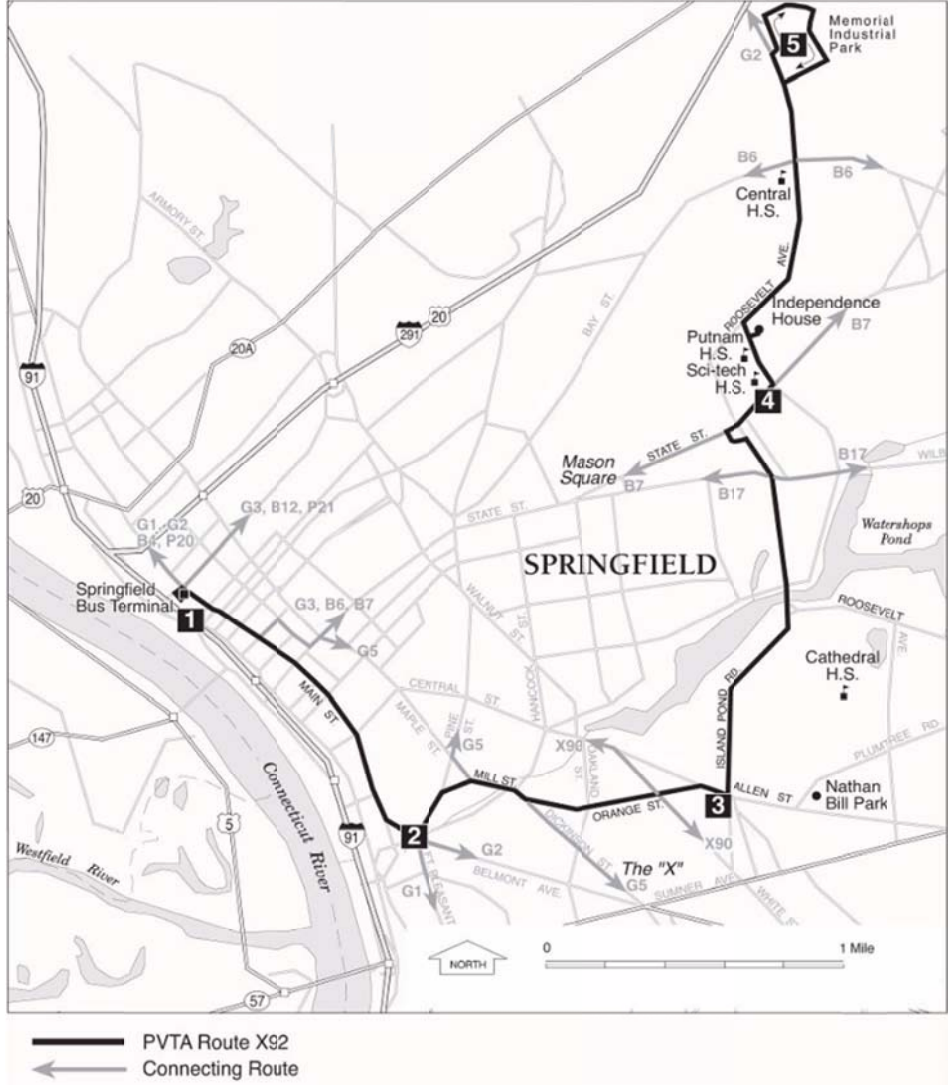
Route Description	<p>X90 Inner Crosstown</p> 
Proposed Changes	<p>64. Reduce Saturday service to match Sunday service. Eliminate Saturday service before 9:15 am and after 5:15 pm. Reduce frequency from 30 min to 60 min. End service north of Big Y Chicopee. Eliminates 22 of 32 trips/day (-69%) and approximately 50% of revenue miles on Saturdays.</p> <p>65. Reduce Holiday service to Sunday service. Eliminates 22 of 32 trips/day (-69%) and approximately 50% of revenue miles on holidays.</p>
Major Service Change?	<p>YES. This change would eliminate 69% of the route miles on a single day of service (Saturday) and therefore would meet the 25% threshold for being a “major service change.”</p>
Communities Affected	<p>Springfield, Chicopee, Holyoke, South Hadley, East Longmeadow</p>
Effective Date	<p>June 24, 2018</p>

PRELIMINARY

Customers Affected?	<p>39,063 customers will be affected by reduced frequencies:</p> <ul style="list-style-type: none"> • 39,063 trips per year on Saturdays <p>21,875 customers will be affected by eliminated service:</p> <ul style="list-style-type: none"> • 10,156 Saturday trips per year before 9:15 AM or after 5:15 PM • 11,719 Saturday trips per year north of Big Y Chicopee
Disparate (racial discrimination) Impact?	YES. 67% of riders of Route X90 are people of color, and the remaining 33% are white. The minority/non-minority difference is therefore +34%, which is more than the +20% policy threshold that is considered to be a disparate impact.
Disproportionate (low-income) Impact?	YES. 60% of riders of Route X90 are considered “low-income” (defined for purpose of this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 40% do not have low incomes. Therefore, the low-income/non-low-income difference is +20%, which meets the +20% policy threshold that is considered to be a disproportionate impact.
ADA Van Service Impact?	NO.
Alternate Transit Service Available?	NO.
Least Discriminatory Alternative?	YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Cuts to weekday service would have impacted substantially more of route X90’s ridership.
Mitigation	<p>64. Reduce Saturday service to match Sunday service. Eliminate Saturday service before 9:15 am and after 5:15 pm. Reduce frequency from 30 min to 60 min. End service north of Big Y Chicopee. Eliminates 22 of 32 trips/day (-69%) and approximately 50% of revenue miles on Saturdays. MITIGATION: Extend route on Saturdays to serve HTC with alternating A and B trips. Expand service hours to 8:35 AM thru 7:45 PM and reduce frequency from 60 to 90 minutes. Effective 6/24/18.</p> <p>65. Reduce Holiday service to Sunday service. Eliminates 22 of 32 trips/day (-69%) and approximately 50% of revenue miles on holidays.</p>

PRELIMINARY

Route X92—Reduce Weekday Service Frequency; Eliminate Saturday Service

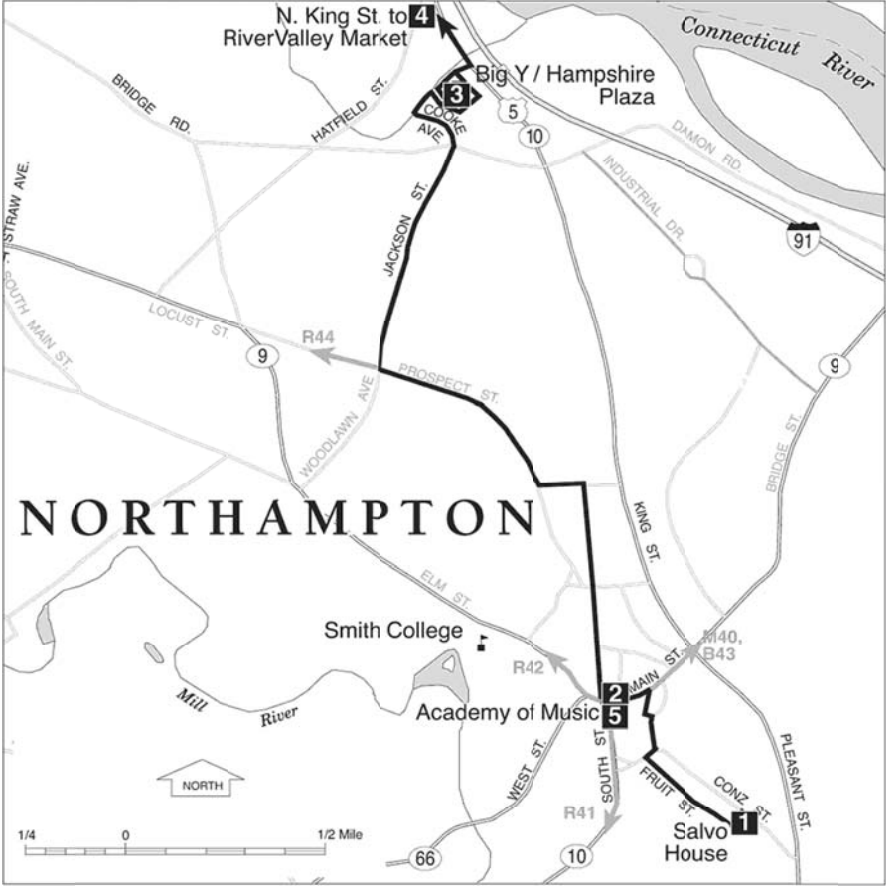
<p>Route Description</p>	<p>X92 Mid-City Crosstown</p> 
<p>Proposed Changes</p>	<p>66. Reduce weekday frequency from 45 to 60 min. Serve Senior Center. Eliminates 5 of 19 trips/day (-25%) on weekdays. 67. Reduce Saturday service to match Sunday service. Eliminates 17 of 17 trips/day (-100%) on Saturday.</p>
<p>Major Service Change?</p>	<p>YES. This change would eliminate 100% of the route miles on a single day of service (Saturday) and therefore would meet the 25% threshold for being a “major service change.”</p>
<p>Communities Affected</p>	<p>Springfield</p>
<p>Effective Date</p>	<p>June 24, 2018</p>

PRELIMINARY

Customers Affected?	<p>111,800 customers will be affected by reduced frequencies:</p> <ul style="list-style-type: none"> • 111,800 trips per year on weekdays <p>12,824 customers will be affected by eliminated service:</p> <ul style="list-style-type: none"> • 12,824 trips per year on Saturdays
Disparate (racial discrimination) Impact?	YES. 91% of riders of Route X92 are people of color, and the remaining 9% are white. The minority/non-minority difference is therefore +82%, which is more than the +20% policy threshold that is considered to be a disparate impact.
Disproportionate (low-income) Impact?	NO. 41% of riders of Route X92 are considered “low-income” (defined for purpose of this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 59% do not have low incomes. Therefore, the low-income/non-low-income difference is +18%, which is less than the +20% policy threshold that is considered to be a disproportionate impact.
ADA Van Service Impact?	NO.
Alternate Transit Service Available?	PARTIAL. Route X92 is the only transit service on most of its travel corridor, so passengers will not be able to use other routes if their travel is impacted by changes to span and frequency. However, all parts of the travel corridor will retain service.
Least Discriminatory Alternative?	YES. This is the least discriminatory alternative in this travel corridor. It affects the smallest proportion and number of low-income riders and riders of color. Eliminating weekday service would have impacted substantially more of route X92’s ridership.

PRELIMINARY

Route X98—Eliminate Route

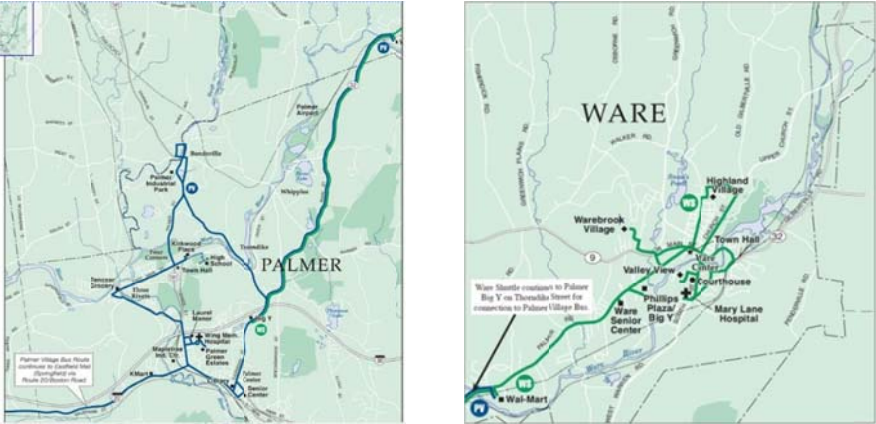
<p>Route Description</p>	<p>Route X98 Crosstown Northampton</p>  <p>Legend: PVRTA Route X98 ← Connecting Route</p>
<p>Proposed Change</p>	<p>68. Eliminate route. Eliminates 3 of 3 trips/day (-100%) on weekdays.</p>
<p>Communities Affected</p>	<p>Northampton</p>
<p>Effective Date</p>	<p>May 13, 2018</p>
<p>Major Service Change?</p>	<p>YES. 100% of route miles would be eliminated on weekdays, which exceeds the major service change threshold of 25%.</p>
<p>Customers Affected?</p>	<p>9,020 customers will be affected by eliminated service:</p> <ul style="list-style-type: none"> • 9,020 trips per year on X98
<p>Disparate (racial discrimination) Impact?</p>	<p>NO DISPARATE IMPACT: 27% of riders of Route X98 are people of color, and the remaining 73% are white. The minority/non-minority difference is therefore -46%, which is less than the +20% policy threshold that is considered to be a disparate impact.</p>

PRELIMINARY

Disproportionate (low-income) Impact?	LIKELY DISPROPORTIONATE IMPACT: 67% of riders of Route X98 are considered “low-income” (defined for purpose of this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 33% do not have low incomes. Therefore, the low-income/non-low-income difference is +34%, which exceeds the +20% policy threshold that is considered to be a disproportionate impact.
ADA Van Service Impact?	NONE.
Alternate Transit Service Available?	PARTIAL. Route R44 provides service between Hampshire Plaza and Salvo House at the same frequency as Route X98. 78% of ridership on Route X98 is between these points, and will be adequately served by Route R44. No alternate service exists for the Northampton Survival Center. For River Valley Coop employees, a shuttle operates from Hampshire Plaza every 30 minutes.
Least Discriminatory Alternative?	YES. This is the least discriminatory cost saving alternative in this travel corridor. It affects the smallest proportion of low-income riders and riders of color on the day of service. Cuts to the adjacent route R44 would have impacted substantially more riders.
Mitigation	68. Eliminate route. Eliminates 3 of 3 trips/day (-100%) on weekdays. MITIGATION: Restore service (+100%) by providing demand-response van service within ¾ mile of previous X98 route at regular bus fare when Survival Center’s Food Pantry is open. Effective 5/13/18.

PRELIMINARY

Ware and Palmer Shuttles—Restructure to Offer AM and PM Express Service to Springfield, with Midday Community Circulator Service

Route Descriptions	<p>Ware Shuttle and Palmer Village Shuttle</p> 
Proposed Change	74/75. Restructure as express to/from Palmer, Ware, and Springfield. Would reduce weekday local circulator trips by approximately 50%, but add 3-4 new daily express trips to Springfield Union Station.
Major Service Change?	YES. This change would eliminate 50% of the route miles on a single day of service and therefore would meet the 25% threshold for being a “major service change.”
Communities Affected	Springfield, Wilbraham, Palmer, Ware
Effective Date	July 1, 2018
Customers Affected?	22,669 customers will be affected by service changes: <ul style="list-style-type: none"> • 12,957 trips per year on Palmer Village • 9,712 trips per year on Ware Shuttle
Disparate (racial discrimination) Impact?	Rider demographic information is not available for the Palmer Village and Ware Shuttle routes, however, the shares of the populations of Palmer and Ware that are people of color are 3.2% and 3.5%, respectively.
Disproportionate (low-income) Impact?	Rider demographic information is not available for the Palmer Village and Ware Shuttle routes, however, the shares of the populations of Palmer and Ware that are below the poverty line are 7.9% and 11.2%, respectively.
ADA Van Service Impact?	YES. ADA service hours in Ware and Palmer will be reduced to match the new schedules. The new hours will be 8:30 AM to 4:30 PM in Ware, and 8:50 AM to 4:00 PM in Palmer.
Alternate Transit Service Available?	NO.
Least Discriminatory Alternative?	YES. This is the least discriminatory cost saving alternative in this travel corridor. It affects the smallest proportion of low-income riders and riders of color on the day of service. Eliminating the routes entirely would have more severely impacted riders of the Palmer Village and Ware Shuttle.

PRELIMINARY

Mitigation	74/75. Restructure as express to/from Palmer, Ware, and Springfield. Would reduce weekday local circulator trips by approximately 50%, but add 3-4 new daily express trips to Springfield Union Station. MITIGATION: Restructure as peak hour express with midday circulator to/from and within Palmer, Ware, and Springfield. Effective 7/1/18.
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PRELIMINARY

Nashawannuck Express—Reduce Weekday Service from 7 to 2 Trips Per Day; Eliminate Saturdays

Route Description	<p>Nashawannuck Express Flex/Van Service</p> <p>FLEX/VAN Service Calling ahead will allow flex/van to pick up or drop off anywhere within the colored Flex/Van service area.</p> <ul style="list-style-type: none"> Standard Route of the FLEX/VAN. Easthampton Flex/Van Service Areas Flex/Van Bus Stops Transfer Point between Flex Service and RED 41 On-demand Stop
Proposed Change	<p>72. Reduce trips from 7 to 2 per day. Eliminates 5 of 7 trips/day (-71%) on weekdays.</p> <p>73. Reduce Saturday service to match Sunday levels. Eliminate 9 of 9 trips/day (-100%) on Saturday.</p>
Major Service Change?	<p>YES. This change would eliminate 100% of the route miles on a single day of service (Saturday) and therefore would meet the 25% threshold for being a “major service change.”</p>
Communities Affected	<p>Northampton, Easthampton, Southampton</p>
Effective Date	<p>May 13, 2018</p>

PRELIMINARY

Customers Affected?	12,383 customers will be affected by eliminated service: <ul style="list-style-type: none"> • 9,661 trips per year on 5 of 7 weekday trips • 2,722 trips per year on Saturdays
Disparate (racial discrimination) Impact?	NO. 38% of riders of the nearby route R41 are people of color, and the remaining 62% are white. The minority/non-minority difference is therefore -24%, which is less than the +20% policy threshold that is considered to be a disparate impact. <i>(Similar rider characteristics are assumed for the NE, as it serves the same corridor and customer base; rider surveys of the NE were not performed during the most recent customer survey cycle.)</i>
Disproportionate (low-income) Impact?	YES. 62% of riders of the nearby route R41 are considered “low-income” (defined for purpose of this analysis as the federal poverty rate of \$11,770 per year for an individual), and the remaining 38% do not have low incomes. Therefore, the low-income/non-low-income difference is +24%, which is less than the +20% policy threshold that is considered to be a disproportionate impact. <i>(Similar rider characteristics are assumed for the NE, as it serves the same corridor and customer base; rider surveys of the NE were not performed during the most recent customer survey cycle.)</i>
ADA Van Service Impact?	NO.
Alternate Transit Service Available?	PARTIAL. Route R41 serves some of the same destinations as the Nashawannuck Express.
Least Discriminatory Alternative?	YES. This is the least discriminatory cost saving alternative in this travel corridor. It affects the smallest proportion of low-income riders and riders of color on the day of service. Cuts to the adjacent route R41 would have impacted substantially more riders.
Mitigation	72. Reduce trips from 7 to 2 per day. Eliminates 5 of 7 trips/day (-71%) on weekdays. MITIGATION: Restore all trips on weekdays (+100%). Restructure route to improve transfers to R41. Effective 5/13/18. 73. Reduce Saturday service to match Sunday levels. Eliminate 9 of 9 trips/day (-100%) on Saturday. MITIGATION: Retain Saturday service but eliminate 1 of 9 trips/day (-11%). Effective 5/13/18.

PRELIMINARY

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PRELIMINARY

5. Systemwide Service Change Equity Impact Analysis

This section presents analysis of the cumulative systemwide equity impacts of the 82 proposed service changes (major and minor) as well as the 31 mitigation measures that are proposed to lessen their adverse impacts. However, PVRTA's DI/DB impact policies do not require a systemwide equity impact analysis; only route-specific impacts resulting in a loss of 25% or more of service on single day is required. Therefore, the analysis in this section is provided for purposes of information.

- 16.5% of all service was originally proposed to be cut (revenue miles).
- The 33 mitigation measures would restore 2.7% of service, reducing the anticipated service loss to 13.8%.

PVRTA's policies for major service changes and DI/DB impacts do not include a systemwide major service change threshold. PVRTA's policy thresholds apply only to individual routes on single days of service. For comparison, the other Tier I transit provider in Massachusetts, the MBTA, has a systemwide major service change policy threshold of 10%.

5.1 DI/DB Impact Analysis Method

The impacts of each of these proposals on the FY2018 revenue miles and revenue hours of each proposal involving a change to a fixed route were estimated and calculated by staff and operators. The change (loss or gain) in revenue miles and hours for each proposal was then allocated to the proportion of riders of the affected route who are minority versus non-minority, and who are low-income versus non-low-income to determine whether or not the variance between these groups of riders exceeded PVRTA's DI and DB policy threshold of +20%.

5.2 DI/DB Impact Preliminary Findings

The package of service changes described in Fig. 3-1 would not have systemwide DI or DB equity impacts that exceed PVRTA's policy threshold of +20% or more. Summary results are presented below. The impact analysis for all options and the cumulative impacts are shown in Figures 5.2-1 through 5.2-4.

PRELIMINARY

Fig. 5.2-1 Systemwide Equity Analysis of Service Changes Proposed January 24, 2018 Summary

Δ in Revenue Miles/Year	Δ Borne by Low-Income Riders	Δ Borne by Minority Riders	% Low Income Riders Impacted	% Minority Riders Burdened
-864,308	-459,365	-472,259	53.1%	54.6%

	<u>LOW-INCOME</u>	<u>MINORITY</u>
<i>Total Proportion of All Changes Borne By:</i>	53.1%	54.6%
<i>Variance Title VI Persons vs. Non-Title VI Persons Affected:</i>	6.3%	9.3%

Fig 5.2-2 PRELIMINARY Systemwide Equity Analysis of Service Changes and Mitigation Measures Proposed April 9, 2018 Summary

Δ in Revenue Miles/Year	Δ Borne by Low-Income Riders	Δ Borne by Minority Riders	% Low Income Riders Impacted	% Minority Riders Burdened
-754,170	-417,835	-417,743	55.4%	55.4%

	<u>LOW-INCOME</u>	<u>MINORITY</u>
<i>Total Proportion of All Changes Borne By:</i>	55.4%	55.4%
<i>Variance Title VI Persons vs. Non-Title VI Persons Affected:</i>	10.8%	10.8%

Note: Figures 5.2-2 and 5.2-4 are preliminary equity analyses that include mitigation measures for routes that are known as of the date of this document. Additional mitigation measures that are anticipated but not yet known include those for Routes G1, G2, G3, R10, and P21, and may include others yet to be determined.

PRELIMINARY

Fig. 5.2-3: Summary of Equity Impacts of Bus Service Changes Proposed Jan 24, 2018

Route	Route Name	Service Change Proposal (Jan 24, 2018)	BASELINE	FY2019 IMPACTS		FY2019 DI/DB IMPACTS ANALYSIS BY REVENUE MILES						
			FY2018 Revenue Miles/Year	# Δ in Revenue Miles/Year	% Δ in Revenue Miles/Year	Δ in Revenue Miles/Year	Δ Borne by Low-Income Riders	Δ Borne by Minority Riders	% Low Income Riders Impacted	% Minority Riders Burdened	DI Disproportionate Impact? (Low-Inc. vs. Non-Low-Inc. Variance ≥20%)	DB Disparate Burden? (Minority vs. Non-Minority Variance ≥20%)
G1	Chicopee Cntr/Big Y/Summer-Allen	Reduce frequency from 30 min to 60 min after 6 PM on weekday	406,161	-22,383	-5.5%	-22,383	-11,359	-15,095	50.8%	67.4%	1.5%	34.9%
G1	Chicopee Cntr/Big Y/Summer-Allen	Reduce Saturday service to match Sunday Service	406,161	-41,460	-10.2%	-41,460	-21,041	-27,961	50.8%	67.4%	1.5%	34.9%
G1	Chicopee Cntr/Big Y/Summer-Allen	Reduce Holiday Service to Sunday Levels	406,161	-1,484	-0.4%	-1,484	-753	-1,001	50.8%	67.4%	1.5%	34.9%
G2	Carew/E. Springfield/Belmont-Dwight	Reduce frequency from 30 min to 60 min after 6 PM on weekday	281,595	-19,251	-6.8%	-19,251	-10,971	-15,837	57.0%	82.3%	14.0%	64.5%
G2	Carew/E. Springfield/Belmont-Dwight	Reduce Saturday service to match Sunday Service	281,595	-29,301	-10.4%	-29,301	-16,699	-24,106	57.0%	82.3%	14.0%	64.5%
G2	Carew/E. Springfield/Belmont-Dwight	Reduce Holiday Service to Sunday Levels	281,595	-1,049	-0.4%	-1,049	-598	-863	57.0%	82.3%	14.0%	64.5%
G3	Spfld Plaza via Liberty/King-Westford	Eliminate the 6:05PM and 7:05PM trips departing Union Station	114,606	-5,027	-4.4%	-5,027	-2,793	-4,054	55.6%	80.7%	11.1%	61.3%
G3	Spfld Plaza via Liberty/King-Westford	Reduce Saturday service to match Sunday Service	114,606	-12,398	-10.8%	-12,398	-6,888	-9,999	55.6%	80.7%	11.1%	61.3%
G3	Spfld Plaza via Liberty/King-Westford	Reduce Holiday Service to Sunday Levels	114,606	-444	-0.4%	-444	-247	-358	55.6%	80.7%	11.1%	61.3%
B4	Plainfield Street/Union Station	Reduce Saturday service to match Sunday Service	35,982	-3,591	-10.0%	-3,591	-2,244	-3,206	62.5%	89.3%	25.0%	78.6%
B4	Plainfield Street/Union Station	Reduce Holiday Service to Sunday Levels	35,982	-129	-0.4%	-129	-80	-115	62.5%	89.3%	25.0%	78.6%
G5	Dickinson-Jewish Home/Longm'dow/En	Reduce Saturday service to match Sunday Service	60,120	-7,062	-11.7%	-7,062	-3,390	-5,414	48.0%	76.7%	-4.0%	53.3%
G5	Dickinson-Jewish Home/Longm'dow/En	Reduce Holiday Service to Sunday Levels	60,120	-225	-0.4%	-225	-108	-173	48.0%	76.7%	-4.0%	53.3%
B6	Ludlow via Bay St	Reduce frequency from 30 to 45 min after 6:00PM on weekdays.	245,776	-4,678	-1.9%	-4,678	-2,691	-3,562	57.5%	76.2%	15.0%	52.3%
B6	Ludlow via Bay St	Reduce Saturday service to match Sunday Service	245,776	-24,988	-10.2%	-24,988	-14,373	-19,028	57.5%	76.2%	15.0%	52.3%
B6	Ludlow via Bay St	Reduce Holiday Service to Sunday Levels	245,776	-894	-0.4%	-894	-514	-681	57.5%	76.2%	15.0%	52.3%
B7	State St/Boston Rd/Walmart/Eastfield	Reduce frequency from 30 to 45 min after 6:00PM on weekdays.	301,713	-8,140	-2.7%	-8,140	-4,365	-6,888	53.6%	84.6%	7.2%	69.2%
B7	State St/Boston Rd/Walmart/Eastfield	Reduce Saturday service to match Sunday Service	301,713	-30,628	-10.2%	-30,628	-16,423	-25,917	53.6%	84.6%	7.2%	69.2%
B7	State St/Boston Rd/Walmart/Eastfield	Reduce Holiday Service to Sunday Levels	301,713	-1,096	-0.4%	-1,096	-588	-928	53.6%	84.6%	7.2%	69.2%
R10	WSU/Westfield Cntr/W. Springfield	Reduce Saturday service to match Sunday Service	197,204	-19,792	-10.0%	-19,792	-9,896	-10,054	50.0%	50.8%	0.0%	1.6%
R10	WSU/Westfield Cntr/W. Springfield	Reduce Holiday Service to Sunday Levels	197,204	-708	-0.4%	-708	-354	-360	50.0%	50.8%	0.0%	1.6%
R14	Agawam Feeding Hills/Springfield5	Reduce Saturday service to match Sunday Service	83,282	-7,331	-8.8%	-7,331	-4,985	-3,142	68.0%	42.9%	36.0%	-14.3%
R14	Agawam Feeding Hills/Springfield5	Reduce Holiday Service to Sunday Levels	83,282	-262	-0.3%	-262	-178	-112	68.0%	42.9%	36.0%	-14.3%
B17	Eastfield Mall via Worthington-Wilbrm	Terminate at Eastfield Mall.	90,072	-6,836	-7.6%	-6,836	-3,782	-5,606	55.3%	82.0%	10.6%	64.0%
B17	Eastfield Mall via Worthington-Wilbrm	MITIGATION: Add on-demand van to/from B17 at Eastfield Mall	90,072	1,000	1.1%	1,000	50	60	5.0%	6.0%	-90.0%	-88.0%
B17	Eastfield Mall via Worthington-Wilbrm	Reduce Saturday service to match Sunday Service	90,072	-9,024	-10.0%	-9,024	-4,992	-7,400	55.3%	82.0%	10.6%	64.0%
B17	Eastfield Mall via Worthington-Wilbrm	Reduce Holiday Service to Sunday Levels	90,072	-360	-0.4%	-360	-199	-295	55.3%	82.0%	10.6%	64.0%
P20	Holyoke/Springfield via Holyoke Mall-F	Reduce frequency from 20-30 min to 60 min after 6:00PM on we	376,504	-28,404	-7.5%	-28,404	-13,949	-20,224	49.1%	71.2%	-1.8%	42.4%
P20	Holyoke/Springfield via Holyoke Mall-F	Reduce Saturday service to match Sunday Service	376,504	-37,801	-10.0%	-37,801	-18,564	-26,914	49.1%	71.2%	-1.8%	42.4%
P20	Holyoke/Springfield via Holyoke Mall-F	Reduce Holiday Service to Sunday Levels	376,504	-1,353	-0.4%	-1,353	-664	-963	49.1%	71.2%	-1.8%	42.4%
P21	Holyoke/Springfield via Chicopee	Reduce Saturday Service to Match Sunday Service	178,192	-18,075	-10.1%	-18,075	-10,921	-15,492	60.4%	85.7%	20.8%	71.4%
P21	Holyoke/Springfield via Chicopee	Reduce Holiday Service to Sunday Levels	178,192	-647	-0.4%	-647	-391	-554	60.4%	85.7%	20.8%	71.4%
R24	HTC/Holyoke Hospital	Reduce Saturday service to match Sunday Service	23,010	-2,264	-9.8%	-2,264	-1,510	-1,457	66.7%	64.4%	33.3%	28.7%
R24	HTC/Holyoke Hospital	Restructure route as weekday fixed/deviated circulator serving t	23,010	2,490	10.8%	2,490	1,660	1,603	66.7%	64.4%	33.3%	28.7%
R24	HTC/Holyoke Hospital	Reduce Holiday Service to Sunday Levels	23,010	-100	-0.4%	-100	-67	-64	66.7%	64.4%	33.3%	28.7%
R29	Amherst/Holyoke via Rte 116	Reduce Saturday service to match Sunday Service (NO CHANGE)	83,087	0	0.0%	0	0	0	-	-	#VALUE!	#VALUE!
29	Amherst/Holyoke via Rte 116	Reduce Holiday Service to Sunday Levels	83,087	-358	-0.4%	-358	-251	-130	70.0%	36.4%	40.0%	-27.2%
30	North Amherst/Old Belchertown Rd	End service at 9:00PM on non-academic "reduced service" days.	163,504	-3,996	-2.4%	-3,996	-2,973	-1,434	74.4%	35.9%	48.8%	-28.2%
30	North Amherst/Old Belchertown Rd	Eliminate Sunday service during non-academic "reduced service" days.	163,504	-3,532	-2.2%	-3,532	-2,628	-1,267	74.4%	35.9%	48.8%	-28.2%
30	North Amherst/Old Belchertown Rd	Reduce frequency from 30 to 60 min during non-academic "redu	163,504	-15,380	-9.4%	-15,380	-11,443	-5,518	74.4%	35.9%	48.8%	-28.2%
30	North Amherst/Old Belchertown Rd	Reduce Saturday service to match Sunday Service	163,504	-16,464	-10.1%	-16,464	-12,249	-5,907	74.4%	35.9%	48.8%	-28.2%
31	Sunderland/South Amherst	Eliminate Sunday service during non-academic "reduced service" days.	238,236	-4,321	-1.8%	-4,321	-2,900	-2,035	67.1%	47.1%	34.2%	-5.8%
31	Sunderland/South Amherst	End service at 9:00PM on non-academic "reduced service" days.	238,236	-4,958	-2.1%	-4,958	-3,328	-2,335	67.1%	47.1%	34.2%	-5.8%
31	Sunderland/South Amherst	Reduce frequency from 30 to 70 min during non-academic "redu	238,236	-21,247	-8.9%	-21,247	-14,259	-10,007	67.1%	47.1%	34.2%	-5.8%
31	Sunderland/South Amherst	Reduce Saturday service to match Sunday Service	238,236	-25,794	-10.8%	-25,794	-17,310	-12,149	67.1%	47.1%	34.2%	-5.8%
33	Puffers Pond/Stop & Shop	Eliminate Sunday service during non-academic "reduced service" days.	82,657	-5,351	-6.5%	-5,351	-3,428	-1,699	64.1%	31.8%	28.1%	-36.5%
34	Campus Shuttle Northbound	End service at 8:00PM on weekdays.	67,093	-7,062	-10.5%	-7,062	-5,929	-2,978	84.0%	42.2%	67.9%	-15.7%
36	Olympia Dr/Atkins (no school only)	Eliminate weekend service (reduce Saturday to match Sunday)	27,975	-5,434	-19.4%	-5,434	-3,481	-1,725	64.1%	31.8%	28.1%	-36.5%

Fig 5.2-3 continues on next page

PRELIMINARY

Fig. 5.2-3 continued

Route	Route Name	Service Change Proposal (Jan 24, 2018)	BASELINE			FY2019 IMPACTS			FY2019 DI/DB IMPACTS ANALYSIS BY REVENUE MILES				
			FY2018 Revenue Miles/Year	# Δ in Revenue Miles/Year	% Δ in Revenue Miles/Year	Δ in Revenue Miles/Year	Δ Borne by Low-Income Riders	Δ Borne by Minority Riders	% Low Income Riders Impacted	% Minority Riders Burdened	DI Disproportionate Impact? (Low-Inc. vs. Non-Low-Inc. Variance ≥20%)	DB Disparate Burden? (Minority vs. Non-Minority Variance ≥20%)	
38	MHC/Hampshire/Amherst/Umass	Reduce frequency from 40 to 80 min after 8:00PM.	165,235	-15,398	-9.3%	-15,398	-13,569	-8,454	88.1%	54.9%	76.2%	9.8%	
38	MHC/Hampshire/Amherst/Umass	Eliminate Sunday service during non-academic	165,235	-935	-0.6%	-935	-824	-513	88.1%	54.9%	76.2%	9.8%	
38	MHC/Hampshire/Amherst/Umass	Reduce Saturday service to match Sunday Service	165,235	-16,618	-10.1%	-16,618	-14,644	-9,123	88.1%	54.9%	76.2%	9.8%	
39	Smith/Hampshire/Mt Holyoke Colleges	Alternates Hampshire Mall/Smith College after 6:00PM weekday	89,132	-4,634	-5.2%	-4,634	-3,641	-2,152	78.6%	46.4%	57.1%	-7.1%	
39	Smith/Hampshire/Mt Holyoke Colleges	Eliminate Sunday service during non academic	89,132	-770	-0.9%	-770	-605	-358	78.6%	46.4%	57.1%	-7.1%	
39	Smith/Hampshire/Mt Holyoke Colleges	Reduce Saturday service to match Sunday Service	89,132	-9,114	-10.2%	-9,114	-7,161	-4,232	78.6%	46.4%	57.1%	-7.1%	
R41	Northampton/Easthampton/HCC/Holyo	Reduce Saturday service to match Sunday Service	104,813	-10,595	-10.1%	-10,595	-6,558	-4,037	61.9%	38.1%	23.8%	-23.8%	
R41	Northampton/Easthampton/HCC/Holyo	Operate Weekday service every 75 min (instead of every 60), no	104,813	-34,512	-32.9%	-34,512	-21,363	-13,149	61.9%	38.1%	23.8%	-23.8%	
R41	Northampton/Easthampton/HCC/Holyo	Reduce Holiday Service to Sunday Levels	104,813	-400	-0.4%	-400	-248	-152	61.9%	38.1%	23.8%	-23.8%	
R42	Northampton/VA/Williamsburg	Reduce Saturday Service to match Sunday Service	87,983	-8,886	-10.1%	-8,886	-3,809	-3,332	42.9%	37.5%	-14.3%	-25.0%	
R42	Northampton/VA/Williamsburg	Reduce Holiday Service to Sunday Levels	87,983	-350	-0.4%	-350	-150	-131	42.9%	37.5%	-14.3%	-25.0%	
B43	Northampton/Hadley/Amherst	End Sunday service at 10:00PM during non-academic "reduced s	229,939	-1,120	-0.5%	-1,120	-629	-507	56.1%	45.3%	12.3%	-9.5%	
B43	Northampton/Hadley/Amherst	End Sunday service at 10:00PM during academic year.	229,939	-4,625	-2.0%	-4,625	-2,596	-2,093	56.1%	45.3%	12.3%	-9.5%	
B43	Northampton/Hadley/Amherst	End Saturday service at 10:00PM during non-academic "reduced	229,939	-908	-0.4%	-908	-510	-411	56.1%	45.3%	12.3%	-9.5%	
B43	Northampton/Hadley/Amherst	Eliminate 8:15AM and 4:15PM weekday express trips.	229,939	-5,254	-2.3%	-5,254	-2,950	-2,377	56.1%	45.3%	12.3%	-9.5%	
43	Northampton/Hadley/Amherst	Reduce Saturday service to match Sunday levels	229,939	-22,825	-9.9%	-22,825	-12,814	-10,328	56.1%	45.3%	12.3%	-9.5%	
B43	Northampton/Hadley/Amherst	Reduce Holiday Service to Sunday Levels	229,939	-817	-0.4%	-817	-459	-370	56.1%	45.3%	12.3%	-9.5%	
R44	Florence Hghts via King St-Bridge Rd	Reduce weekend frequency from 60 to 120 minutes.	91,721	-9,295	-10.1%	-9,295	-4,426	-1,690	47.6%	18.2%	-4.8%	-63.6%	
R44	Florence Hghts via King St-Bridge Rd	Reduce Saturday Service to Match Sunday Service	91,721	-9,470	-10.3%	-9,470	-4,510	-1,722	47.6%	18.2%	-4.8%	-63.6%	
R44	Florence Hghts via King St-Bridge Rd	Reduce Holiday Service to Sunday Levels	91,721	-339	-0.4%	-339	-161	-62	47.6%	18.2%	-4.8%	-63.6%	
45	Belchertown Center/Umass	Eliminate 1 of 8 weekday trips (12:25PM trip proposed).	43,873	-6,048	-13.8%	-6,048	-3,744	-3,024	61.9%	50.0%	23.8%	0.0%	
46	Whately/S.Deerfield/Umass	Eliminate route.	22,815	-22,815	-100.0%	-22,815	-7,205	-4,563	31.6%	20.0%	-36.8%	-60.0%	
48	Northampton/Holyoke	Reduce Saturday service to Sunday levels	126,954	-35,591	-28.0%	-35,591	-18,981	-14,236	53.3%	40.0%	6.7%	-20.0%	
48	Northampton/Holyoke	Reduce Holiday Service to Sunday Levels	126,954	-473	-0.4%	-473	-253	-189	53.3%	40.0%	6.7%	-20.0%	
X90	Springfield/Chic/Holyoke Crosstown	Reduce Saturday Service to Match Sunday Service	325,000	-34,575	-10.6%	-34,575	-20,856	-23,214	60.3%	67.1%	20.6%	34.3%	
X90	Springfield/Chic/Holyoke Crosstown	Reduce Holiday Service to Sunday Levels	325,000	-1,237	-0.4%	-1,237	-746	-831	60.3%	67.1%	20.6%	34.3%	
X92	X92 Springfield Mid-City Crosstown	Reduce weekday frequency from 45 to 60 min. Service new senio	82,058	-19,178	-23.4%	-19,178	-7,846	-17,509	40.9%	91.3%	-18.2%	82.6%	
X92	X92 Springfield Mid-City Crosstown	Reduce Saturday Service to Match Sunday Service	82,058	-8,236	-10.0%	-8,236	-3,369	-7,519	40.9%	91.3%	-18.2%	82.6%	
X92	X92 Springfield Mid-City Crosstown	Reduce Holiday Service to Sunday Levels	82,058	-300	-0.4%	-300	-123	-274	40.9%	91.3%	-18.2%	82.6%	
X98	X98 Northampton Crosstown	Eliminate route	6,202	-3,692	-59.5%	-3,692	-2,461	-1,007	66.7%	27.3%	33.3%	-45.5%	
P20E	Holyoke Mall Express	Reduce Saturday service to match Sunday Service	20,584	-3,953	-19.2%	-3,953	-1,941	-2,814	49.1%	71.2%	-1.8%	42.4%	
P21E	Holyoke/Springfield Express via I-391	Eliminate weekend service.	76,777	-18,702	-24.4%	-18,702	-11,299	-16,029	60.4%	85.7%	20.8%	71.4%	
21E	Holyoke/Springfield Express via I-391	Reduce Holiday service to Sunday levels	76,777	-273	-0.4%	-273	-165	-234	60.4%	85.7%	20.8%	71.4%	
NE	Nashawannuck Express Easthampton	Reduce trips from 7 to 2	50,077	-35,555	-71.0%	-35,555	-5,560	-7,251	15.6%	20.4%	-68.7%	-59.2%	
NE	Nashawannuck Express Easthampton	Reduce Saturday service to match Sunday levels	50,077	-5,026	-10.0%	-5,026	-786	-1,025	15.6%	20.4%	-68.7%	-59.2%	
PV	Palmer Village Shuttle	MITIGATION: Restructure as peak hour express midday circulat	44,946	-19,219	-42.8%	-19,219	-2,498	-1,095	13.0%	5.7%	-74.0%	-88.6%	
WS	Ware Shuttle	MITIGATION: Restructure as peak hour express midday circulat	60,704	-34,977	-57.6%	-34,977	-4,862	-2,903	13.9%	8.3%	-72.2%	-83.4%	
P11	HCC Express	NO CHANGE	39,987	0	0.0%	0	0	0	-	-	#VALUE!	#VALUE!	
B12	Stonybrook Express	NO CHANGE	25,618	0	0.0%	0	0	0	-	-	#VALUE!	#VALUE!	
B23	Holyoke/Westfield via HCC	NO CHANGE	94,940	0	0.0%	0	0	0	-	-	#VALUE!	#VALUE!	
10S	R10s Westfield Cntr Shuttle	NO CHANGE	18,637	0	0.0%	0	0	0	-	-	#VALUE!	#VALUE!	
35	Campus Shuttle Southbound	NO CHANGE	71,073	0	0.0%	0	0	0	-	-	#VALUE!	#VALUE!	
OWL	WSU Shuttle	NO CHANGE	11,070	0	0.0%	0	0	0	-	-	#VALUE!	#VALUE!	
Totals/Averages			5,041,847	-864,308	-17.1%	-864,308	-459,365	-472,259	53.1%	54.6%	6.3%	9.3%	
										LOW-INCOME	MINORITY		
										Total Proportion of All Changes Borne By:	53.1%	54.6%	
										Variance Title VI Persons vs. Non-Title VI Persons Affected:	6.3%	9.3%	

PRELIMINARY

Fig. 5.2-3: Summary of Equity Impacts of Bus Service Changes and Mitigation Measures Proposed April 9, 2018

Route	Route Name	Service Change Proposal (Jan 24, 2018) And mitigation proposed April 9, 2018	BASELINE	FY2019 IMPACTS		FY2019 DI/DB IMPACTS ANALYSIS BY REVENUE MILES						
			FY2018 Revenue Miles/Year	# Δ in Revenue Miles/Year	% Δ in Revenue Miles/Year	Δ in Revenue Miles/Year	Δ Borne by Low-Income Riders	Δ Borne by Minority Riders	% Low Income Riders Impacted	% Minority Riders Burdened	DI Disproportionate Impact? (Low-Inc. vs. Non-Low-Inc. Variance ≥20%)	DB Disparate Burden? (Minority vs. Non-Minority Variance ≥20%)
G1	Chicopee Cntr/Big Y/Summer-Allen	Reduce frequency from 30 min to 60 min after 6 PM on weekday	406,161	-22,383	-5.5%	-22,383	-11,359	-15,095	50.8%	67.4%	1.5%	34.9%
G1	Chicopee Cntr/Big Y/Summer-Allen	Reduce Saturday service to match Sunday Service	406,161	-41,460	-10.2%	-41,460	-21,041	-27,961	50.8%	67.4%	1.5%	34.9%
G1	Chicopee Cntr/Big Y/Summer-Allen	PENDING MITIGATION: Restore 1-2 trips on Saturday evenings	406,161	0	0.0%	0	0	0	-	-	#VALUE!	#VALUE!
G1	Chicopee Cntr/Big Y/Summer-Allen	Reduce Holiday Service to Sunday Levels	406,161	-1,484	-0.4%	-1,484	-753	-1,001	50.8%	67.4%	1.5%	34.9%
G2	Carew/E. Springfield/Belmont-Dwight	Reduce frequency from 30 min to 60 min after 6 PM on weekday	281,595	-19,251	-6.8%	-19,251	-10,971	-15,837	57.0%	82.3%	14.0%	64.5%
G2	Carew/E. Springfield/Belmont-Dwight	Reduce Saturday service to match Sunday Service	281,595	-29,301	-10.4%	-29,301	-16,699	-24,106	57.0%	82.3%	14.0%	64.5%
G2	Carew/E. Springfield/Belmont-Dwight	PENDING MITIGATION: Restore 1-3 morning and 2-3 evening trip	281,595	0	0.0%	0	0	0	-	-	#VALUE!	#VALUE!
G2	Carew/E. Springfield/Belmont-Dwight	Reduce Holiday Service to Sunday Levels	281,595	-1,049	-0.4%	-1,049	-598	-863	57.0%	82.3%	14.0%	64.5%
G3	Spfld Plaza via Liberty/King-Westford	Eliminate the 6:05PM and 7:05PM trips departing Union Station	114,606	-5,027	-4.4%	-5,027	-2,793	-4,054	55.6%	80.7%	11.1%	61.3%
G3	Spfld Plaza via Liberty/King-Westford	Reduce Saturday service to match Sunday Service	114,606	-12,398	-10.8%	-12,398	-6,888	-9,999	55.6%	80.7%	11.1%	61.3%
G3	Spfld Plaza via Liberty/King-Westford	PENDING MITIGATION: Restore 2-3 trips on Sat mornings	114,606	0	0.0%	0	0	0	-	-	#VALUE!	#VALUE!
G3	Spfld Plaza via Liberty/King-Westford	Reduce Holiday Service to Sunday Levels	114,606	-444	-0.4%	-444	-247	-358	55.6%	80.7%	11.1%	61.3%
B4	Plainfield Street/Union Station	Reduce Saturday service to match Sunday Service	35,982	-3,591	-10.0%	-3,591	-2,244	-3,206	62.5%	89.3%	25.0%	78.6%
B4	Plainfield Street/Union Station	Reduce Holiday Service to Sunday Levels	35,982	-129	-0.4%	-129	-80	-115	62.5%	89.3%	25.0%	78.6%
G5	Dickinson-Jewish Home/Longm'dow/En	Reduce Saturday service to match Sunday Service	60,120	-7,062	-11.7%	-7,062	-3,390	-5,414	48.0%	76.7%	-4.0%	53.3%
G5	Dickinson-Jewish Home/Longm'dow/En	Reduce Holiday Service to Sunday Levels	60,120	-225	-0.4%	-225	-108	-173	48.0%	76.7%	-4.0%	53.3%
B6	Ludlow via Bay St	Reduce frequency from 30 to 45 min after 6:00PM on weekdays.	245,776	-4,678	-1.9%	-4,678	-2,691	-3,562	57.5%	76.2%	15.0%	52.3%
B6	Ludlow via Bay St	Reduce Saturday service to match Sunday Service	245,776	-24,988	-10.2%	-24,988	-14,373	-19,028	57.5%	76.2%	15.0%	52.3%
B6	Ludlow via Bay St	Reduce Holiday Service to Sunday Levels	245,776	-894	-0.4%	-894	-514	-681	57.5%	76.2%	15.0%	52.3%
B7	State St/Boston Rd/Walmart/Eastfield	Reduce frequency from 30 to 45 min after 6:00PM on weekdays.	301,713	-8,140	-2.7%	-8,140	-4,365	-6,888	53.6%	84.6%	7.2%	69.2%
B7	State St/Boston Rd/Walmart/Eastfield	Reduce Saturday service to match Sunday Service	301,713	-30,628	-10.2%	-30,628	-16,423	-25,917	53.6%	84.6%	7.2%	69.2%
B7	State St/Boston Rd/Walmart/Eastfield	MITIGATION: Add back early AM and late PM trips at 90 min freq	301,713	2,447	0.8%	2,447	1,312	2,071	53.6%	84.6%	7.2%	69.2%
B7	State St/Boston Rd/Walmart/Eastfield	Reduce Holiday Service to Sunday Levels	301,713	-1,096	-0.4%	-1,096	-588	-928	53.6%	84.6%	7.2%	69.2%
R10	WSU/Westfield Cntr/W. Springfield	Reduce Saturday service to match Sunday Service	197,204	-19,792	-10.0%	-19,792	-9,896	-10,054	50.0%	50.8%	0.0%	1.6%
R10	WSU/Westfield Cntr/W. Springfield	MITIGATION: Add back trips on Sat mornings	197,204	0	0.0%	0	0	0	-	-	#VALUE!	#VALUE!
R10	WSU/Westfield Cntr/W. Springfield	Reduce Holiday Service to Sunday Levels	197,204	-708	-0.4%	-708	-354	-360	50.0%	50.8%	0.0%	1.6%
R14	Agawam Feeding Hills/Springfield5	Reduce Saturday service to match Sunday Service	83,282	-7,331	-8.8%	-7,331	-4,985	-3,142	68.0%	42.9%	36.0%	-14.3%
R14	Agawam Feeding Hills/Springfield5	Reduce Holiday Service to Sunday Levels	83,282	-262	-0.3%	-262	-178	-112	68.0%	42.9%	36.0%	-14.3%
B17	Eastfield Mall via Worthington-Wilbrn	Terminate at Eastfield Mall.	90,072	-6,836	-7.6%	-6,836	-3,782	-5,606	55.3%	82.0%	10.6%	64.0%
B17	Eastfield Mall via Worthington-Wilbrn	MITIGATION: Add on-demand van to/from B17 at Eastfield Mall	90,072	1,000	1.1%	1,000	50	60	5.0%	6.0%	-90.0%	-88.0%
B17	Eastfield Mall via Worthington-Wilbrn	Reduce Saturday service to match Sunday Service	90,072	-9,024	-10.0%	-9,024	-4,992	-7,400	55.3%	82.0%	10.6%	64.0%
B17	Eastfield Mall via Worthington-Wilbrn	Reduce Holiday Service to Sunday Levels	90,072	-360	-0.4%	-360	-199	-295	55.3%	82.0%	10.6%	64.0%
B17	Eastfield Mall via Worthington-Wilbrn	MITIGATION: Add back one bus for 8 hrs on holidays	90,072	5,338	5.9%	5,338	2,953	4,377	55.3%	82.0%	10.6%	64.0%
P20	Holyoke/Springfield via Holyoke Mall-F	Reduce frequency from 20-30 min to 60 min after 6:00PM on we	376,504	-28,404	-7.5%	-28,404	-13,949	-20,224	49.1%	71.2%	-1.8%	42.4%
P20	Holyoke/Springfield via Holyoke Mall-F	Reduce Saturday service to match Sunday Service	376,504	-37,801	-10.0%	-37,801	-18,564	-26,914	49.1%	71.2%	-1.8%	42.4%
P20	Holyoke/Springfield via Holyoke Mall-F	MITIGATION: Add back Saturday early AM and evening trips at 6	376,504	3,231	0.9%	3,231	1,587	2,300	49.1%	71.2%	-1.8%	42.4%
P20	Holyoke/Springfield via Holyoke Mall-F	Reduce Holiday Service to Sunday Levels	376,504	-1,353	-0.4%	-1,353	-664	-963	49.1%	71.2%	-1.8%	42.4%
P21	Holyoke/Springfield via Chicopee	Reduce Saturday Service to Match Sunday Service	178,192	-18,075	-10.1%	-18,075	-10,921	-15,492	60.4%	85.7%	20.8%	71.4%

Fig 5.2-4 continues on next page

PRELIMINARY

Fig 5.2-4 continued

Route	Route Name	Service Change Proposal (Jan 24, 2018) And mitigation proposed April 9, 2018	BASELINE	FY2019 IMPACTS		FY2019 DI/DB IMPACTS ANALYSIS BY REVENUE MILES						
			FY2018 Revenue Miles/Year	# Δ in Revenue Miles/Year	% Δ in Revenue Miles/Year	Δ in Revenue Miles/Year	Δ Borne by Low-Income Riders	Δ Borne by Minority Riders	% Low Income Riders Impacted	% Minority Riders Burdened	DI Disproportionate Impact? (Low-Inc. vs. Non-Low-Inc. Variance ≥20%)	DB Disparate Burden? (Minority vs. Non-Minority Variance ≥20%)
R29	Amherst/Holyoke via Rte 116	Reduce Saturday service to match Sunday Service (NO CHANGE)	83,087	0	0.0%	0	0	0	-	-	#VALUE!	#VALUE!
29	Amherst/Holyoke via Rte 116	Reduce Holiday Service to Sunday Levels	83,087	-358	-0.4%	-358	-251	-130	70.0%	36.4%	40.0%	-27.2%
30	North Amherst/Old Belchertown Rd	End service at 9:00PM on non-academic "reduced service" days.	163,504	-3,996	-2.4%	-3,996	-2,973	-1,434	74.4%	35.9%	48.8%	-28.2%
30	North Amherst/Old Belchertown Rd	Eliminate Sunday service during non-academic "reduced service"	163,504	-3,532	-2.2%	-3,532	-2,628	-1,267	74.4%	35.9%	48.8%	-28.2%
30	North Amherst/Old Belchertown Rd	MITIGATION: Add back 4 trips/day on reduced Sunday at 120 min	163,504	-889	-0.5%	-889	-661	-319	74.4%	35.9%	48.8%	-28.2%
30	North Amherst/Old Belchertown Rd	Reduce frequency from 30 to 60 min during non-academic "reduced service"	163,504	-15,380	-9.4%	-15,380	-11,443	-5,518	74.4%	35.9%	48.8%	-28.2%
30	North Amherst/Old Belchertown Rd	MITIGATION: Add back trips to achieve 30 min frequencies during non-academic	163,504	1,873	1.1%	1,873	1,394	672	74.4%	35.9%	48.8%	-28.2%
30	North Amherst/Old Belchertown Rd	Reduce Saturday service to match Sunday Service	163,504	-16,464	-10.1%	-16,464	-12,249	-5,907	74.4%	35.9%	48.8%	-28.2%
30	North Amherst/Old Belchertown Rd	MITIGATION: Add back last trip of day and 9:45AM trip on Saturday	163,504	1,236	0.8%	1,236	920	443	74.4%	35.9%	48.8%	-28.2%
30	North Amherst/Old Belchertown Rd	Reduce Holiday Service to Sunday Levels	163,504	-589	-0.4%	-589	-438	-211	74.4%	35.9%	48.8%	-28.2%
31	Sunderland/South Amherst	Eliminate Sunday service during non-academic "reduced service"	238,236	-4,321	-1.8%	-4,321	-2,900	-2,035	67.1%	47.1%	34.2%	-5.8%
31	Sunderland/South Amherst	End service at 9:00PM on non-academic "reduced service" days.	238,236	-4,958	-2.1%	-4,958	-3,328	-2,335	67.1%	47.1%	34.2%	-5.8%
31	Sunderland/South Amherst	MITIGATION: Add back 4 trips on Sunday at 120 min frequency, and	238,236	-885	-0.4%	-885	-594	-417	67.1%	47.1%	34.2%	-5.8%
31	Sunderland/South Amherst	Reduce frequency from 30 to 70 min during non-academic "reduced service"	238,236	-21,247	-8.9%	-21,247	-14,259	-10,007	67.1%	47.1%	34.2%	-5.8%
31	Sunderland/South Amherst	MITIGATION: Add back trips during peak times of day to get 35-min	238,236	1,384	0.6%	1,384	929	652	67.1%	47.1%	34.2%	-5.8%
31	Sunderland/South Amherst	Reduce Saturday service to match Sunday Service	238,236	-25,794	-10.8%	-25,794	-17,310	-12,149	67.1%	47.1%	34.2%	-5.8%
31	Sunderland/South Amherst	MITIGATION: Add back 1 (last) trip of day on Saturday evening, and	238,236	-491	-0.2%	-491	-330	-231	67.1%	47.1%	34.2%	-5.8%
31	Sunderland/South Amherst	Reduce Holiday Service to Sunday Levels	238,236	-923	-0.4%	-923	-620	-435	67.1%	47.1%	34.2%	-5.8%
33	Puffers Pond/Stop & Shop	Eliminate Sunday service during non-academic "reduced service"	82,657	-5,351	-6.5%	-5,351	-3,428	-1,699	64.1%	31.8%	28.1%	-36.5%
33	Puffers Pond/Stop & Shop	MITIGATION: Add back 5 trips on Sundays, and eliminate 1 trip (82,657	-2,670	-3.2%	-2,670	-1,710	-848	64.1%	31.8%	28.1%	-36.5%
33	Puffers Pond/Stop & Shop	Reduce Holiday Service to Sunday Levels	82,657	-595	-0.7%	-595	-381	-189	64.1%	31.8%	28.1%	-36.5%
34	Campus Shuttle Northbound	End service at 8:00PM on weekdays.	67,093	-7,062	-10.5%	-7,062	-5,929	-2,978	84.0%	42.2%	67.9%	-15.7%
36	Olympia Dr/Atkins (no school only)	Eliminate weekend service (reduce Saturday to match Sunday)	27,975	-5,434	-19.4%	-5,434	-3,481	-1,725	64.1%	31.8%	28.1%	-36.5%
36	Olympia Dr/Atkins (no school only)	MITIGATION: Add back 5 trips on Saturday, and eliminate 1 trip	27,975	269	1.0%	269	172	85	64.1%	31.8%	28.1%	-36.5%
38	MHC/Hampshire/Amherst/Umass	Reduce frequency from 40 to 80 min after 8:00PM.	165,235	-15,398	-9.3%	-15,398	-13,569	-8,454	88.1%	54.9%	76.2%	9.8%
38	MHC/Hampshire/Amherst/Umass	MITIGATION: Add 1 trip/day by waiting until 9:00PM to start 40	165,235	3,531	2.1%	3,531	3,111	1,938	88.1%	54.9%	76.2%	9.8%
38	MHC/Hampshire/Amherst/Umass	Eliminate Sunday service during non-academic	165,235	-935	-0.6%	-935	-824	-513	88.1%	54.9%	76.2%	9.8%
38	MHC/Hampshire/Amherst/Umass	Reduce Saturday service to match Sunday Service	165,235	-16,618	-10.1%	-16,618	-14,644	-9,123	88.1%	54.9%	76.2%	9.8%
38	MHC/Hampshire/Amherst/Umass	MITIGATION: Add back 1 late night trip, and eliminate service du	165,235	-5,666	-3.4%	-5,666	-4,993	-3,111	88.1%	54.9%	76.2%	9.8%
39	Smith/Hampshire/Mt Holyoke Colleges	Alternates Hampshire Mall/Smith College after 6:00PM weekday	89,132	-4,634	-5.2%	-4,634	-3,641	-2,152	78.6%	46.4%	57.1%	-7.1%
39	Smith/Hampshire/Mt Holyoke Colleges	Eliminate Sunday service during non academic	89,132	-770	-0.9%	-770	-605	-358	78.6%	46.4%	57.1%	-7.1%
39	Smith/Hampshire/Mt Holyoke Colleges	End Winter session weekday at 9 PM, Reduce Saturday Winterse	89,132	-855	-1.0%	-855	-672	-397	78.6%	46.4%	57.1%	-7.1%
39	Smith/Hampshire/Mt Holyoke Colleges	Reduce Saturday service to match Sunday Service	89,132	-9,114	-10.2%	-9,114	-7,161	-4,232	78.6%	46.4%	57.1%	-7.1%
R41	Northampton/Easthampton/HCC/Holyo	Reduce Saturday service to match Sunday Service	104,813	-10,595	-10.1%	-10,595	-6,558	-4,037	61.9%	38.1%	23.8%	-23.8%
R41	Northampton/Easthampton/HCC/Holyo	Operate Weekday service every 75 min (instead of every 60), no	104,813	-34,512	-32.9%	-34,512	-21,363	-13,149	61.9%	38.1%	23.8%	-23.8%
R41	Northampton/Easthampton/HCC/Holyo	MITIGATION: Add back Saturday service at 90 min frequencies; t	104,813	5,265	5.0%	5,265	3,259	2,006	61.9%	38.1%	23.8%	-23.8%
R41	Northampton/Easthampton/HCC/Holyo	Reduce Holiday Service to Sunday Levels	104,813	-400	-0.4%	-400	-248	-152	61.9%	38.1%	23.8%	-23.8%

Fig 5.2-4 continues on next page

PRELIMINARY

Fig 5.2-4 continued

Route	Route Name	Service Change Proposal (Jan 24, 2018) And mitigation proposed April 9, 2018	BASELINE	FY2019 IMPACTS		FY2019 DI/DB IMPACTS ANALYSIS BY REVENUE MILES							
			FY2018 Revenue Miles/Year	# Δ in Revenue Miles/Year	% Δ in Revenue Miles/Year	Δ in Revenue Miles/Year	Δ Borne by Low-Income Riders	Δ Borne by Minority Riders	% Low Income Riders Impacted	% Minority Riders Burdened	DI Disproportionate Impact? (Low-Inc. vs. Non-Low-Inc. Variance ≥20%)	DB Disparate Burden? (Minority vs. Non-Minority Variance ≥20%)	
R42	Northampton/VA/Williamsburg	Reduce Saturday Service to match Sunday Service	87,983	-8,886	-10.1%	-8,886	-3,809	-3,332	42.9%	37.5%	-14.3%	-25.0%	
R42	Northampton/VA/Williamsburg	MITIGATION: Add back Saturday service every 75 min (instead of 60 min)	87,983	4,656	5.3%	4,656	1,996	1,746	42.9%	37.5%	-14.3%	-25.0%	
R42	Northampton/VA/Williamsburg	Reduce Holiday Service to Sunday Levels	87,983	-350	-0.4%	-350	-150	-131	42.9%	37.5%	-14.3%	-25.0%	
R42	Northampton/VA/Williamsburg	Reduce weekday headways from 60 min to 75 min	87,983	-15,007	-17.1%	-15,007	-6,432	-5,628	42.9%	37.5%	-14.3%	-25.0%	
B43	Northampton/Hadley/Amherst	End Sunday service at 10:00PM during non-academic "reduced service"	229,939	-1,120	-0.5%	-1,120	-629	-507	56.1%	45.3%	12.3%	-9.5%	
B43	Northampton/Hadley/Amherst	End Sunday service at 10:00PM during academic year.	229,939	-4,625	-2.0%	-4,625	-2,596	-2,093	56.1%	45.3%	12.3%	-9.5%	
B43	Northampton/Hadley/Amherst	End Saturday service at 10:00PM during non-academic "reduced service"	229,939	-908	-0.4%	-908	-510	-411	56.1%	45.3%	12.3%	-9.5%	
B43	Northampton/Hadley/Amherst	Eliminate 8:15AM and 4:15PM weekday express trips.	229,939	-5,254	-2.3%	-5,254	-2,950	-2,377	56.1%	45.3%	12.3%	-9.5%	
43	Northampton/Hadley/Amherst	Add back 12 of 16 trips on full service Saturdays to achieve 30-min frequency	229,939	620	0.3%	620	348	281	56.1%	45.3%	12.3%	-9.5%	
B43	Northampton/Hadley/Amherst	Reduce Holiday Service to Sunday Levels	229,939	-817	-0.4%	-817	-459	-370	56.1%	45.3%	12.3%	-9.5%	
B43	Northampton/Hadley/Amherst	Eliminate the 6:20 AM trip on weekdays full service, the 11:30 PM trip on weekends	229,939	-6,218	-2.7%	-6,218	-3,491	-2,814	56.1%	45.3%	12.3%	-9.5%	
B43	Northampton/Hadley/Amherst	MITIGATION: Add back in trips on full service Saturday to create 30-min frequency	229,939	4,285	1.9%	4,285	2,406	1,939	56.1%	45.3%	12.3%	-9.5%	
B43	Northampton/Hadley/Amherst	MITIGATION: Add back the 11:00 pm 12:00 am, 12:30 am and 1:00 am trips	229,939	2,153	0.9%	2,153	1,209	974	56.1%	45.3%	12.3%	-9.5%	
R44	Florence Hgts via King St-Bridge Rd	Reduce weekend frequency from 60 to 120 minutes.	91,721	-9,295	-10.1%	-9,295	-4,426	-1,690	47.6%	18.2%	-4.8%	-63.6%	
R44	Florence Hgts via King St-Bridge Rd	MITIGATION: Add back 2 trips on Sundays.	91,721	1,498	1.6%	1,498	713	272	47.6%	18.2%	-4.8%	-63.6%	
R44	Florence Hgts via King St-Bridge Rd	Reduce Saturday Service to Match Sunday Service	91,721	-9,470	-10.3%	-9,470	-4,510	-1,722	47.6%	18.2%	-4.8%	-63.6%	
44	Florence Hgts via King St-Bridge Rd	Add back 6 trips on Saturdays at 120-min frequency.	91,721	200	0.2%	200	95	36	47.6%	18.2%	-4.8%	-63.6%	
R44	Florence Hgts via King St-Bridge Rd	Reduce Holiday Service to Sunday Levels	91,721	-339	-0.4%	-339	-161	-62	47.6%	18.2%	-4.8%	-63.6%	
R44	Florence Hgts via King St-Bridge Rd	MITIGATION: On Saturday operate 6 trips at 120-min frequency	91,721	100	0.1%	100	48	18	47.6%	18.2%	-4.8%	-63.6%	
45	Belchertown Center/UMass	MITIGATION: Eliminate 1 of 8 weekday trips (9:50AM trip).	43,873	-6,048	-13.8%	-6,048	-3,744	-3,024	61.9%	50.0%	23.8%	0.0%	
46	Whately/S.Deerfield/UMass	Eliminate route.	22,815	-22,815	-100.0%	-22,815	-7,205	-4,563	31.6%	20.0%	-36.8%	-60.0%	
46	Whately/S.Deerfield/UMass	MITIGATION: Extend Route 31 on 2 trips/day (1 in AM, 1 in PM) to Deerfield	22,815	3,060	13.4%	3,060	966	612	31.6%	20.0%	-36.8%	-60.0%	
48	Northampton/Holyoke	Reduce Saturday service to Sunday levels	126,954	-35,591	-28.0%	-35,591	-18,981	-14,236	53.3%	40.0%	6.7%	-20.0%	
48	Northampton/Holyoke	Reduce Holiday Service to Sunday Levels	126,954	-473	-0.4%	-473	-253	-189	53.3%	40.0%	6.7%	-20.0%	
X90	Springfield/Chic/Holyoke Crosstown	Reduce Saturday Service to Match Sunday Service	325,000	-34,575	-10.6%	-34,575	-20,856	-23,214	60.3%	67.1%	20.6%	34.3%	
X90	Springfield/Chic/Holyoke Crosstown	Extend service to HTC using alternating A and B trips to extend service to 11:00 PM	325,000	4,942	1.5%	4,942	2,981	3,318	60.3%	67.1%	20.6%	34.3%	
X90	Springfield/Chic/Holyoke Crosstown	Reduce Holiday Service to Sunday Levels	325,000	-1,237	-0.4%	-1,237	-746	-831	60.3%	67.1%	20.6%	34.3%	
X92	X92 Springfield Mid-City Crosstown	Reduce weekday frequency from 45 to 60 min. Service new senior citizens	82,058	-19,178	-23.4%	-19,178	-7,846	-17,509	40.9%	91.3%	-18.2%	82.6%	
X92	X92 Springfield Mid-City Crosstown	Reduce Saturday Service to Match Sunday Service	82,058	-8,236	-10.0%	-8,236	-3,369	-7,519	40.9%	91.3%	-18.2%	82.6%	
X92	X92 Springfield Mid-City Crosstown	MITIGATION: Add back 1 bus for 8hrs of service (14 of 17 trips on Saturdays)	82,058	11,086	13.5%	11,086	4,535	10,122	40.9%	91.3%	-18.2%	82.6%	
X92	X92 Springfield Mid-City Crosstown	Reduce Holiday Service to Sunday Levels	82,058	-300	-0.4%	-300	-123	-274	40.9%	91.3%	-18.2%	82.6%	
X98	X98 Northampton Crosstown	Eliminate route.	6,202	-3,692	-59.5%	-3,692	-2,461	-1,007	66.7%	27.3%	33.3%	-45.5%	
X98	X98 Northampton Crosstown	MITIGATION: Provide demand response van within 3/4 mi of X98 route	6,202	3,692	59.5%	3,692	0	0	0.0%	0.0%	-100.0%	-100.0%	
P20E	Holyoke Mall Express	Reduce Saturday service to match Sunday Service	20,584	-3,953	-19.2%	-3,953	-1,941	-2,814	49.1%	71.2%	-1.8%	42.4%	
P21E	Holyoke/Springfield Express via I-391	Eliminate weekend service.	76,777	-18,702	-24.4%	-18,702	-11,299	-16,029	60.4%	85.7%	20.8%	71.4%	
P21E	Holyoke/Springfield Express via I-391	Obtain CMAQ funds to operate route for 1 year	76,777	18,702	24.4%	18,702	11,300	16,029	60.4%	85.7%	20.8%	71.4%	
NE	Nashawannuck Express Easthampton	Reduce trips from 7 to 2	50,077	-35,555	-71.0%	-35,555	-5,560	-7,251	15.6%	20.4%	-68.7%	-59.2%	
NE	Nashawannuck Express Easthampton	MITIGATION: Restructure route.	50,077	37,435	74.8%	37,435	5,854	7,634	15.6%	20.4%	-68.7%	-59.2%	
NE	Nashawannuck Express Easthampton	Reduce Saturday service to match Sunday levels	50,077	-5,026	-10.0%	-5,026	-786	-1,025	15.6%	20.4%	-68.7%	-59.2%	
NE	Nashawannuck Express Easthampton	MITIGATION: Retain Saturday service.	50,077	5,026	10.0%	5,026	786	1,025	15.6%	20.4%	-68.7%	-59.2%	
NE	Nashawannuck Express Easthampton	Reduce Holiday service to Sunday levels	50,077	-200	-0.4%	-200	0	0	0.0%	0.0%	-100.0%	-100.0%	
PV	Palmer Village Shuttle	MITIGATION: Restructure as peak hour express midday circulation	44,946	-19,219	-42.8%	-19,219	-2,498	-1,095	13.0%	5.7%	-74.0%	-88.6%	
WS	Ware Shuttle	MITIGATION: Restructure as peak hour express midday circulation	60,704	-34,977	-57.6%	-34,977	-4,862	-2,903	13.9%	8.3%	-72.2%	-83.4%	
P11	HCC Express	NO CHANGE	39,987	0	0.0%	0	0	0	-	-	#VALUE!	#VALUE!	
B12	Stonybrook Express	NO CHANGE	25,618	0	0.0%	0	0	0	-	-	#VALUE!	#VALUE!	
B23	Holyoke/Westfield via HCC	NO CHANGE	94,940	0	0.0%	0	0	0	-	-	#VALUE!	#VALUE!	
10S	R10s Westfield Cntr Shuttle	NO CHANGE	18,637	0	0.0%	0	0	0	-	-	#VALUE!	#VALUE!	
35	Campus Shuttle Southbound	NO CHANGE	71,073	0	0.0%	0	0	0	-	-	#VALUE!	#VALUE!	
OWL	WSU Shuttle	NO CHANGE	11,070	0	0.0%	0	0	0	-	-	#VALUE!	#VALUE!	
Totals/Averages			4,946,907	-754,170	-15.2%	-754,170	-417,835	-417,743	55.4%	55.4%	10.8%	10.8%	

PRELIMINARY

7. Public Outreach and Comments Received

As required by its public hearing and notification policies, PVRTA held and responded to numerous public engagement opportunities and requests during the development of the proposals described in this service equity analysis, including:

- Open meetings and public participation in all meetings of the Advisory Board subcommittees reviewing the service change proposals.
- Designated public comment periods on the agenda of all Advisory Board meetings
- A 45-day public comment period from February 5 through March 19, 2018.
- Online comment forms at www.pvta.com.
- Receipt of comments via email, recorded telephone messages, and U.S. mail.
- Nine public hearings which were audio recorded, transcribed, listened to, and logged by staff.
- At least 18 community and rider outreach sessions at major transit hubs and community locations requested, and/or presentations requested by elected officials and institutions.

This section summarizes the input received from the public through these processes which has been the basis of modifications made to the original service change proposals approved for public hearing by the PVRTA Advisory Board on January 24, 2018.

7.1 Public Meetings of the PVRTA Advisory Board and Subcommittee

Service change proposals were discussed at the following public meetings of the PVRTA Advisory Committee and its subcommittees. All meetings are open to the public and include a designated agenda item for receiving public comments:

- PVRTA Advisory Board meetings November 2017, January 2018, and April 2018.
- PVRTA Finance Subcommittee meetings November 2017, December 2017, January 2018, and April 2018.
- PVRTA Route Subcommittee meetings November 2017, December 2017, January 2018, and April 2018.
- PVRTA Route Subcommittee meetings November 2017, December 2017, January 2018, and April 2018.

7.2 Public Hearings

In accordance with the PVRTA Public Hearing Policy, the PVRTA Advisory Board on January 24, 2018 authorized the following 11 public hearings to obtain public input on the 22 service change options presented. These hearings were held on the following dates at the following locations. Each hearing consisted of two sessions, the first beginning at 4:00PM and the second beginning at 6:00PM.

PRELIMINARY

HOLYOKE	Monday, March 19, Holyoke Transportation Center, 206 Maple Street
SPRINGFIELD	Monday, Feb 26, Pioneer Valley Planning Commission, 60 Congress Street (2 sessions: 12PM and 4PM)
SPRINGFIELD MASON SQUARE	Thurs March 8, American International College, Sprague Cultural Arts Center, West Wing, 1000 State Street,
AMHERST	Tues, Feb 6, Bangs Community Center, 70 Boltwood Walk
UMASS AMHERST	Thurs March 1, Campus Center
NORTHAMPTON	Wednesday, Feb 28, City Council Chambers, 212 Main Street (2 sessions: 4PM and 6PM)
CHICOPEE	Monday, March 12, Chicopee City Hall, 17 Springfield Street

The number of non-staff attendees is reported. Comments and themes are summarized below. At each meeting, PVRTA staff presented summaries of the 22 options, focusing on those that were likely to be most relevant to the attendees in the geographic area in which the hearing was held. Key themes of public comments received were:

Location	Attendees*
HOLYOKE	10
SPRINGFIELD PVPC*	42
SPRINGFIELD MASON SQUARE	5
AMHERST	26
NORTHAMPTON*	40
CHICOPEE	15
TOTAL	138

* Both sessions

**Not a comprehensive list. Verbatim transcripts are available upon request.

PRELIMINARY

7.4 Other Public Outreach Sessions

WARE	Feb 5: Quaboag Region Transportation Committee
REGIONAL	Feb 7: Briefing for institutions and community based organizations—60 Congress St, Springfield
PALMER	Feb 13: Community Outreach Session—Town Hall
REGIONAL	Feb 14: Pioneer Valley MPO Joint Transportation Committee briefing—60 Congress St. Springfield
REGIONAL	Feb 15: Five Colleges Student Government leaders briefing
PALMER	Feb 20: Community Outreach Session, Palmer Public Library
WILBRAHAM	Feb 21: Community Outreach Session, Council on Aging
REGIONAL	Feb 22: Pioneer Valley Regional Coordinating Council briefing—60 Congress St, Springfield
HOLYOKE	Feb 23: Rider Outreach Session--Holyoke Transportation Center, 206 Maple Street
SPRINGFIELD	Mon Feb 26: Customer Outreach Session, Union Station Springfield.
SPRINGFIELD	Tue Feb 27: Customer Outreach Session, Union Station Springfield
WESTFIELD	Tue Feb 27: Customer Outreach Session, Westfield Transit Pavillion
SOUTH HADLEY	Tues Feb 27: Community Outreach Meeting, Mount Holyoke Student Senate, Mount Holyoke College
WARE	Mon March 5: Quaboag Region Transportation Committee, QV CDC office
AGAWAM	Mon March 5: Community Outreach Session, Senior Center
AMHERST	Thus March 8: Hampshire College Student Government, Hampshire College campus
SPRINGFIELD	Thurs March 15: Springfield City Council Maintenance and Development Subcommittee hearing
UMASS AMHERST	Fri March 23: Western Mass. Health Equity Network Forum, Campus Center

PRELIMINARY

7.5 Summary of Public Comment Received About Service Change Proposals

PVTA's public hearing process encourages members of the public to offer comments at public hearings, as well as by email, voicemail, and an online survey. PVTA posted press releases and general notices of the public hearings and public comment process on the proposed service change options February 2, 2019. The deadline for comments was Monday March 19, 2018, allowing for a 45-day comment period. Following is a summary of all public comments received through that date.

Table 7.5-1. Total Comments Received

Proposal Type	Total Comments
Service Reduction	1,647
Fare Increase <i>(not reported in this document; see FY2019 Fare Equity Analysis)</i>	376

Service Change Proposal Comments

The 1,647 comments received came from six different methods available to the public. The means that comments were received is reported below. The highest comment counts were found on the service-wide changes and those changes which impacted the B38 and 31 routes.

PRELIMINARY

Table 7.5-2. Service Reduction Comments by Method Received (tabular format)

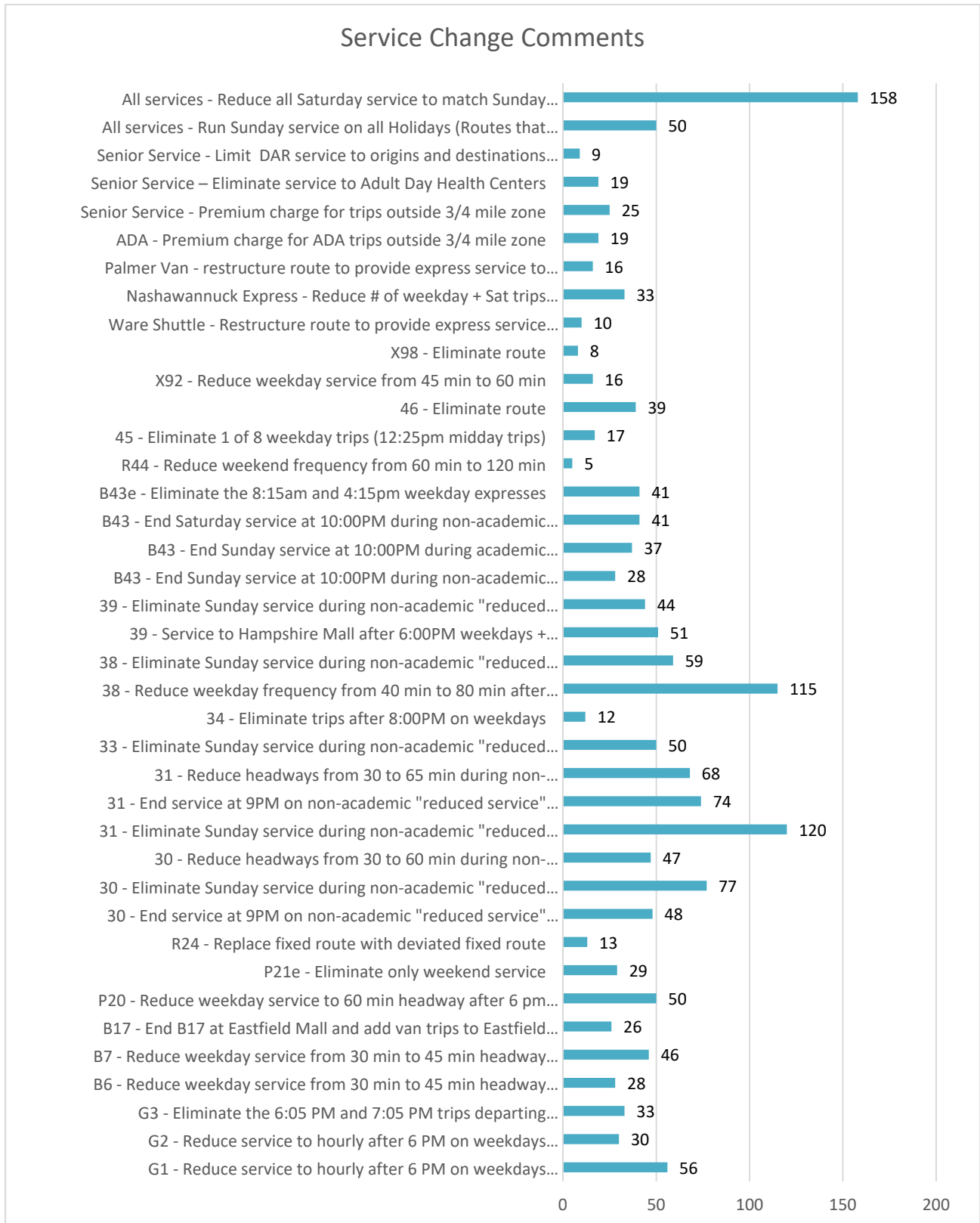
Service Change Proposal	Online	Paper	Email	mail	phone	Public Hearing	Total
G1 - Reduce service to hourly after 6 PM on weekdays (Reduce from 9 to 4 trips)	10	43	3	0	0	0	56
G2 - Reduce service to hourly after 6 PM on weekdays (Reduce from 9 to 4 trips)	2	24	3	0	0	1	30
G3 - Eliminate the 6:05 PM and 7:05 PM trips departing Union Station	1	29	2	0	0	1	33
B6 - Reduce weekday service from 30 min to 45 min headway after 6 pm	2	23	2	0	0	1	28
B7 - Reduce weekday service from 30 min to 45 min headway after 6 pm	4	38	3	0	0	1	46
B17 - End B17 at Eastfield Mall and add van trips to Eastfield mall within Wilbraham	5	20	0	0	0	1	26
P20 - Reduce weekday service to 60 min headway after 6 pm (Reduce from 10 to 5 trips)	5	43	2	0	0	0	50
P21e - Eliminate only weekend service	5	23	1	0	0	0	29
R24 - Replace fixed route with deviated fixed route	0	10	0	0	0	3	13
30 - End service at 9PM on non-academic "reduced service" days	28	4	9	1	2	4	48
30 - Eliminate Sunday service during non-academic "reduced service" schedule	54	4	12	1	2	4	77
30 - Reduce headways from 30 to 60 min during non-academic "reduced service" schedule	29	4	7	1	2	4	47
31 - Eliminate Sunday service during non-academic "reduced service" schedule	87	5	20	1	1	6	120
31 - End service at 9PM on non-academic "reduced service" days	45	6	16	1	1	5	74
31 - Reduce headways from 30 to 65 min during non-academic "reduced service" schedule	39	5	17	1	1	5	68
33 - Eliminate Sunday service during non-academic "reduced service" schedule	26	4	14	2	2	2	50
34 - Eliminate trips after 8:00PM on weekdays	5	3	3	0	0	1	12
38 - Reduce weekday frequency from 40 min to 80 min after 8:00 pm	81	26	6	1	1	0	115
38 - Eliminate Sunday service during non-academic "reduced service" schedule	31	19	6	2	1	0	59
39 - Service to Hampshire Mall after 6:00PM weekdays + weekends	30	15	3	2	0	1	51
39 - Eliminate Sunday service during non-academic "reduced service" schedule	23	16	2	2	0	1	44
B43 - End Sunday service at 10:00PM during non-academic "reduced service" schedule	5	10	6	3	3	1	28
B43 - End Sunday service at 10:00PM during academic schedule	16	10	5	2	3	1	37
B43 - End Saturday service at 10:00PM during non-academic "reduced service" schedule	20	8	6	3	3	1	41
B43e - Eliminate the 8:15am and 4:15pm weekday expresses	29	6	3	0	0	3	41
R44 - Reduce weekend frequency from 60 min to 120 min	4	0	0	1	0	0	5
45 - Eliminate 1 of 8 weekday trips (12:25pm midday trips)	8	1	5	0	1	2	17

PRELIMINARY

Service Change Proposal	Online	Paper	Email	mail	phone	Public Hearing	Total
46 - Eliminate route	10	1	18	2	1	7	39
X92 - Reduce weekday service from 45 min to 60 min	1	13	0	0	0	2	16
X98 - Eliminate route	4	1	1	0	0	2	8
Ware Shuttle - Restructure route to provide express service to Springfield from Ware and Palmer	1	7	0	1	1	0	10
Nashawannuck Express - Reduce # of weekday + Sat trips from 7 to 2	13	4	5	1	3	7	33
Palmer Van - restructure route to provide express service to Springfield from Ware and Palmer	2	11	1	1	1	0	16
ADA - Premium charge for ADA trips outside 3/4 mile zone	2	9	3	0	0	5	19
Senior Service - Premium charge for trips outside 3/4 mile zone	2	16	4	0	0	3	25
Senior Service – Eliminate service to Adult Day Health Centers	1	8	1	0	0	9	19
Senior Service - Limit DAR service to origins and destinations within PVRTA member communities	2	4	2	1	0	0	9
All services - Run Sunday service on all Holidays (Routes that do not operate on Sunday will no longer operate on holidays)	15	27	0	0	0	8	50
All services - Reduce all Saturday service to match Sunday ("Weekend" service only) (Routes that do not operate on Sunday will no longer operate on Saturday)	35	54	29	7	6	27	158
Total	682	554	220	37	35	119	1,647

PRELIMINARY

Figure 7.5-1. Service Change Comments By Method Received Totals (chart format)



PRELIMINARY

Table 7.5-3. Service Reduction Comments Category by Route

Service Change Proposal	I think it's OK to reduce this service on the days and times proposed; I don't see many people using it then.	Please don't reduce this service at all.	Please find ways to reduce service during other times of day when I don't ride.	Other
G1 - Reduce service to hourly after 6 PM on weekdays (Reduce from 9 to 4 trips)	1	29	6	17
G2 - Reduce service to hourly after 6 PM on weekdays (Reduce from 9 to 4 trips)	2	16	0	8
G3 - Eliminate the 6:05 PM and 7:05 PM trips departing Union Station	0	19	1	10
B6 - Reduce weekday service from 30 min to 45 min headway after 6 pm	2	14	0	9
B7 - Reduce weekday service from 30 min to 45 min headway after 6 pm	4	25	2	11
B17 - End B17 at Eastfield Mall and add van trips to Eastfield mall within Wilbraham	0	15	0	10
P20 - Reduce weekday service to 60 min headway after 6 pm (Reduce from 10 to 5 trips)	2	25	2	19
P21e - Eliminate only weekend service	0	15	0	13
R24 - Replace fixed route with deviated fixed route	0	6	0	4
30 - End service at 9PM on non-academic "reduced service" days	0	30	1	1
30 - Eliminate Sunday service during non-academic "reduced service" schedule	0	47	2	9
30 - Reduce headways from 30 to 60 min during non-academic "reduced service" schedule	0	27	0	6
31 - Eliminate Sunday service during non-academic "reduced service" schedule	0	74	1	17
31 - End service at 9PM on non-academic "reduced service" days	0	46	1	4
31 - Reduce headways from 30 to 65 min during non-academic "reduced service" schedule	1	33	1	9
33 - Eliminate Sunday service during non-academic "reduced service" schedule	0	22	1	7
34 - Eliminate trips after 8:00PM on weekdays	0	7	1	0

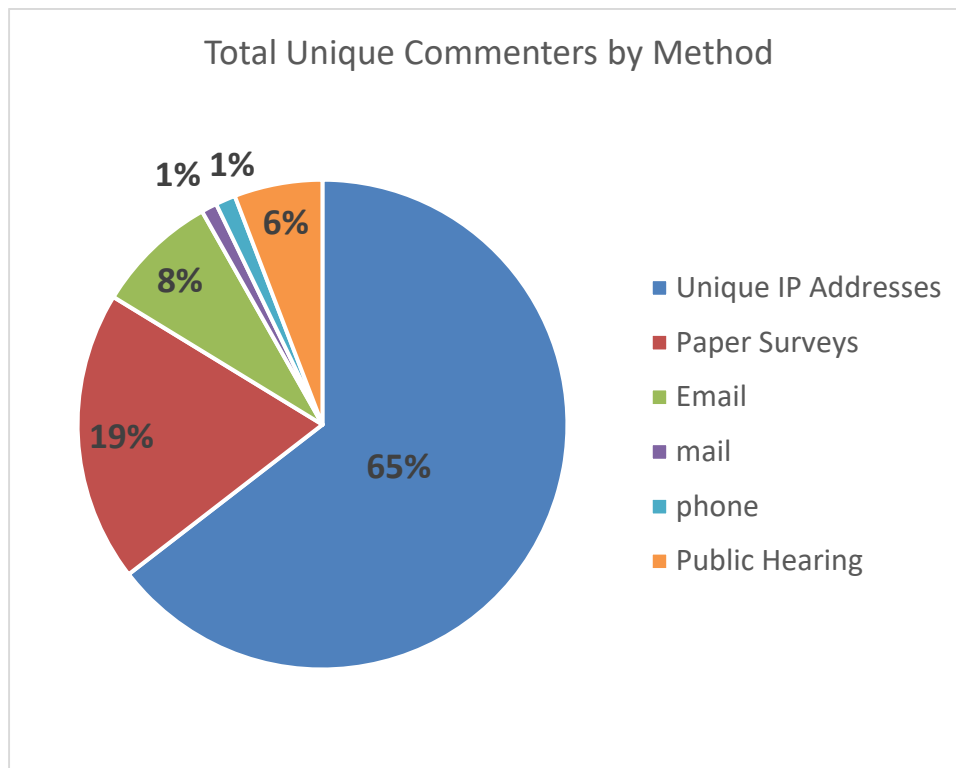
PRELIMINARY

Service Change Proposal	I think it's OK to reduce this service on the days and times proposed; I don't see many people using it then.	Please don't reduce this service at all.	Please find ways to reduce service during other times of day when I don't ride.	Other
38 - Reduce weekday frequency from 40 min to 80 min after 8:00 pm	0	69	12	26
38 - Eliminate Sunday service during non-academic "reduced service" schedule	0	34	7	9
39 - Service to Hampshire Mall after 6:00PM weekdays + weekends	0	30	5	10
39 - Eliminate Sunday service during non-academic "reduced service" schedule	1	31	4	3
B43 - End Sunday service at 10:00PM during non-academic "reduced service" schedule	1	12	0	2
B43 - End Sunday service at 10:00PM during academic schedule	1	22	0	3
B43 - End Saturday service at 10:00PM during non-academic "reduced service" schedule	1	18	1	8
B43e - Eliminate the 8:15am and 4:15pm weekday expresses	0	26	2	7
R44 - Reduce weekend frequency from 60 min to 120 min	0	3	0	1
45 - Eliminate 1 of 8 weekday trips (12:25pm midday trips)	0	7	1	1
46 - Eliminate route	0	4	0	7
X92 - Reduce weekday service from 45 min to 60 min	1	9	0	4
X98 - Eliminate route	1	2	0	2
Ware Shuttle - Restructure route to provide express service to Springfield from Ware and Palmer	0	4	0	4
Nashawannuck Express - Reduce # of weekday + Sat trips from 7 to 2	0	12	0	5
Palmer Van - restructure route to provide express service to Springfield from Ware and Palmer	1	7	0	5
ADA - Premium charge for ADA trips outside 3/4 mile zone	0	5	0	6
Senior Service - Premium charge for trips outside 3/4 mile zone	0	10	1	7
Senior Service - Eliminate service to Adult Day Health Centers	0	7	0	2

PRELIMINARY

Service Change Proposal	I think it's OK to reduce this service on the days and times proposed; I don't see many people using it then.	Please don't reduce this service at all.	Please find ways to reduce service during other times of day when I don't ride.	Other
Senior Service - Limit DAR service to origins and destinations within PVRTA member communities	0	5	0	1
All services - Run Sunday service on all Holidays (Routes that do not operate on Sunday will no longer operate on holidays)	1	21	0	20
All services - Reduce all Saturday service to match Sunday ("Weekend" service only) (Routes that do not operate on Sunday will no longer operate on Saturday)	1	52	4	32
Total	21	840	56	319

Figure 7.5-2. Service Reduction Comment Category by Type



Some people submitted multiple comments on the proposals. The total number of people who commented was therefore lower than the number of comments received.

Figure 7.5-3. Unique Service Reduction Commenters

Method	Count
Unique IP Addresses	686
Paper Surveys	204
Email	86
mail	11
phone	14
Public Hearing	62
Total	1,063

Qualitative assessment of the comments found that the majority have to do with access to employment, followed by the impacts that will be felt by elderly, disabled, and low-income riders. A number also commented on the negative impacts to the student population. A number of the comments also focus on public safety, specifically with regard to college-aged students being stranded late at night.

Table 7.5-4. Service Reduction Comment Topics made by phone, email, mail, or oral testimony

Comment Topic	Count
EMPLOYMENT	73
ELDERLY OR DISABLED	41
EDUCATION	39
INCOME	35
PUBLIC HEALTH/SAFETY	20
ENVIRONMENT	12
EFFICIENCY	4
RACE	2

The plurality of respondents to the online and paper comment forms were non-Hispanic white. A slight majority reported living in households below the federal poverty line.

PRELIMINARY

Figure 7.5-4. Service Reduction Respondent Race/Ethnicity

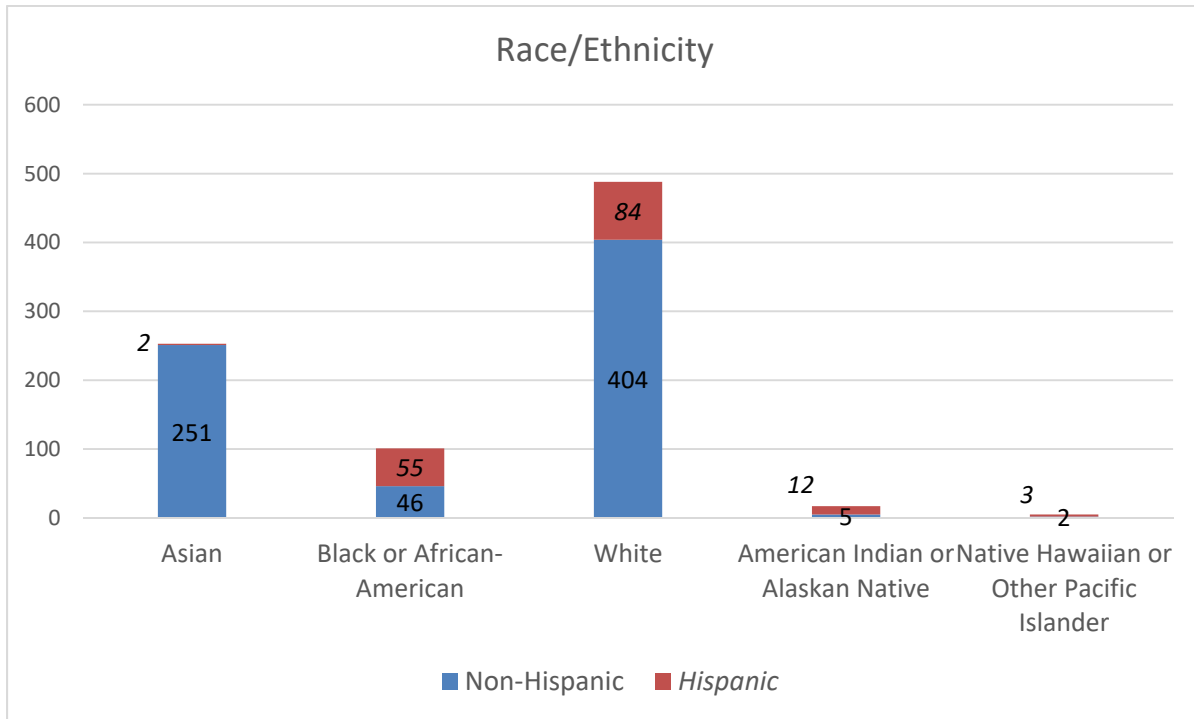
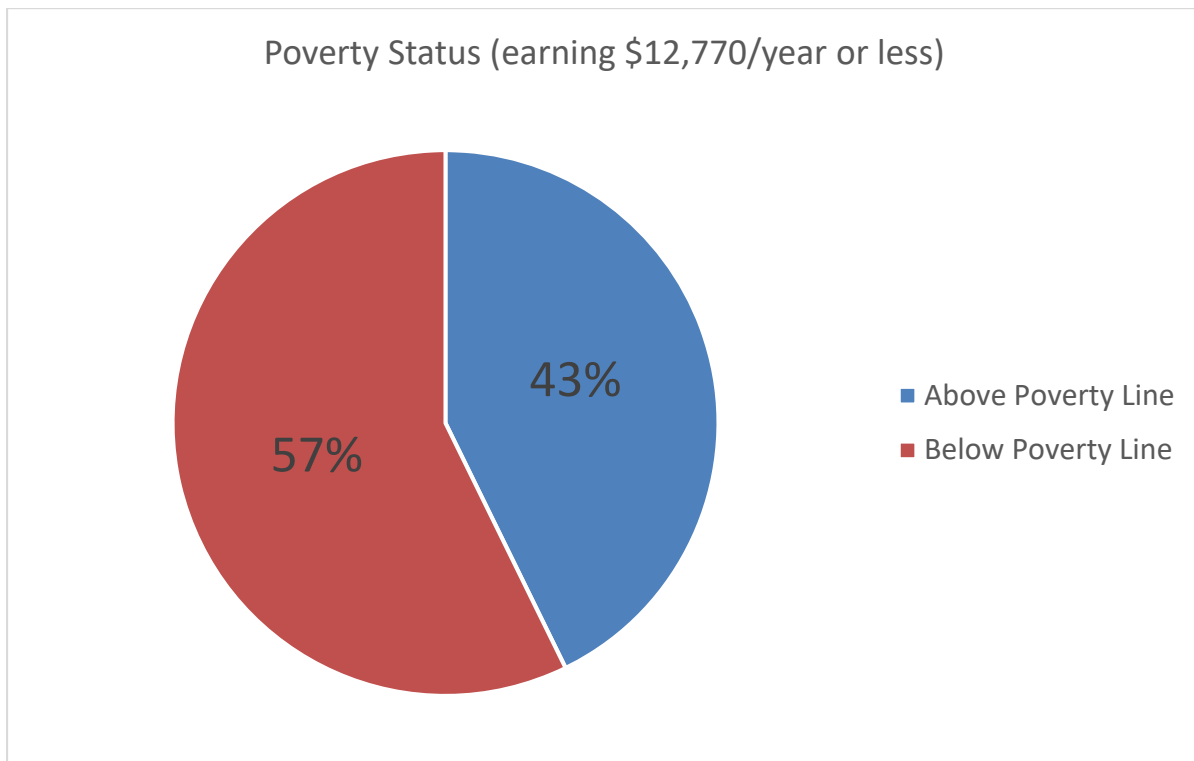


Figure 7.5-5. Service Reduction Respondent Poverty Status



PRELIMINARY

8. Conclusions

PVTA has demonstrated that the proposed service changes with proposed mitigation must be made to achieve the necessary business purpose of balancing the FY2019 operating budget. Without a balanced and approved operating budget for FY2019 (which will begin July 1, 2018), the quality and capacity of all PVTA services are at risk, which could cause adverse impacts for a much larger proportion and number of riders.

- There are 41
- The service change options and associated mitigation as proposed are the least discriminatory alternatives available to PVTA for meeting the necessary business purpose of balancing the agency's FY2019 operating budget.
- PVTA conducted an extensive and thorough public hearing process that fulfills the agency's public hearing policy. More than 500 individuals submitted comments at public hearings, by email, or voicemail. Approximately 1,600 individual comments on the service change options were received, read, logged, categorized, and summarized.
- PVTA reviewed all the comments and in response made many substantive changes to the original service change proposals to mitigate adverse impacts on customers of color and those with low incomes that were described in the comments received.
- The proposed service changes and mitigation measures are consistent with PVTA's policy for disparate and disproportionate impacts, which states: "...in the event that the proposed service change would have an adverse impact that affects customers of color or those with low-incomes (defined as the federal poverty level) more than the non-low income or non-minority populations with a disparity that exceeds the adopted 20% thresholds, PVTA must evaluate whether there is an alternative that has a more equitable impact... and demonstrate that a legitimate business purpose cannot otherwise be accomplished and that the proposed change is the least discriminatory alternative."

PRELIMINARY

Appendix 1: PVTA Background Information

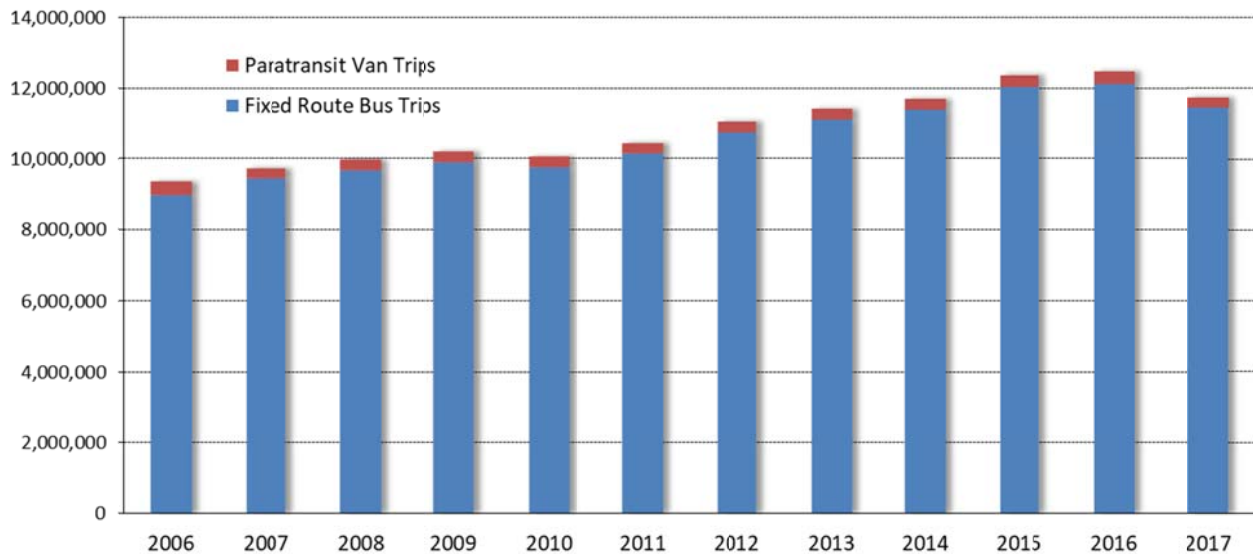
The Pioneer Valley Transit Authority (PVTA) serves 24 member communities in Western Massachusetts with a population of 580,230 (ACS 2015 five-year estimates). PVTA is a designated recipient of FTA funds that provides fixed route bus and ADA demand response public transportation to a geographic area measuring 627 square miles that contains the Cities of Springfield, Chicopee, and Holyoke; the Five Colleges area of Northampton and Amherst, including more than 30,000 students and employees at the University of Massachusetts Amherst; and outlying suburban and rural communities.

PVTA was established in 1974 by MGL Chapter 161B. PVTA owns a fleet of 185 heavy duty transit buses, 144 paratransit vans, and five 18-passenger vans. There are 43 scheduled fixed bus routes, and ADA paratransit van service is provided during the hours and in the entirety of the community that any fixed route operates. PVTA also provides an on-demand Senior Service (“dial-a-ride”) service Monday-Saturday from 8:00AM to 4:30PM that is open to any resident of a PVTA community age 60 and older.

Under Massachusetts law, PVTA may not directly operate transit services. Therefore, PVTA competitively procures private companies to operate its buses and vans. The current operators are UMass Transit Services, First Transit, and Hulmes Transportation Services.

For the most recently concluded fiscal year FY2017 (July 1, 2016 to June 30, 2017), total PVTA system ridership was 11.2 million passenger trips, which is down approximately 7% from 12.5 million trips from the prior year. This drop is similar to losses now being experienced by nearly every transit agency nationwide. There is not yet a consensus among transit sector researchers and practitioners about the reasons why ridership is falling. In the PVTA region, the loss may be due to a combination of circumstances, including increased employment allowing more people to buy a car; unusually low interest rates on car loans; delays on routes in downtown Springfield due to street and lane closures near construction of the MGM Casino and side street impacts from the I-91 reconstruction; delays on Route 9 in Hadley due to road construction; and increased availability of Uber and Lyft ridesharing.

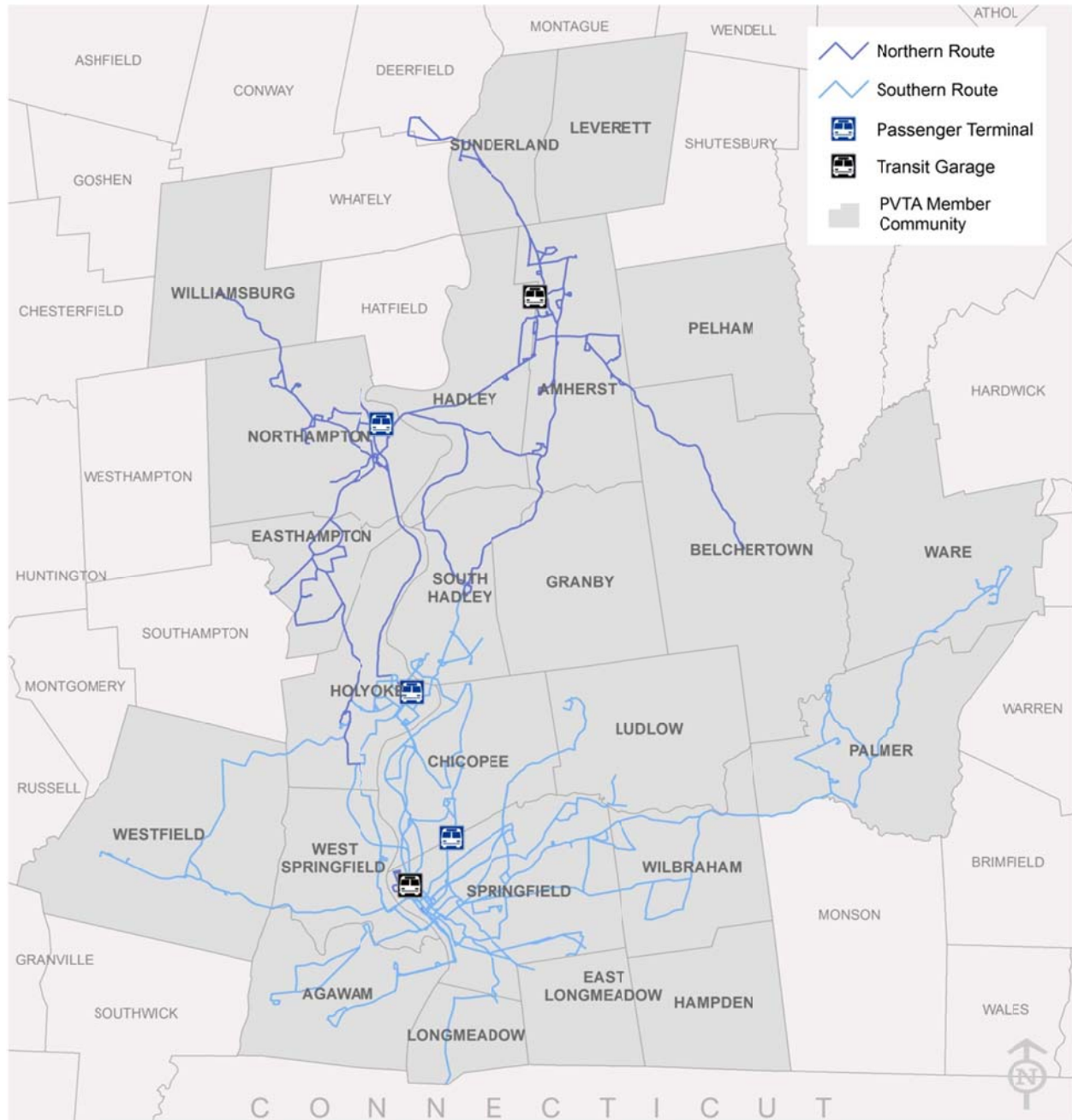
Fig. A1-1: PVTA Ridership FY2006 to FY2017



Source: PVTA

PRELIMINARY

Fig. A1-2: PVTA Service Area



PRELIMINARY

Appendix 2: PVRTA Ridership Profile

PVRTA customers are highly dependent on public transit. “Transit dependent” is generally defined as having no means other than public transit to make a typical trip. A total 68% of PVRTA riders surveyed said they have “No other way to make my trip” (PVRTA 2015-2016 onboard rider surveys, n=2,798).

FTA defines transit dependency as: 1) people without private transportation or private car; 2) elderly age 65 and older; 3) youths under age 18; and 4) persons below poverty or median income. With respect to these characteristics, PVRTA’s most recent customer surveys found:

- 52% of PVRTA customers do not own or have access to a private auto.
- 3.7 % are age 65 or older.
- Approximately one-fifth are 18 or younger.
- More than half (55.2%) of PVRTA riders have incomes at or below the federal poverty level.

Therefore, it is reasonable to conclude that the majority of PVRTA riders are transit dependent. Based on ridership, fare payment data, and customer trip frequencies reported on rider surveys, there are an estimated 15,000 to 20,000 people in the region who use PVRTA on a regular basis (at least once a week).

Fixed Route Customer Demographics

Demographic information presented in this section was compiled from surveys of 2,799 riders performed in 2015 (Hampden County PVRTA routes) and 2016 (Hampshire and Franklin County routes). Additional information is presented from 2014 American Community Survey five year estimates.

Income

PVRTA customers on average have personal incomes that are significantly less than the regional average. In fact, the majority of PVRTA customers report personal income that is at or below the federal poverty level, which is shown below for 2015.

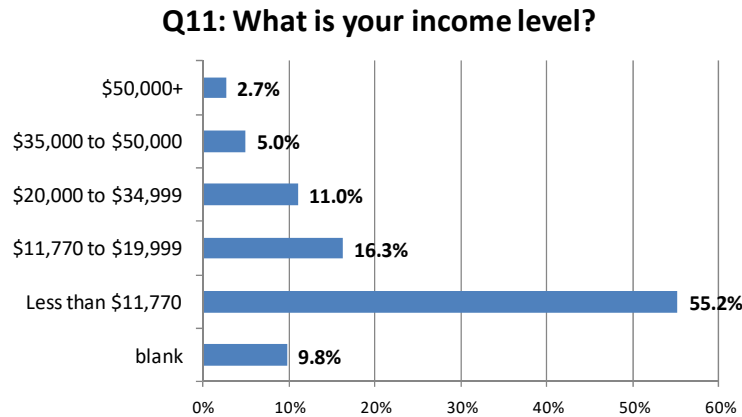
Fig A2-1: Federal Poverty Thresholds 2015

Household Size	Annual Income
1 person	\$11,770
2 people	\$15,930
3 people	\$20,090
4 people	\$24,250
5 people	\$28,410
6 people	\$32,730

Source: U.S. Department of Health and Human Services

Results from the 2015 and 2016 PVRTA Customer Survey presented below show that more than 55% of PVRTA customers are at or below the federal poverty level.

Fig. A2-2: PVTA Customers' Annual Income



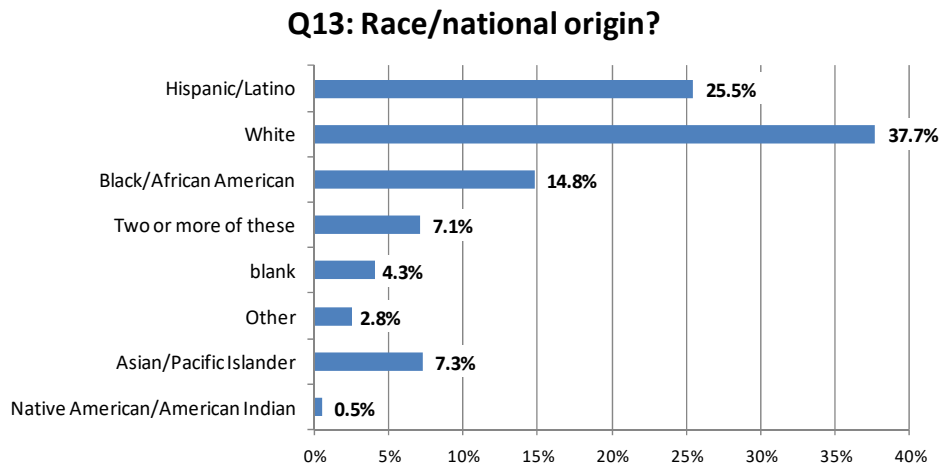
PVTA On Board Customer Surveys 2015 and 2016. N=2,798

This finding is generally consistent with U.S. Census American Community Survey 2014 five-year estimates for income, which report that 55% of commuters who take transit to work make less than \$10,000/year. Another 29% earn between \$10,000-14,999, of which approximately 6% can reasonably be estimated to be below the \$11,700 federal poverty threshold shown below. Therefore, the estimated proportion of transit commuters only in the region below the poverty level is at least **61%**.

Race and Ethnicity

People of color are the majority of PVTA riders, constituting at least 62% of customers surveyed in 2015 and 2016.

Fig A2--3: Racial Characteristics of PVTA Customers



PVTA On Board Customer Surveys 2015 and 2016. N=2,798

The proportion of transit commuters in the PVTA service region who are people of color is approximately four times greater than the proportion of persons of color in the region as a whole.

PRELIMINARY

Fig A2-4: Regional Commuting by Public Transportation by Race

Race	Proportion of Commuters Who Take Public Transportation to Commute to Work		
	Hampden County	Hampshire County	PVTA Riders Who Use Bus to Commute to Work (25% of riders surveyed)
American Indian/Alaska Native	0.4%	0.0%	0.6%
Asian	1.4%	24.4%	3.1%
Black/African American	27.5%	3.1%	19.8%
Hawaiian/Pacific Islander	0.0%	0.0%	0.0%
Hispanic/Latino	41.8%	9.5%	33.8%
White	45.5%	70.1%	29.8%
Another Race	20.2%	0.6%	3.3
Two or more races	5.1%	1.7%	9.7%

Source: American Community Survey 2014 five-year estimates; PVTA Customer Surveys 2015 and 2016

Language and English Proficiency

For languages spoken, the proportion of PVTA customers surveyed in 2015-2016 who said they speak only Spanish was 1.1%. This is much lower than the regional average of 6.3%. However, 6% of PVTA riders who took the survey chose the Spanish language form, which suggests the actual proportion of PVTA customers who speak only Spanish is greater than 1.1% and probably closer to the regional average of 6.3%.

Also, in Hampden County (where two-thirds of PVTA riders live) the proportion of PVTA customers who speak both Spanish and English is nearly double (31.5%) the countywide average (16.8%). While the PVTA survey was not able to ask how well bilingual customers speak English, the ACS 2014 five-year estimates for Hampden County suggests that approximately one-third of Spanish/English bilingual persons “Do Not Speak English Well or At All.” Therefore, it is likely that at least one-third of PVTA customers in Hampden County (approximately 10%) also do not speak English well or at all. It is for this critical reason that PVTA provides all rider information in Spanish, as well as English.

PRELIMINARY

Additional Appendices

The following supporting information will be made available via PDF download from www.pvta.com. Link URL addresses will be made available in the final version of this document.

1. PVTA Public Hearing, Disparate, and Disproportionate Impact Policies (adopted 9/23/15 and updated 11/15/17).
2. Public hearing sign-in sheets (available only upon request to allow redaction of personal information to protect privacy).
3. Transcripts of 9 public hearings and individual comments given at each hearing.
4. Public comments received by email 2/5/18 through 3/14/18.
5. Summary of public comments received as voicemail messages 2/5/18 through 3/14/18.
6. Letters and correspondence received 2/5/18 through 3/14/18.