Harrisonburg Department Of Public Transportation Transit Development Plan
(FY2018-FY2027)




Final Report

November 2017
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Prepared for

CITY OF HARRISONBURG VIRGINIA

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Harrisonburg Department of Public Transportation Transit Development Plan FY2018 - FY2027

Executive Summary

INTRODUCTION

In the Commonwealth of Virginia, a transit development plan (TDP) is a short-to mid-range plan that outlines the transit improvements that are planned for implementation during a ten-year planning horizon; estimates what resources will be needed; and what funding programs are likely to be available. The Virginia Department of Rail and Public Transportation (DRPT) requires that all grantees that receive state public transportation funds prepare, adopt, and submit a TDP. Prior to 2017, DRPT required a six-year plan with an annual update letter. DRPT transitioned to a ten-year planning cycle with annual updates in FY2017. DRPT provides funding and technical assistance to complete these ten-year plans.

This Executive Summary provides an overview of the TDP that has been prepared for the Harrisonburg Department of Public Transportation's (HDPT) transit program for the planning period that includes FY2018 through FY2027. The development of the HDPT TDP has included four draft chapters that provided an overview of public transportation in the City of Harrisonburg and developed alternatives for consideration for the 10-year plan. The chapters discussed goals, objectives, and standards; analyzed the current services operating in the region; documented unmet transit needs; and proposed alternatives for HDPT and local stakeholders to consider for implementation over the ten-year TDP planning period. Chapters 4-6 provide the ten-year Service and Capital Improvement Plan, along with the companion implementation and financial plans.

A TDP study committee, comprised of area stakeholders and HDPT staff, has guided the development of the plan. Public opinion has been considered and was sought through a rider survey, as well as through a public survey that was primarily administered online. The TDP process was initiated in September 2016, completed in September 2017, and the final report issued in November 2017, with the process completed in March of 2018 when the Harrisonburg City Council adopted the TDP.

OVERVIEW OF THE TEN-YEAR PLAN

This Executive Summary provides an overview of the specific projects that HDPT and local stakeholders have chosen to implement over the ten-year period. The plan is organized into two primary sections: Service Plan and Capital Plan. The service plan includes a section outlining marketing and planning projects. While the TDP proposals have been assigned specific implementation years, the implementation schedule for each plan will be dependent upon funding from federal, state, and local entities.

SERVICE PLAN

The service plan focuses on the following types of improvements:

- Schedule improvements, which serve to extend the hours of operation for the existing route network,
- Specific route improvements and additional routes, which propose changes and expansions to the existing route network, and
- Marketing and planning projects.

The proposed projects are outlined below.

Schedule Improvements

The projects outlined in this section focus on a number of scheduling initiatives that apply to more than one route or service. The origin for most of these proposed improvements was either the customer survey or the stakeholder input.

Scheduling Improvement #1- Add Service Later in the Evening for City Routes (Monday- Friday)

Currently the HDPT city routes end service for the day between 6:16 p.m. and 6:56 p.m., Monday through Friday. The focus of this improvement is to add three hours of service for each of the city routes so that riders have increased opportunities to access jobs that end later than 6:00 p.m., and to make evening shopping/social/personal errand trips. Of the four scheduling options described within this section, the consensus of the stakeholders was that service later in the day during the week for the city routes is the most important of the four scheduling improvements. Additional ADA paratransit coverage will also be needed for these added hours for the summer when no other routes are operating. This improvement is scheduled for implementation in FY2019.

Schedule Improvement #2- Operate Full Schedule on Saturdays for City Routes

Feedback from drivers indicated that the city routes need to operate on the same schedule on Saturdays that they do during the week, particularly to access work opportunities. Currently, the city routes do not start operating until between 8:30 a.m. and 9:09 a.m., and end service between 5:16 p.m. and 5:56 p.m. depending upon the route. This improvement will add two additional revenue hours in the morning for each route and one additional revenue hour in the afternoon, for a total of three additional revenue hours per route per Saturday. The total additional annual revenue hours estimated for this improvement is 936. Additional ADA paratransit coverage will also be needed. This improvement is scheduled for implementation in FY2019.

Schedule Improvement #3 – Start the City Routes Earlier in the Morning (Monday-Friday)

The rider surveys and stakeholder input suggested that the city routes do not start early enough for people who have a work report time of 7:00 a.m. Starting the city routes one hour earlier will provide this option for most riders. Adding one revenue service hour per route will add six revenue hours per weekday, for a total of about 1,530 annual revenue hours. Some minimal additional ADA paratransit service may also be needed, though paratransit riders can typically already reach a 7:00 a.m. destination. This improvement is scheduled for implementation in FY2020.

Schedule Improvement #4- Add Service on Sundays for City Routes - Shorter Schedule

Feedback from riders and stakeholders indicated that service is needed on Sundays for the city routes. Driver input suggested that all of the city routes should be operated, but that a shorter service day would likely be sufficient to meet the demand for service on Sundays. A suggested schedule is 8:30 a.m. to 4:30 p.m. This level of service will allow riders access to church, shopping, and other activities on Sundays, but will likely only be helpful for limited work schedules. The total number of revenue hours per Sunday (all six routes, eight hours each) is 48 hours per Sunday. Additional ADA paratransit coverage will also be needed for the summer months when no other services are operating, as well as to cover areas of the city that are not served by the JMU Sunday routes. This improvement is scheduled for implementation in FY2021.

Specific Route Improvements and Additional Routes

The improvements set out in this section represent changes to routes, route extensions, and/or new routes. These are intended to enhance service, efficiency, and the passenger experience. They were developed and refined based on discussions with HDPT staff, suggestions provided by customers via the rider survey, and input from other stakeholders.

Route Improvement #1 – Downtown/JMU Circulator – Event Shuttle: Routes 210/Route 505

Feedback from James Madison University (JMU) stakeholders and Harrisonburg Downtown Renaissance (HDR), requested the exploration of circulator service through downtown, with a connection to JMU. The purpose of this route is to provide a direct connection between JMU and downtown, as well as connecting downtown locations with parking opportunities. This type of route was viewed as especially helpful for event days at JMU. Event days could include those where there is a significant increase in visitors and a high demand for parking, such as JMU home football games, JMU graduation, and the city's holiday parade.

HDPT is implementing these concepts in FY2018 using two routes – the Route 210, which operates Friday and Saturday evenings from 10:00 p.m. to 2:17 a.m. during the JMU academic year; and the Route 505, which will operate for event days.

The Route 210 will replace one of the previous late night routes (Route 35) and will provide a connection from several campus locations to downtown Harrisonburg via Grace Street Apartments. The Route 505 will provide service from area hotels to the JMU campus and downtown, operating on days where there are special events planned in Harrisonburg. Figure ES-1 provides a map of the Route 210 and Figure ES-2 provides a map of the Route 505.

Figure ES-1: HDPT Route 210

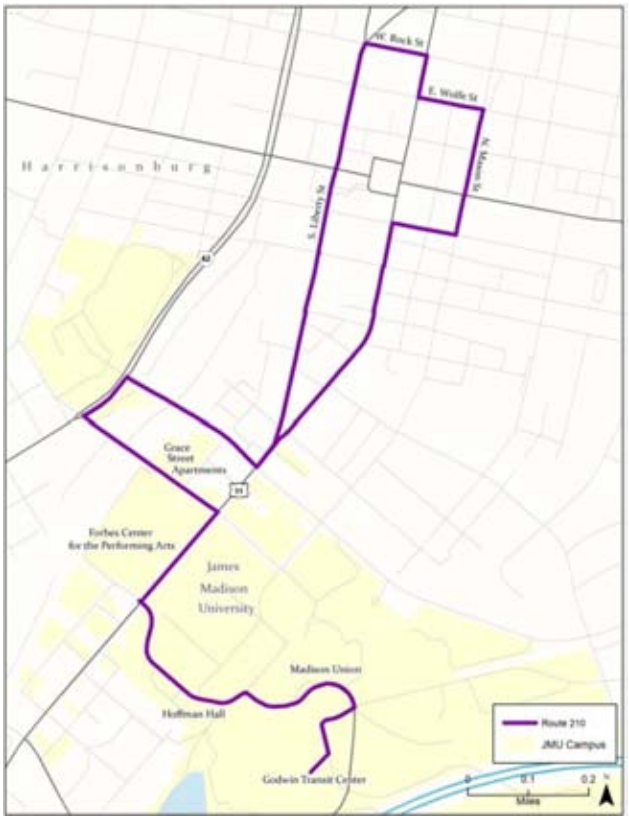


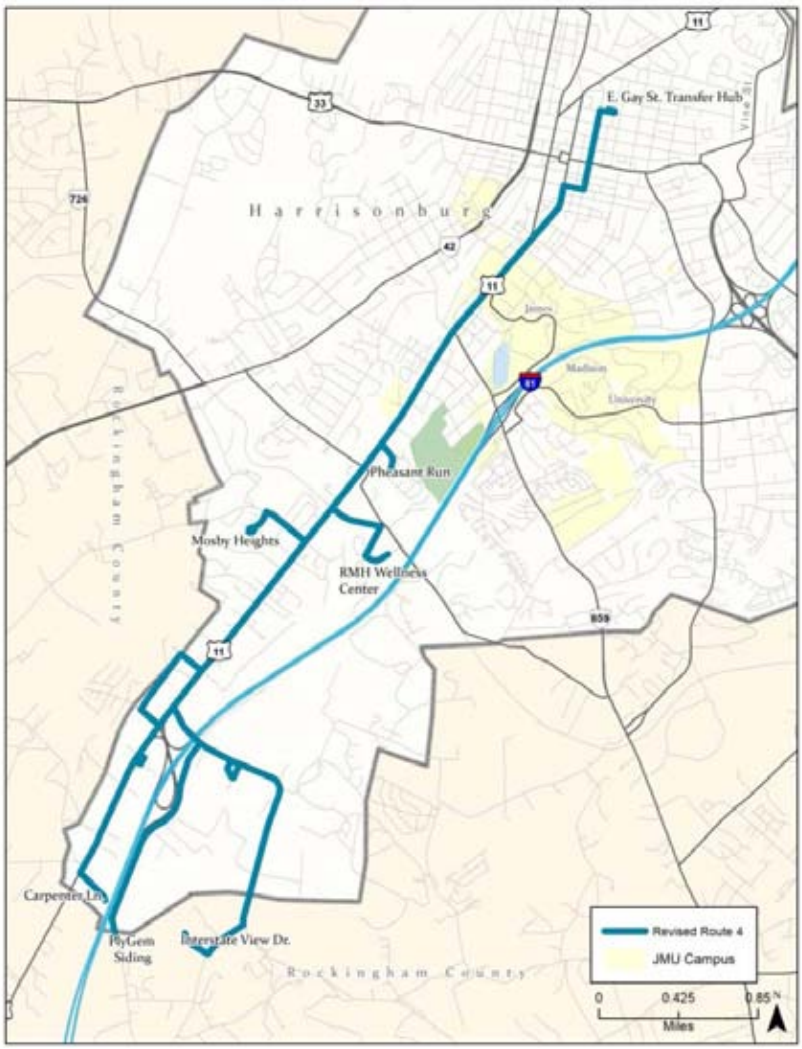
Figure ES-2: HDPT Route 505 Event Shuttle

Route Improvement #2 – Adjust Route 4 to Remove it from the Cloverleaf Shopping Center

Feedback from drivers indicates that Route 4 does not have enough time built into the schedule to complete the route when there are deviations. HDPT sends out a tripper bus to help the route maintain its schedule if too many people call to request deviations. One possible solution is to remove the part of the route that travels to Cloverleaf Shopping Center (a 2.2 mile segment) to reduce the mileage traveled and the associated time. The Cloverleaf Shopping Center serves as a secondary hub for HDPT, and is also served by Routes 1, 2, 3, and 5.

Removing this segment will simplify the route, keeping it on the South Main Street corridor. A map of this proposed change is provided as Figure ES-3. This improvement is scheduled for implementation in FY2019.

Figure ES-3: Revised Route 4



Route Improvement #3 –
Provide a Daily (Monday-Friday) Route to Bridgewater and Dayton and possibly Mt. Crawford

HDPT currently offers limited service to Bridgewater and Dayton (Tuesdays and Thursdays, two to three vehicle round trips). In addition, BRITE's BRCC North service links Harrisonburg, Dayton, and Bridgewater as it travels south to BRCC. The unmet need, according to area stakeholders, is for bi-directional service between Bridgewater, Dayton, and Harrisonburg that would allow residents of Harrisonburg to access job opportunities at the major employers in the Route 42 South Corridor, as well as allowing Bridgewater and Dayton residents to access job opportunities and services in Harrisonburg. There have also been requests for service to and from Mt. Crawford and this option could be included. Dayton, Bridgewater, and part of Mt. Crawford are located within the Harrisonburg Urbanized Area.

This route would also provide a northbound connection between Bridgewater College and JMU.

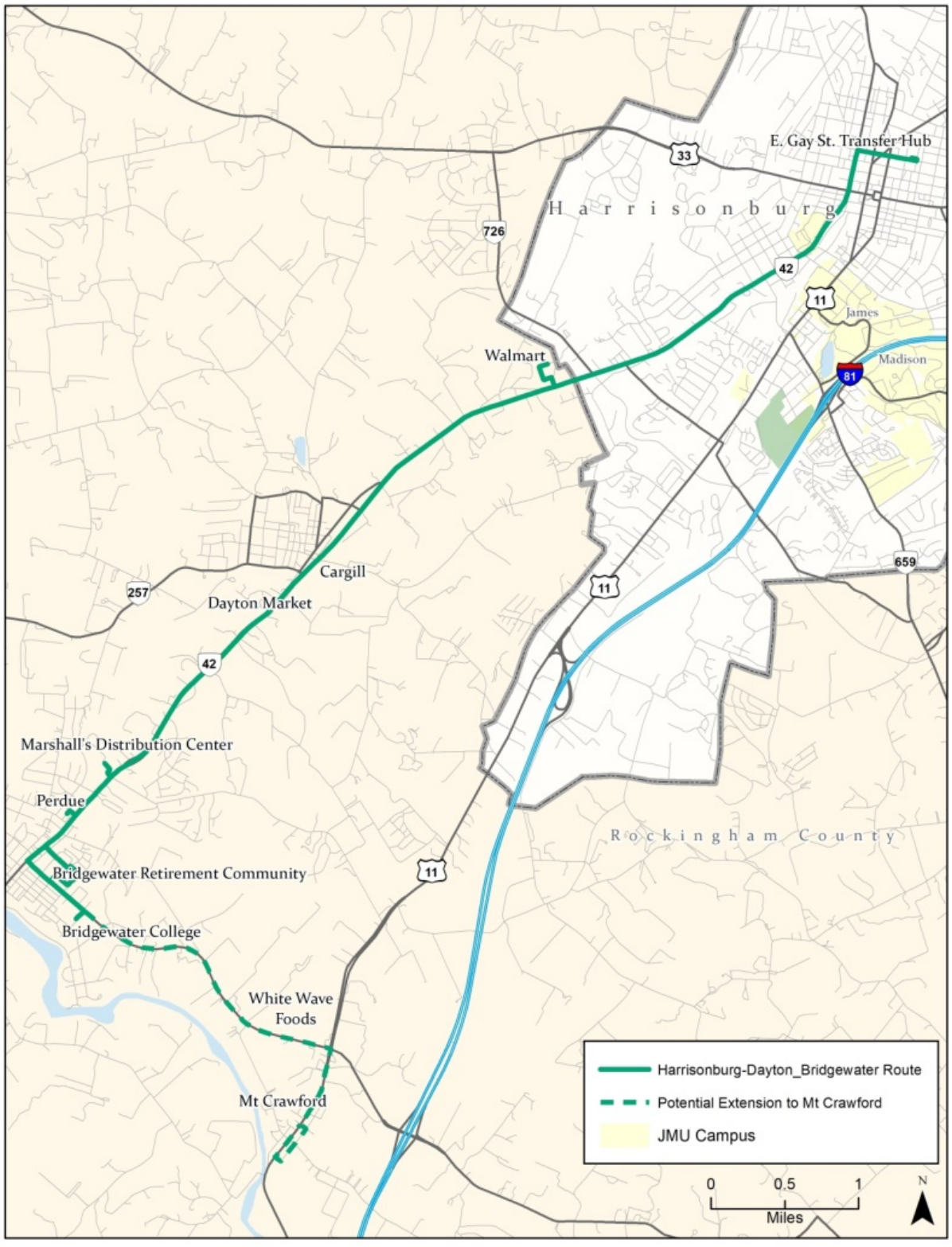
It is proposed that this route operate as a deviated fixed route once outside the City of Harrisonburg, in recognition of the more dispersed origins and destinations, and to provide service for people with disabilities.

As shown in Figure ES-4, the route without deviations and without Mt. Crawford is about 9.3 miles each way. Given this route length, each round trip would likely take about one hour and 15 minutes, assuming modest deviations. If the route were to extend to Mt. Crawford, each round trip would likely take about 1.5 hours. The total one-way mileage of the route with the Mt. Crawford option is 12.6 miles. The current operating speed for the Dayton-Bridgewater Shuttle is 16.7 miles per hour.

When this route is implemented, it is recommended that HDPT work closely with BRITE to ensure that service is complementary, rather than duplicative from Harrisonburg south to Bridgewater. The current BRCC North schedule leaves JMU southbound at 7:07 a.m. and again at 17 minutes after the hour, on hourly headways from 8:17 a.m. to 10:17 p.m.

Outreach will be needed to the Towns of Bridgewater, Dayton and Mt. Crawford; major employers in the corridor; Bridgewater College; and Rockingham County to gauge interest in contributing to the necessary local match to fund the route. This improvement is tentatively scheduled for implementation in FY2022, pending further study and the availability of local funding.

Figure ES-4: Harrisonburg-Dayton-Bridgewater-Mt. Crawford



Route Improvement #4 – Add a Reverse Loop Vehicle for Route 1 and Route 3

Riders and stakeholders indicated that shorter travel times via HDPT are desired. Improved frequency was also highly desired. One option that could help with travel time would be to add a vehicle in the reverse direction for HDPT's most productive, loop-style, city routes. These routes are Route 1 and Route 3. In FY2016, these routes each provided about 80,000 passenger trips with productivities of about 23 passenger trips per revenue hour. A reverse direction vehicle would be particularly helpful with Route 1's path of travel through the Valley Mall and Walmart areas, as it is currently circuitous to allow for bi-directional service to these major trip destinations. This improvement is tentatively scheduled for implementation in FY2025.

Route Improvement #5 – Continue to Partner with JMU on Service Needs

While there is not a specific additional project to be described to help meet the mobility needs of the JMU community, the campus is dynamic and locations where students choose to live change with relative frequency. This improvement is a place-holder to ensure that HDPT continues to partner with JMU to help minimize the need for students, faculty and staff to drive to campus. There will likely be transit projects associated with JMU that arise during the ten-year planning period that are not articulated within this plan. HDPT can adjust the plan accordingly as the need arises.

Marketing and Planning Projects

Marketing Improvement #1 – Develop Full System Map

Comments received from passenger and public surveys, and from stakeholders, indicated that it is difficult to understand how the bus route network works as a system, as a full system map is not available. Maps for individual city routes are posted on HDPT's website in PDF form, but there is no map of all the routes together. This improvement includes developing the system map so it can be viewed via computer or mobile device, as well as downloaded and printed. As part of the route analysis for the TDP, KFH Group has updated all route maps using ArcGIS. These files have been sent to HDPT so that the full system map can be developed. The city's Community Development staff members have some expertise with GIS and will be able to complete this task. HDPT is implementing this improvement in FY2018.

Marketing Improvement #2 – Education for JMU Students

One of the initial concepts discussed for JMU service was an increase in Inner Campus Shuttles (ICS) service, as these vehicles often operate at capacity. Comments from the survey discussed a desire for less crowding. Subsequent discussions with operating staff revealed there may not be road capacity for additional ICS buses on campus during peak times, and that the way in which the off-campus routes are designed serves to provide significant additional cross-campus service. The problem is that students do not necessarily know that many of the HDPT routes also travel from one side of campus to the other, as the head signs indicate other destinations.

The focus of this improvement is to develop an educational piece, perhaps a YouTube video, that explains how the routes work together to help provide additional on-campus mobility. Another facet could include adding additional staff or volunteers at each on-campus bus stop at the beginning of each semester to provide specific information about how to use the system. HDPT already provides some outreach to students during orientation, but until the students use the system, the nuances may not seem relevant. HDPT is implementing this improvement in FY2018.

Planning Project #1 – JMU Route Optimization

Including the weekday, evening, late-night, and weekend transit services, HDPT operates about 30 routes that are oriented to the needs of the JMU community. These routes provide service from local student apartment complexes to campus, provide campus mobility, and allow on-campus students to access a number of destinations in Harrisonburg. Together, these routes provide over 2.4 million passenger trips each year.

The route network has grown incrementally over the years as apartment developers have continued to add new student-oriented housing throughout Harrisonburg and into Rockingham County. As the network has grown, HDPT has worked to develop synergies among the routes so that they work together to maximize mobility, both on and off-campus.

Given the size and complexity of this route network, JMU would like an in-depth study of how they operate in order to optimize the service provided. While the TDP does address some routing initiatives, an in-depth study of the JMU network was beyond the scope of the TDP. This type of analysis will be significantly easier to conduct once HDPT fully integrates the new automatic passenger counters (APCs) for fixed routes, the implementation of which is currently in process.

The following issues should be addressed within the route optimization study:

- Should the routes continue to operate on different schedules based on the Monday-Wednesday-Friday and Tuesday-Thursday class schedules?
- Do the "long" and "short" versions of the routes make sense? Is this the best way to maximize service hours?
- Should there be a consideration of "clock-face" scheduling, where routes are scheduled to leave at a particular time past the hour, each hour?
- Are there ways to increase capacity and reduce travel time?

This project is scheduled for implementation in FY2020.

Planning Project #2 – Work with Rockingham County to Develop UDA Service

Rockingham County has a designated urban development area (UDA), located adjacent to the City of Harrisonburg, along the southeastern border of the city. The county received an Urban Development Area Grant in 2016 to help develop a vision for future growth within the UDA.

A presentation concerning the UDA planning process indicated that the Draft UDA Plan will provide a "Complete Streets" approach that will include a variety of travel options (vehicular, transit, pedestrian, and bicycle.)[1] It will be important for HDPT to stay involved with this process to ensure that transit services planned for the UDA can be integrated with the existing HDPT fixed route network.

HDPT currently provides service to Sentara Rockingham Memorial Hospital, as the hospital is an important destination for city residents. In addition, HDPT provides service to the Aspen Heights apartment complex during the JMU academic year, as well as to the recently constructed Retreat on Reservoir Street (through contractual arrangements with the developers). The UDA overlaid with the current transit services is provided as Figure ES-5.

The focus of this planning project is to work with the county to design new transit services for the UDA as it develops. New transit services within the UDA should connect new housing, shopping, medical, and employment destinations within the UDA, as well as directly connecting to the city's established route network.

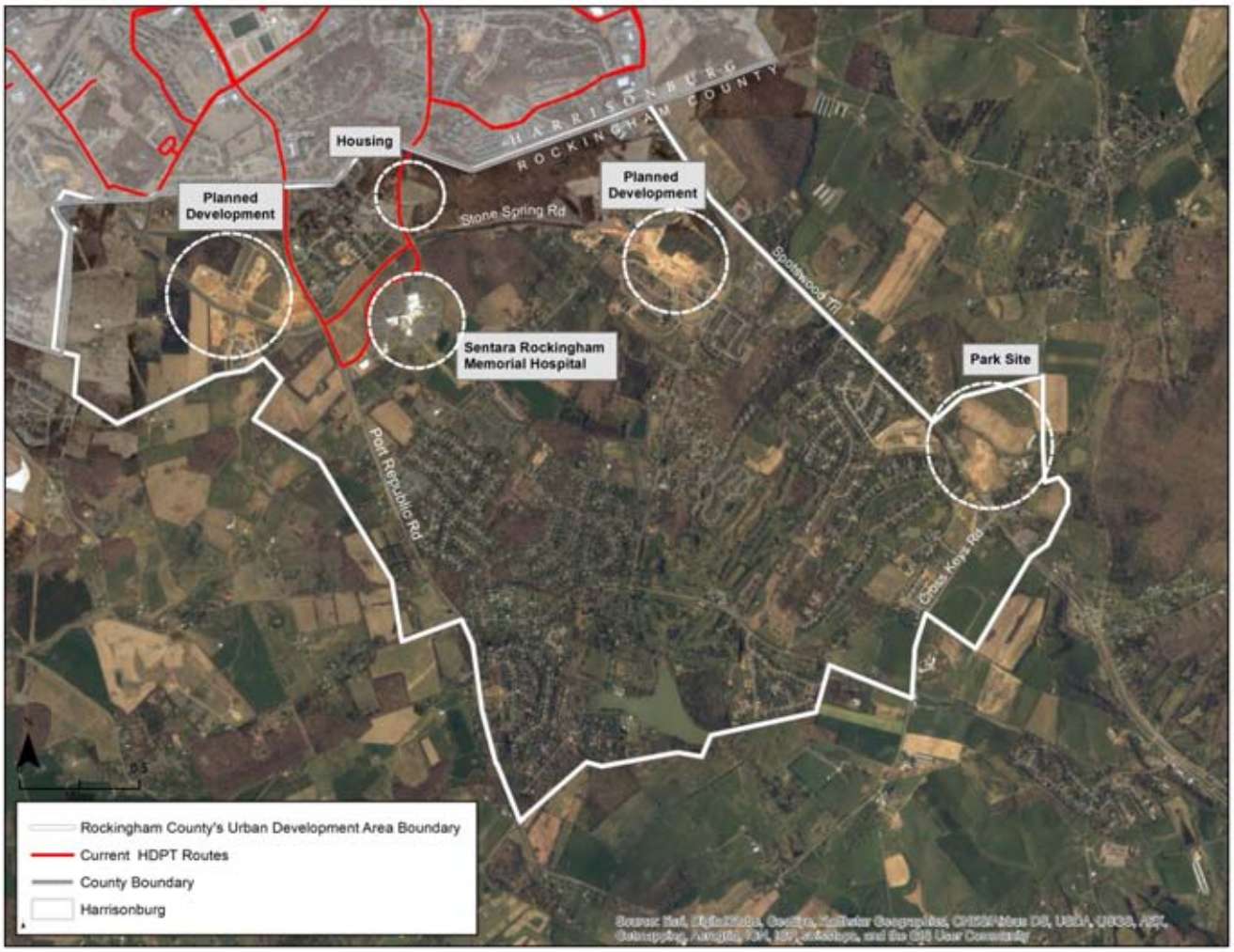
Because the UDA Plan is not yet completed, additional details regarding this improvement have not been fully crafted. It is included as a TDP project, as development will likely occur within the ten year period covered by the HDPT TDP. Once the need for service is more fully

[1] Draft UDA Plan, page 13.

defined, it will be possible to propose specific transit projects to meet new transit needs within as well as to/from the UDA.

Any services implemented within the UDA could be funded through FTA Section 5307, state operating assistance, and local funding provided through fares, Rockingham County and/or local developers and major employers. This planning project is tentatively scheduled for implementation in FY2022.

Figure ES-5: Rockingham County's UDA and Existing HDPT Routes



Planning Project #3 – Work with Rockingham County on Other Potential Route Extensions

Survey comments and feedback from HDPT drivers, indicated that there are unmet transit needs for other areas of Rockingham County, including areas that are directly adjacent to the City of Harrisonburg. These areas include the following:

- U.S. Route 11 South, south of the current Route 4 terminus
- U.S. Route 11 North, north of the service currently provided via Route 3
- Pleasant Valley Road and Greendale Road, east of the current Route 4 terminus

While service into these areas may currently be beyond the mission of HDPT, if Rockingham County were to invest in transit services these areas (in addition to the UDA area) would be good candidates for services that feed into current HDPT routes. This planning project is tentatively scheduled for FY2024.

CAPITAL IMPROVEMENT PLAN

Capital Improvement #1- Develop a Purpose-Built Transfer Center and Park and Ride

HDPT has historically provided public transportation throughout the city using a timed transfer route network, whereby the city routes meet each hour at a central location so that passengers can transfer from one route to another to access most areas of the city. Currently the primary transfer location is in the Roses/Merchant Tire shopping center parking lot. There is a secondary transfer location for the city routes at the Cloverleaf Shopping Center. In addition, the JMU-oriented routes, as well as Route 3, use the Godwin Center on the JMU campus as a transfer location.

This location has proven to be acceptable geographically for the routes; however, there are several issues about the site that make it less than ideal. The issues are listed below.

- There is no protected pedestrian access to the site.
- There are no driver restrooms, though HDPT does have an arrangement whereby Merchant's Tire allows drivers to use their restroom.
- HDPT does not control the site which makes it difficult to make improvements.
- There are limited security features at the site.

The focus of this option is for HDPT to construct its own facility that would be built specifically as a bus transfer center, including covered passenger waiting, bicycle and pedestrian facilities, driver restroom, information kiosk, and security cameras. A park and ride lot should also be considered, as there is not one located in Harrisonburg. HDPT staff indicated that the site for the transfer center does not necessarily have to be downtown given the high cost of real estate within the downtown area.

This planned facility could be considered for a future intercity bus stop. Intercity bus service in the I-81 corridor was recently initiated, with the Harrisonburg stop located at the Godwin Transfer Center on the JMU Campus.

The City of Harrisonburg currently has $500,000 set aside for the development of a transit center. Given that federal and state funds will typically fund up to 90% of the cost, Harrisonburg's $500,000 could be used as match for a total facility cost of up to $5 million, if federal and state funds are available for the project. This type of project, assuming a park and ride lot were to be included, may be a good candidate for SMART SCALE Grant funding. This improvement is scheduled for implementation over a three-year period (FY2018, FY2019, and FY20120) to allow for real-estate acquisition, design, and construction.

Capital Improvement #2 – Continue to Provide Additional Shelters and Benches

HDPT has added sixteen shelters since the 2011 TDP and plans to continue its program of providing passenger amenities at stops with usage that warrants these improvements, as well as for new stops. Staff noted that currently the high priority areas for additional shelters are as follows:

- Larger shelter at Walmart
- Shelter at Target
- Shelters at the bus stops that serve Squire Hill Apartments and Fox Hill Apartments on Devon Lane
- The shelter at Harrisonburg High School on Garber's Church Road is on the opposite side of the street as the direction of travel for Route 3. There should be a shelter on the other side of the street.

These improvements are scheduled for each year of the TDP period.

SUMMARY OF PLANNED IMPROVEMENTS

Table ES-1 provides a summary of the potential improvements described within this chapter.

Table ES-1: Summary of Service Improvement Options

Planned Implementation Year	Service Improvement Options	Annual Operating Hours	Annual Operating Costs	Capital
	Schedule Improvements			
FY2019	#1 - Add Service Later in the Evening for the City Routes (Monday- Friday)	4,990	$294,410	$0
FY2019	#2 - Operate Full Schedule on Saturdays for the City Routes	1,092	$64,428	$0
FY2020	#3 - Start the City Routes Earlier in the Morning (Monday - Friday)	1,530	$90,270	$0
FY2021	#4 - Operate Service on Sundays for the City Routes - Shorter Schedule	2,704	$159,536	$0
	Route Improvements			
FY2018	#1 - Downtown/JMU Circulator - Route 210/Route 505	Minimal new hours	Included in FY2018 budget	$0
FY2019	#2 - Adjust the Route 4 to Eliminate the Cloverleaf Shopping Center		Minor savings	
FY2022	#3 - Add a Daily (M-F) Route to Dayton/Bridgewater	3,060	$180,540	$420,000
FY2025	#4 - Add a Reverse Loop for Routes 1 and 3	7,000	$413,000	$840,000
	Marketing and Planning Projects			
FY2018	Marketing Project #1 - Develop Full System Map		Staff Time	
FY2018	Marketing Project #2 - Education for JMU Students		$5,000	
FY2020	Planning Project #1 - JMU Route Optimization		$100,000	
FY2022/23	Planning Project #2 - Development of UDA Service		Staff Time	
FY2024	Planning Project #3 - Other Route Extensions into Rockingham County		Staff Time	
	Totals	**20,376**	**$1,307,184**	**$1,260,000**
	Capital Improvement Options			
FY2018/19/20	#1 - Develop a New Transfer Center and Park and Ride			$5,000,000
Each Year	#2 - Continue to Provide Additional Shelters and Benches		Per Year	$20,000

Note: This implementation schedule is dependent upon further study and funding from federal, state, and local entities.

Funding TDP Improvements

The cost information provided within the TDP is based upon the fully allocated operating costs for service expansions. The capital costs are shown as full costs. The local costs required to implement improvements will likely be significantly less than the total costs shown, as HDPT does not currently use all of the federal operating funds for which it is eligible. Federal operating funds can be used to fund up to 50% of the total operating cost for a service. In addition, DRPT has historically funded about 16% of the operating costs for service. The DRPT funding is not guaranteed, but is typically available.

An example of how these federal and state funds could reduce the local cost required for improvements is provided below:

Sample Total Operating Cost	$200,000 total cost for service
Subtract Fare Revenue	- $ 12,000 (assuming a city route)
Net Deficit	= $188,000
Apply Federal S.5307	- $94,000
Apply State Funding	- $30,080
Local Funding Needed	= $63,920

In addition, federal and state funds are typically available for 90– 95% of capital purchases, depending upon the purchase.

FINANCIAL PLAN

The financial plan addresses both operations and capital budgets, focusing on the project and capital recommendations that are highlighted in Chapter 4 and the implementation schedule and capital needs highlighted in Chapter 5. The projects indicated in years 1-3 should be considered short-term, those in years 4-7 are considered mid-term, and those planned for years 8 - 10 should be considered long-term projects. It should be noted that over the course of the ten-year period there are a number of unknown factors that could affect transit finance, including: the future economic condition of the City of Harrisonburg, James Madison University, and the Commonwealth of Virginia; the availability of funding from the Federal Transit Administration; the Commonwealth Transportation Fund; local sources; and the results of the 2020 U.S. Census. In addition, the Virginia Department of Rail and Public Transportation (DRPT) is currently conducting a financial planning study to determine the most feasible way to replace revenue bonds that expired in Fy2016 and had been used to fund transit capital projects. The decisions made based on the funding study will affect future transit capital funding scenarios.

Operating Expenses and Funding Sources

Table ES-2 provides a financial plan for the operation of HDPT's services under the ten-year plan, including the existing transit program as well as for the service projects that are recommended. Table ES-3 identifies the funding sources associated with these service projects. A number of assumptions used in developing the operating cost estimates are described below.

For FY2018, the first year of the plan, the expenses and revenues are based on HDPTs adopted budget for the fiscal year. The projected cost per revenue hour and the operating costs to maintain the current level of service between FY2019 and FY2027 assume a 3% annual inflation rate. It is understood that none of the funding partners (DRPT, the city, JMU, and other local partners) are committing to these funding levels, but that they are planning estimates. Specific funding amounts for each year will be determined during the annual (Six-Year Improvement Plan (SYIP adoption and budget cycle for the Commonwealth of Virginia and the City of Harrisonburg.

Table ES-2: HDPT Financial Plan for Operating Expenses- FY2018-FY2027

Projects	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027
Projected Operating Expenses										
Cost Per Revenue Hour	$63.63	$65.54	$67.51	$69.53	$71.62	$73.77	$75.98	$78.26	$80.61	$83.03
Current Level of Service	$4,949,079	$5,097,551	$5,250,478	$5,407,992	$5,570,232	$5,737,339	$5,909,459	$6,086,743	$6,269,345	$6,457,426
Schedule Improvements										
#1 - Add service later on City Routes	$0	$327,059	$336,871	$346,977	$357,387	$368,108	$379,151	$390,526	$402,242	$414,309
#2 - Operate full schedule on Saturdays for City Routes	$0	$71,573	$73,720	$75,932	$78,210	$80,556	$82,973	$85,462	$88,026	$90,666
#3 - Start the City routes earlier in the morning	$0	$0	$103,289	$106,388	$109,579	$112,867	$116,253	$119,740	$123,333	$127,033
#4 - Operate service on Sundays	$0	$0	$0	$188,021	$193,662	$199,472	$205,456	$211,620	$217,968	$224,507
Route Improvements										
#1 Downtown/JMU/Event Circulator (Route 210/Route 505)	Replaced the previous Route 35 - no net additional operating expenes									
#2 - Adjust Route 4	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
#3 - Daily route to Dayton/Bridgewater/Mt. Crawford	$0	$0	$0	$0	$219,159	$225,734	$232,506	$239,481	$246,665	$254,065
#4 - Reverse loop for Routes 1 and 3	$0	$0	$0	$0	$0	$0	$0	$547,832	$564,267	$581,195
Planning and Marketing Projects										
Marketing #1 - Full system map	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Marketing #2 - Education for JMU students	$0	$5,000	$5,150	$5,305	$5,464	$5,628	$5,796	$5,970	$6,149	$6,334
Planning #1 - JMU route optimization	$0	$100,000	$0	$0	$0	$0	$0	$0	$0	$0
Planning #2 - UDA service planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Planning #3 - Route extensions into Rockingham County	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Projected Operating Expenses	**$4,949,079**	**$5,601,184**	**$5,769,508**	**$6,130,615**	**$6,533,692**	**$6,729,703**	**$6,931,594**	**$7,687,374**	**$7,917,995**	**$8,155,535**
% Change Year by Year		**13%**	**3%**	**6%**	**7%**	**3%**	**3%**	**11%**	**3%**	**3%**

Table ES-3: HDPT Proposed Funding Sources for the TDP Period – FY2018-FY2027

Anticipated Funding Sources	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027
Section 5307	$1,455,962	$1,730,638	$1,782,557	$1,836,034	$1,891,115	$1,947,848	$2,006,284	$2,337,977	$2,408,117	$2,480,360
State										
Formula Assistance	$1,319,254	$1,452,000	$1,495,560	$1,540,427	$1,586,640	$1,634,239	$1,683,266	$1,733,764	$1,785,777	$1,839,350
Local										
Fares and Contracts	$1,957,156	$2,045,871	$2,117,247	$2,190,764	$2,277,487	$2,345,812	$2,416,186	$2,538,672	$2,614,832	$2,693,277
Advertising	$80,000	$82,400	$84,872	$87,418	$90,041	$92,742	$95,524	$98,390	$101,342	$104,382
Local Funds	$136,707	$290,275	$289,272	$475,972	$688,410	$709,062	$730,334	$978,571	$1,007,929	$1,038,166
Total Projected Operating Funds	**$4,949,079**	**$5,601,184**	**$5,769,508**	**$6,130,615**	**$6,533,692**	**$6,729,703**	**$6,931,594**	**$7,687,374**	**$7,917,995**	**$8,155,535**

Capital Expenses and Funding Sources

DRPT has implemented a tiered approach to funding transit capital expenses. There are three tiers, each of which is described below.

Tier 1: Replacement and Expansion Vehicles and Associated Equipment

Eligible activities for funding under Tier 1 include[2]:

- Replacement and expansion vehicles
- Assembly line inspection
- Fare collection equipment
- Automated passenger counters
- On-vehicle radios and communication equipment
- Surveillance cameras
- Aftermarket installation of farebox, radios, and surveillance cameras
- Vehicle tracking hardware and software
- Rebuilds and mid-life repower of rolling stock

Over this plan's ten-year timeline a total of ten expansion and 52 replacement vehicles are recommended. These vehicles are ordered with bicycle racks and manual fareboxes.

Federal and state matching ratios for Tier 1 projects are currently as follows: federal – 80%; state – 16%.

Tier 2: Infrastructure Facilities

Eligible activities under Tier 2 include[3]:

- Construction of infrastructure or facilities for transit purposes
- Real estate used for a transit purpose
- Signage
- Surveillance/security equipment for facilities
- Rehabilitation or renovation of infrastructure and facilities
- Major capital projects

The focus of the Tier 2 projects for HDPT is to improve passenger facilities, including the planned transfer center and park and ride lot and additional shelters and benches. In order to help improve bus stops throughout the service area, a budget of $20,000 per year of the TDP was included.

[2] DRPT FY2015 Revised Budget. http://www.drpt.virginia.gov/media/1293/fy15-drpt-agency-budget-revised.pdf
[3] DRPT FY2015 Revised Budget. http://www.drpt.virginia.gov/media/1293/fy15-drpt-agency-budget-revised.pdf

Federal and state matching ratios for Tier 2 projects are currently as follows: federal – 80%; state – 16%. These are the ratios that have been used for the financial plan; however, it should be noted that DRPT has indicated that there may not be this level of state support in the future for Tier 2 projects and HDPT may need to be prepared to supply up to a 20% match for these projects.

Tier 3: Other Capital Projects

Other capital projects, considered Tier 3 capital projects, include[3]:

- All support vehicles
- Shop equipment
- Spare parts
- Hardware and software not installed on a vehicle
- Project development expenses for capital projects
- Office furniture and other equipment
- Handheld radios
- Landscaping
- Other transit-related capital items

Federal and state matching ratios for Tier 3 projects are currently as follows: federal – 80%; state – 16%. DRPT has indicated that there may not be this level of state support in the future for Tier 3 projects and HDPT may need to be prepared to supply up to a 20% match .

Total Capital Expenses over TDP Timeframe

Table ES-4 presents a summary of the total capital program categorized by tier for the TDP period. Under each tier, the projects are listed by fiscal year. Actual project implementation will be determined each year based on available funds. As indicated in Table ES-4, FY2020 is programmed to need the largest level of capital funds, with construction of the transfer center and park and ride lot, as well as a significant number of vehicle replacements.

Table ES-4: HDPT Capital Budget, FY2018-FY2027

	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027
Tier 1 Costs										
Replacement Vehicles	$65,000	$270,400	$3,006,848	$3,925,776	$0	$3,576,958	$82,246	$1,447,526	$2,080,225	$2,576,194
Expansion Vehicles	$840,000	$0	$0	$0	$982,682	$0	$1,062,868	$1,105,382	$1,149,598	$0
Radios	$15,000	$15,600	$16,224	$16,873	$8,436	$0	$9,125	$9,490	$9,869	$10,264
Sub-Total Cost	**$920,000**	**$286,000**	**$3,023,072**	**$3,942,649**	**$991,118**	**$3,576,958**	**$1,154,239**	**$2,562,398**	**$3,239,692**	**$2,586,458**
Tier 2 Costs										
Transfer Center and Park and Ride	$500,000	$1,000,000	$3,500,000	$0	$0	$0	$0	$0	$0	$0
Additional Shelters and Benches	$20,000	$20,800	$21,632	$22,497	$23,397	$24,333	$25,306	$26,319	$27,371	$28,466
Sub-Total Cost	**$520,000**	**$1,020,800**	**$3,521,632**	**$22,497**	**$23,397**	**$24,333**	**$25,306**	**$26,319**	**$27,371**	**$28,466**
Tier 3 Costs										
Shop Equipment/Parts	$15,000	$15,450	$15,914	$16,391	$16,883	$17,389	$17,911	$18,448	$19,002	$19,572
Technology Equipment	$10,000	$10,300	$10,609	$10,927	$11,255	$11,593	$11,941	$12,299	$12,668	$13,048
Sub-Total Cost	**$25,000**	**$25,750**	**$26,523**	**$27,318**	**$28,138**	**$28,982**	**$29,852**	**$30,747**	**$31,670**	**$32,620**
Total Capital Cost	**$1,465,000**	**$1,332,550**	**$6,571,227**	**$3,992,464**	**$1,042,653**	**$3,630,273**	**$1,209,397**	**$2,619,464**	**$3,298,733**	**$2,647,544**
Anticipated Funding Sources - Current Federal/State/Local Matching Ratios										
Federal	$1,172,000	$1,066,040	$5,256,982	$3,193,971	$834,122	$2,904,218	$967,518	$2,095,571	$2,638,986	$2,118,035
State	$234,400	$213,208	$1,051,396	$638,794	$166,824	$580,844	$193,504	$419,114	$527,797	$423,607
Local	$58,600	$53,302	$262,849	$159,699	$41,706	$145,211	$48,376	$104,779	$131,949	$105,902
Total Funding	**$1,465,000**	**$1,332,550**	**$6,571,227**	**$3,992,464**	**$1,042,653**	**$3,630,273**	**$1,209,397**	**$2,619,464**	**$3,298,733**	**$2,647,544**

TDP MONITORING AND UPDATES

DRPT guidance requires that grantees submit an annual TDP update letter that describes the progress that has been made toward implementing the adopted TDP. HDPT's annual update to DRPT should include the following elements:

- Operating statistics for the twelve-month period, including the ridership attributed to any new proposals implemented as a result of the TDP.
- Any changes to system goals, objectives, or service standards.
- A description of any service or facility improvements that have been implemented during the twelve-month period.
- An update to the TDP recommendations to identify additional projects, deferment of projects to later years, or elimination of projects.
- Updates to the financial plan to more accurately reflect current funding scenarios.

Chapter 1
Overview of Public Transportation in the Region

INTRODUCTION

A transit development plan (TDP) is a short-range transit plan that outlines services that a public transit provider intends to implement during the planning period, estimates what resources will be needed, and what funding opportunities are likely to be available. The Virginia Department of Rail and Public Transportation (DRPT) requires that any public transit (bus, rail, ferry) operator receiving state funding prepare, adopt, and submit a TDP at least every six years, with annual updates. DRPT provides a set of TDP requirements that form the basis of the planning effort. DRPT recently changed the TDP guidelines to increase the planning horizon from six years to ten years.

This final report documents the TDP planning process that was conducted for the Harrisonburg Department of Public Transportation (HDPT) between September 2016 and November 2017. The TDP was adopted by the Harrisonburg City Council on March 13, 2018. Recommendations are provided for a ten year planning horizon. These recommendations can be adjusted by HDPT through the annual TDP update, as opportunities may arise.

Prior to this 2017 TDP, the most recent HDPT TDP was completed in 2011 and outlined fiscal years 2011 through 2016. Since the 2011 TDP, HDPT has completed a number of significant achievements including:

- Moving the in-town transfer center from Hardesty-Higgins to its present location in the parking lot of the Roses Shopping Center at the corner of N. Mason and E. Gay Streets. The location of the transfer site will be considered again during this TDP period.

- Implementing NextBus to provide passengers with real-time information. HDPT recently upgraded this system, which had been in place since 2012.

- Implementing upgrades to the paratransit software and hardware systems which now include an automatic vehicle location (AVL) system.

- The design, construction, and completion of a new operating and maintenance facility. This was a major focus for HDPT over the past several years. The facility, which opened in 2014, was constructed on the same site as the previous facility.

- The initiation of a sixth year-round route to accommodate development adjacent to Sentara Rockingham Memorial Hospital.

- Upgrading passenger amenities at several stops, including passenger shelters, trash cans, benches, display cases, and sidewalk improvements.

- Achieving significant ridership growth. In FY2010, HDPT provided 1,862,500 annual passenger trips and in FY2016, HDPT provided 2,807,730 passenger trips. These data indicate a 51% increase in ridership during the six-year period.

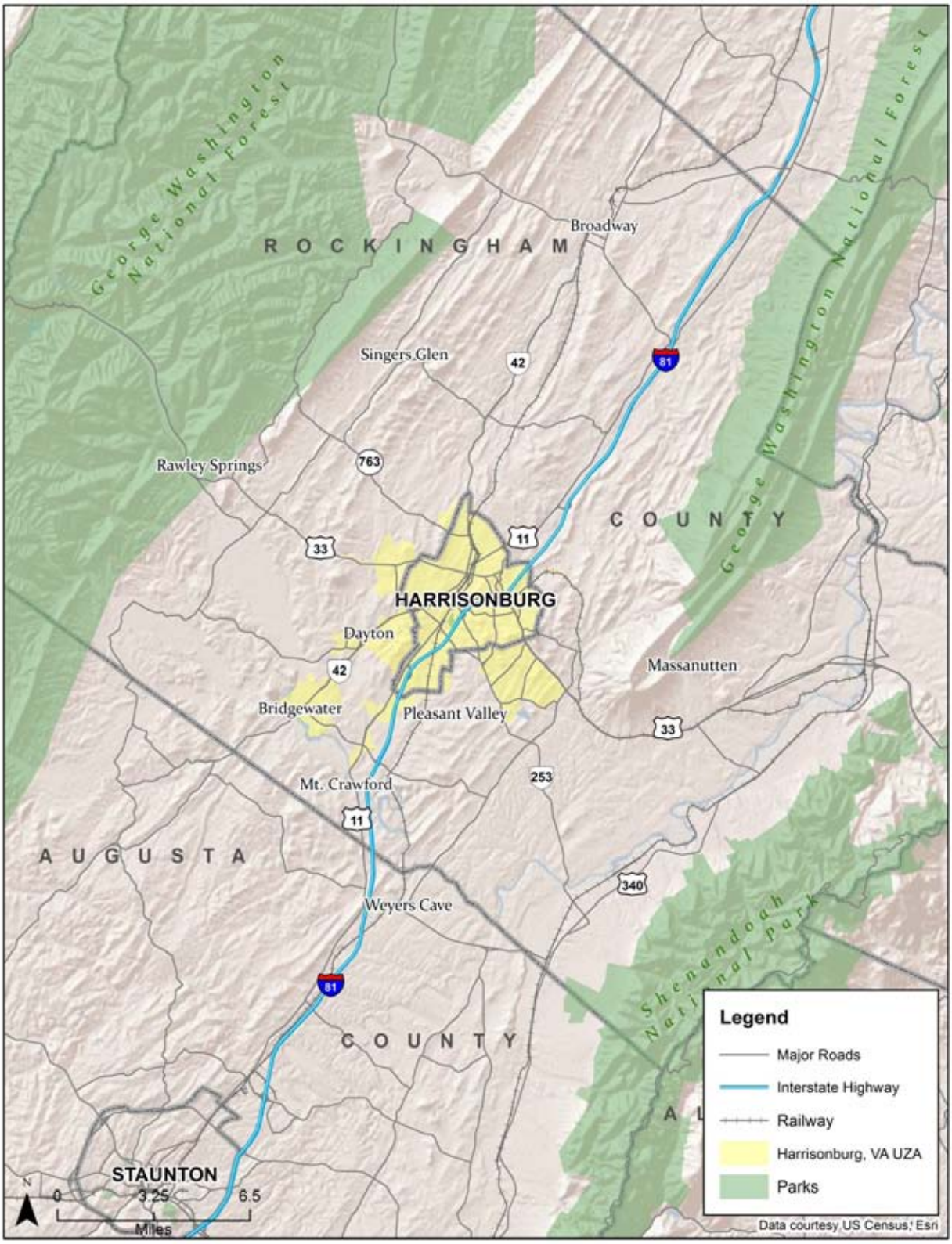
This TDP update for HDPT highlights the transit program for FY2018-FY2027. Once adopted, the TDP will serve as a management and policy document for HDPT; provide DRPT with an up-to-date set of related transit capital and operating budgets; and provide the basis for including capital and operating programs in the Six Year Improvement Program (SYIP), the Statewide Transportation Improvement Program (STIP), and the Long Range Transportation Plan (LRTP).

This first chapter of the TDP provides an overview of the transit program and background information and data that was used for subsequent data collection, analysis, and eventual recommendations for the planning period.

BACKGROUND

The City of Harrisonburg is an independent jurisdiction, surrounded by Rockingham County, located in the Central Shenandoah Valley of Virginia. The city is part of the Harrisonburg-Rockingham County Urbanized Area, which also includes the nearby Towns of Dayton, Bridgewater, and Mount Crawford. Serving as the county seat, the City of Harrisonburg is located along the Interstate 81 corridor, about a two-hour drive from Washington, D.C. Other transportation corridors that serve the city include U.S. Highways 11 and 33, State Highways 42 and 253, Norfolk Southern Railroad, and Shenandoah Valley Railroad, which connects Staunton to Pleasant Valley just south of Harrisonburg. Figure 1-1 displays a map of Harrisonburg and the surrounding region.

Figure 1-1: Harrisonburg, Virginia and Surrounding Region



As shown in Table 1-1, Harrisonburg's rate of population growth was greater than 20% between the 2000 Census and the 2010 Census. This growth is expected to continue, albeit at a slightly lower rate between 2010 and 2020, with a 16.1% increase in population expected.

Table 1-1: City of Harrisonburg Population Trends

Jurisdiction	2000 Population	2010 Population	2015 Estimated Population	2020 Projected Population	2030 Projected Population	2040 Projected Population
Harrisonburg	40,468	48,914	53,875	57,114	65,768	75,015

2000-2010 Percent Increase	2010-2015 Percent Increase	2015-2020 Percent Increase	2010-2040 Percent Increase
21%	10.1%	6.0%	53%

Source: U.S. Census and the Weldon Cooper Center for Public Service

According to the U.S. Census, the urbanized area had a population of 66,784 (2010), with the city's population accounting for about 73%. Recent and planned development in adjacent Rockingham County's Urban Development Area (located southeast of the City of Harrisonburg) has already had an impact on transit demand, which will likely need to be addressed during this TDP planning period.

The city serves as a center of commerce for the Central Shenandoah Valley, with 1,620 employers listed by the Virginia Employment Commission, twelve of which reported employment of 250 or more employees.[1] James Madison University (JMU) is listed as the city's largest employer. Major employment sectors in Harrisonburg include: government (22%); accommodations and food service (15%); retail trade (15%); manufacturing (9%); and health care and social assistance (9%). Several higher education institutions are located in the Harrisonburg area, including JMU, Bridgewater College, Eastern Mennonite University, American National College, Blue Ridge Community College, and Massanutten Technical Center. JMU students comprise a significant number of the city's residents, with a fall 2016 enrollment of 21,270.[2] The 2010 Census reported that 28.1% of the city's population falls within the age group of 20-24 (13,730 people).

In addition, the City of Harrisonburg is home to an increasing immigrant community, who receive assistance through the Church World Services refugee re-settlement program and the New Bridges Immigrant Resource Center.

[1] Virginia Employment Commission, Community Profile for Harrisonburg City, updated 1/4/2017.
[2] James Madison University website, Facts and Figures, viewed January, 2017.

Public Transportation in Harrisonburg

Public transportation in the city is provided by the HDPT, a department within the city government. HDPT operates fixed-route bus service, Americans with Disabilities Act (ADA) complementary paratransit service, scheduled shuttles to Bridgewater and Dayton, and school bus service. The transit system operates six year-round routes geared toward city residents and numerous seasonal routes during the school year, geared toward the needs of JMU students. Historically, ridership associated with JMU has accounted for about 90% of the total system ridership. HDPT receives funding assistance from the City of Harrisonburg, JMU, DRPT, and the Federal Transit Administration (FTA). HDPT also generates fare revenue and has an advertising program, which provides some revenue as local funding.

HISTORY

HDPT was established as part of the city government in 1976 through the purchase of the area's local taxi company. A timeline of notable events in the growth of HDPT is outlined below:

1978: HDPT began operation of fixed-route transit services with two buses.

1983: HDPT began two contracts, one with JMU to operate bus services for university students and the other with Harrisonburg City Schools to provide school bus service required by the state. HDPT's original maintenance facility was also constructed this year.

1994: HDPT sold its taxi operations to a private operator.

1995: In addition to operating and maintaining transit and school buses, HDPT took over maintenance of other city vehicles and equipment.[3]

2011: The downtown transfer center moved from Hardesty-Higgins to the Roses parking lot, at the corner of N. Gay and N. Mason Streets.

2012: HDPT implemented Nextbus to provide real-time schedule information for passengers.

2014: HDPT completed construction and moved into a new administrative and maintenance facility.

2017: HDPT upgraded the real-time schedule information to Avail Technologies, Inc.

[3] *Harrisonburg Department of Public Transportation Transit Development Plan Final Report* (December 2006), prepared by HNTB Corporation for the Virginia Department of Rail and Public Transportation and HDPT.

GOVERNANCE AND ORGANIZATIONAL STRUCTURE

HDPT is comprised of three enterprise funds: Transit, School Bus, and Central Garage. The entire department is led by the Director of Transportation, who reports to the City Council and meets with the City Manager regularly to discuss needs and issues. The Director also meets with JMU staff to discuss issues related to university services, and serves as a member of the Metropolitan Planning Organization's policy board to represent HDPT in regional transportation planning efforts.

HDPT recently added an Assistant Director position, whose primary duties are assigned by the Director. Currently the position has focused on planning, finance, and personnel. The organizational chart is shown in Figure 1-2, indicating the names of key management staff, and providing the full staffing structure for HDPT.

As a City Department, the governing board for HDPT is the Harrisonburg City Council, which is elected by the citizens of the City of Harrisonburg. The current members of the City Council and their terms of office are:

- Mayor Deanna R. Reed (2017-2020)
- Vice Mayor Richard Baugh (2017-2020)
- Council Member Christopher B. Jones (2015-2018)
- Council Member Ted Byrd (2015-2018)
- Council Member George Hirschmann (2017-2020)

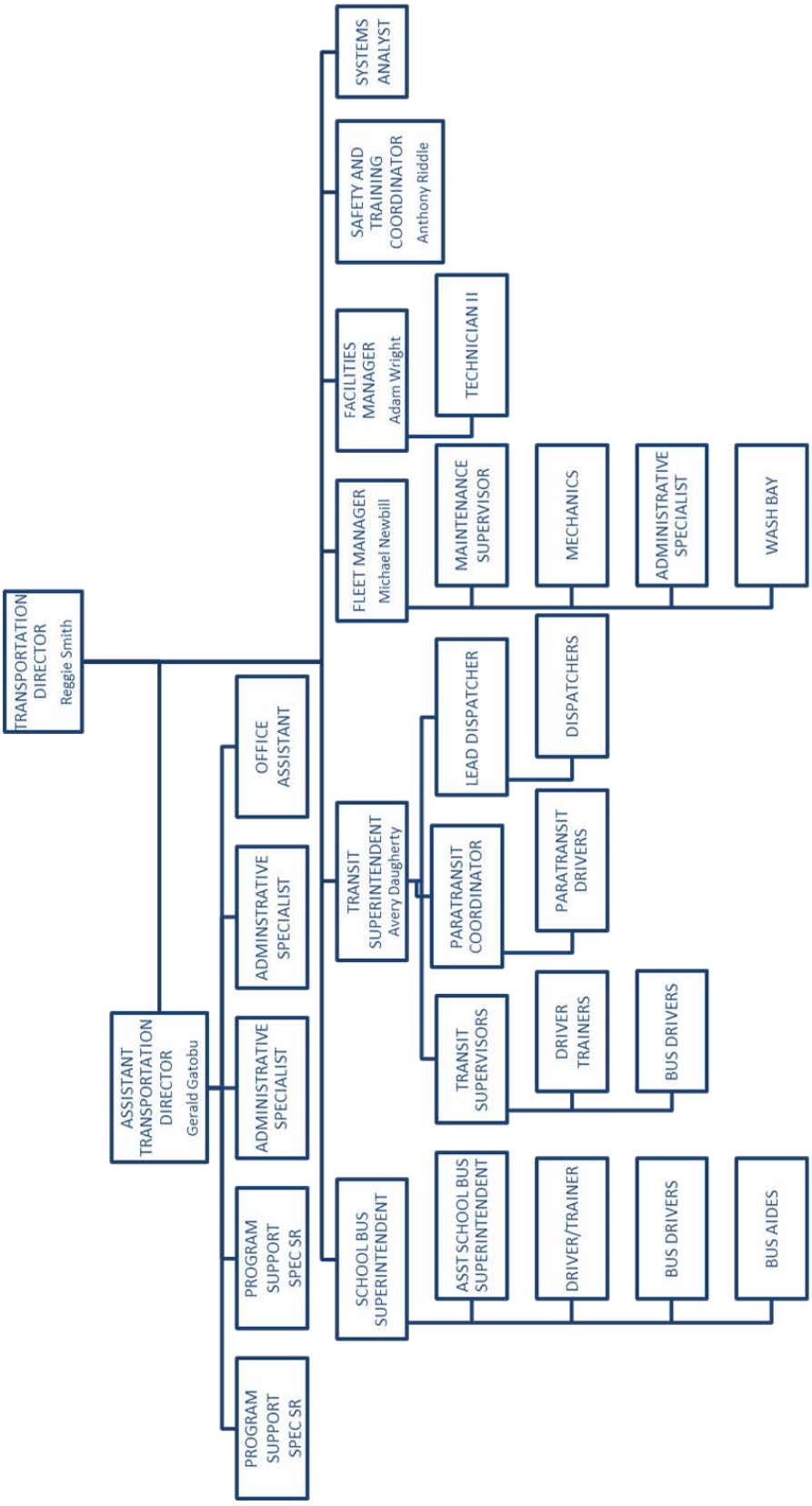
The following commission and committees advise the City Council on issues relating to public transportation:

- **Planning Commission** - guides, interprets, and shapes the city's Comprehensive Plan.

- **Transportation Safety and Advisory Committee** - reviews transportation (motor vehicle, bicycles, pedestrians, etc.) safety matters that are submitted to them either by citizens or by city staff and provides recommendations to the City on how to address the issues.

- **Downtown Parking Advisory Committee** - monitors the policies regulating all on-street and off-street parking that is owned and operated by the City of Harrisonburg. The Committee makes recommendations to city staff regarding operations and to City Council regarding ordinance issues.

Figure 1-2: HDPT Organizational Chart



TRANSIT SERVICES PROVIDED AND AREAS SERVED

HDPT operates six year-round, fixed-route bus services generally within the city limits of Harrisonburg, and a limited-service shuttle that provides a connection between the neighboring communities of Dayton and Bridgewater on Tuesdays and Thursdays, respectively. The primary transfer center for the year-round routes is located in the Roses Stores parking lot, at E. Gay and N. Mason Streets, where Routes 1,2, 3, 4, 5, and 6 converge. There is also a transfer point located at the Cloverleaf Shopping Center, where Routes 1, 3, 4, and 5 come together.

Additionally, HDPT offers 30 fixed-route bus routes oriented to the needs of JMU students during the traditional academic year. The central transfer location for JMU-oriented transit services is the Godwin Transit Center, located on the JMU campus. A church shuttle is provided during the academic year on Sunday mornings from the JMU campus to any house of worship within the city. Football shuttles are provided to accommodate the added transit demand that home football games generate. HDPT has also recently implemented an event shuttle that will connect a number of hotels in the city to JMU and the downtown area. Americans with Disabilities Act (ADA) complementary paratransit service, which is described in a separate section regarding accessibility, is also provided.

The peak daily vehicle requirement for the fixed-route services is 32 vehicles and the peak daily vehicle requirement for ADA paratransit is six vehicles.

Fixed-Route Services: City Oriented Routes

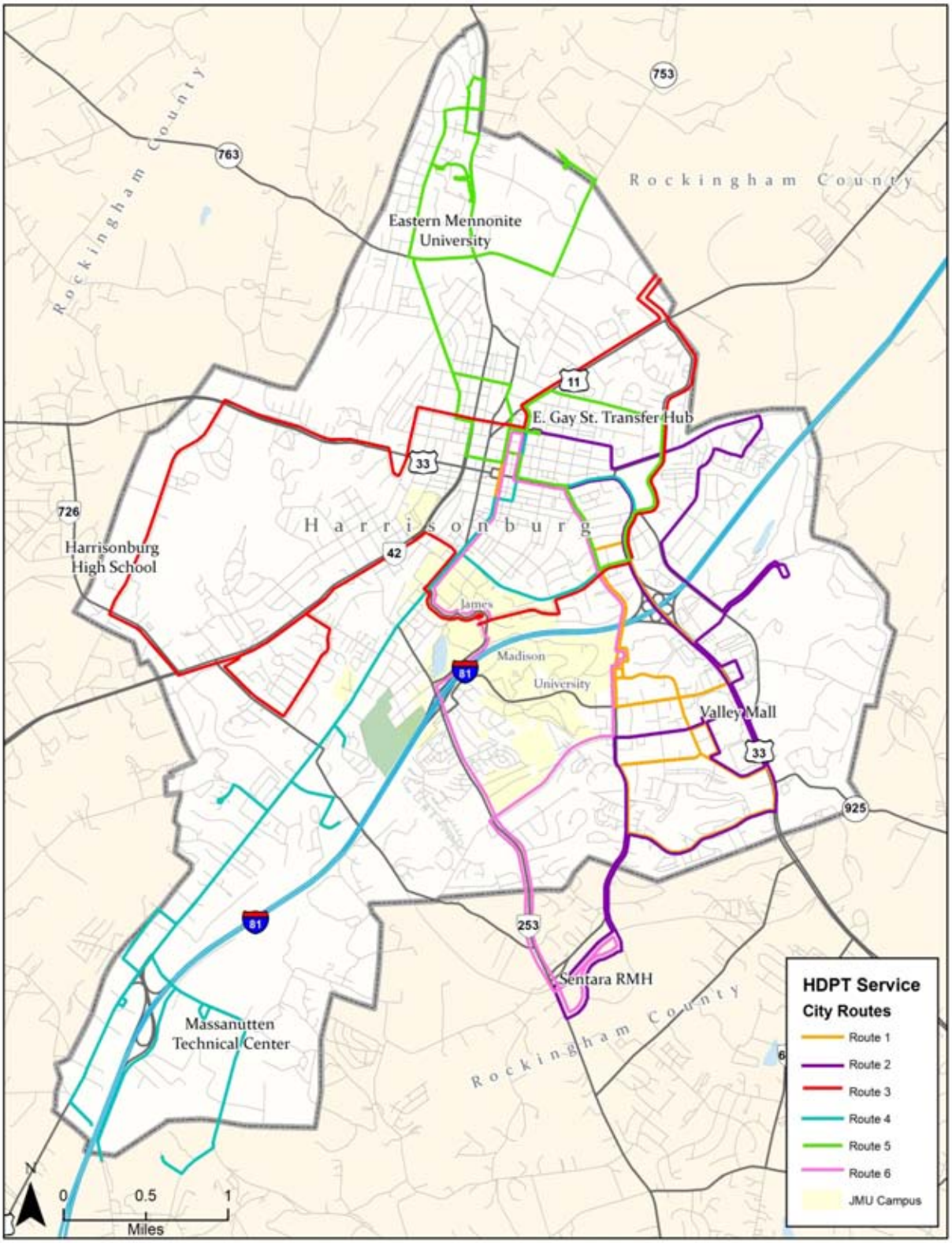
The six year-round fixed-routes within the City of Harrisonburg operate six days per week. Service on Monday through Friday is generally offered between 6:30 a.m. and 6:30 p.m., and Saturday service is generally offered between 8:30 a.m. and 5:30 p.m. There is some variation in operating times among the six routes. The Bridgewater-Dayton Shuttle offers two round-trips (morning and mid-day) on Tuesday (Dayton) and Thursday (Bridgewater). A third round-trip in the late afternoon is made on-demand only.

The year-round fixed-routes that operate generally within the city are:

Route 1: East Market Street
Route 2: Reservoir Street
Route 3: South High Street
Route 4: South Main Street
Route 5: North High Street –VMRC (Virginia Mennonite Retirement Community)
Route 6: Port Republic Road – RMH (Sentara RMH Medical Center)

The specific routing and hours of operation for each of these routes is fully described in Chapter 3. Figure 1-3 represents a system map of the six year-round fixed-route bus services.

Figure 1-3: HDPT Year-Round Fixed-Route Bus Routes



Fixed-Route Services: James Madison University Routes

The following routes primarily serve the JMU community. Each of these routes is more fully described in Chapter 3.

During the JMU Fall and Spring Semesters

The following routes operate Monday through Friday, from about 7:30 a.m. until 6:30 p.m. – 7:00 p.m.:

Route 7/19*: Northview-Southview - JMU - Festival Center

Route 8/20*: Sunchase Apartments - University halls located near South Main Street

Route 9/21*: Stonegate Apartments - The Harrison - JMU-Memorial Hall- Hoffman Hall

Route 10/22*: Pheasant Run - The Mill housing – JMU - Festival Center

Route 11: Festival - Madison Union - Memorial Hall – Miller Hall – Showker - ISAT

Route 12: Overlook - Pheasant Run – JMU - Miller Hall - Hoffman Hall

Route 13: Southview - Fox Hill – JMU - Miller Hall

Route 14: Aspen Heights – Southview - The Harrison - Festival Center - JMU

Route 15: Charleston Townes Chestnut Ridge - Copper Beech - Festival Center - JMU

Route 16: North 38 Apartments - Madison Manor Apartments - Clover Leaf Shopping Center – JMU - Festival Center

Route 17: Northview - Aspen Heights - The Harrison - Miller Hall

Route 18: Hunters Ridge - The Harrison - Hoffman Hall - Festival

Route 23: Dogwood Commons - The Retreat - JMU

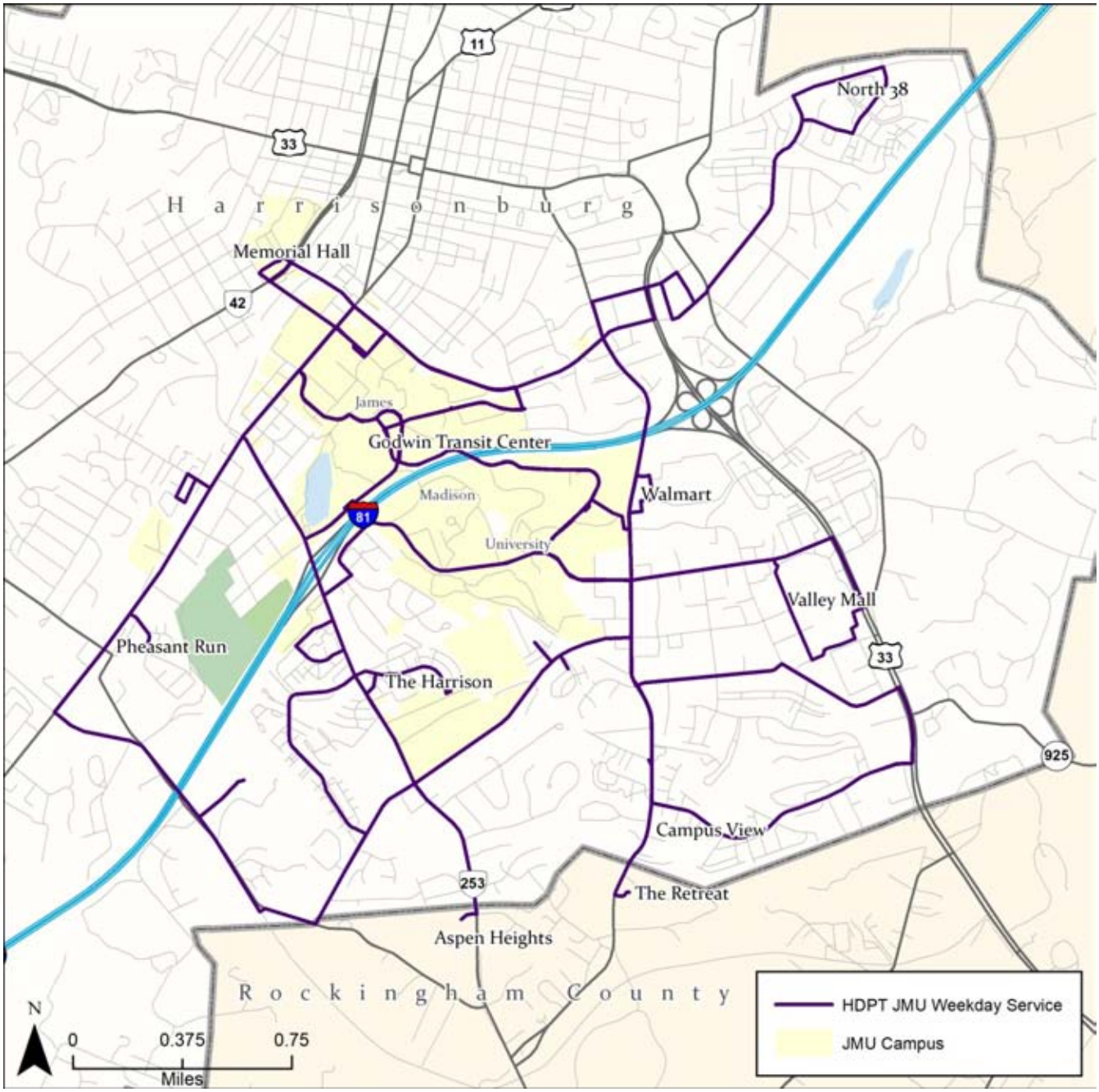
Shopper Shuttle: Godwin Hall - Festival Center – Target - Valley Mall - Walmart via the Festival Conference and Student Center

Inner Campus Shuttle (ICS): Festival Center - ISAT/CS- Varner House -Madison – Union - Memorial Hall – Physics/Chemistry (3 vehicles)

*The previous Routes 7, 8, 9, and 10 were re-numbered for the fall of 2017 schedule change. The new route numbers are 19, 20, 21, and 22. This change was needed as part of HDPT's technology upgrade.

The JMU weekday routes are shown in Figure 1-4.

Figure 1-4: HDPT Weekday JMU Service



The following evening routes operate Monday through Thursday, from about 7:00 p.m., with varying end times.

Route 31/201*: JMU - The Overlook - Pheasant Run - South Main - Gift and Thrift - North 38 – Vine – Cloverleaf - JMU

Route 32/202*: JMU - Charleston Townes – Valley Mall - The Pointe – RMH - The Retreat - JMU

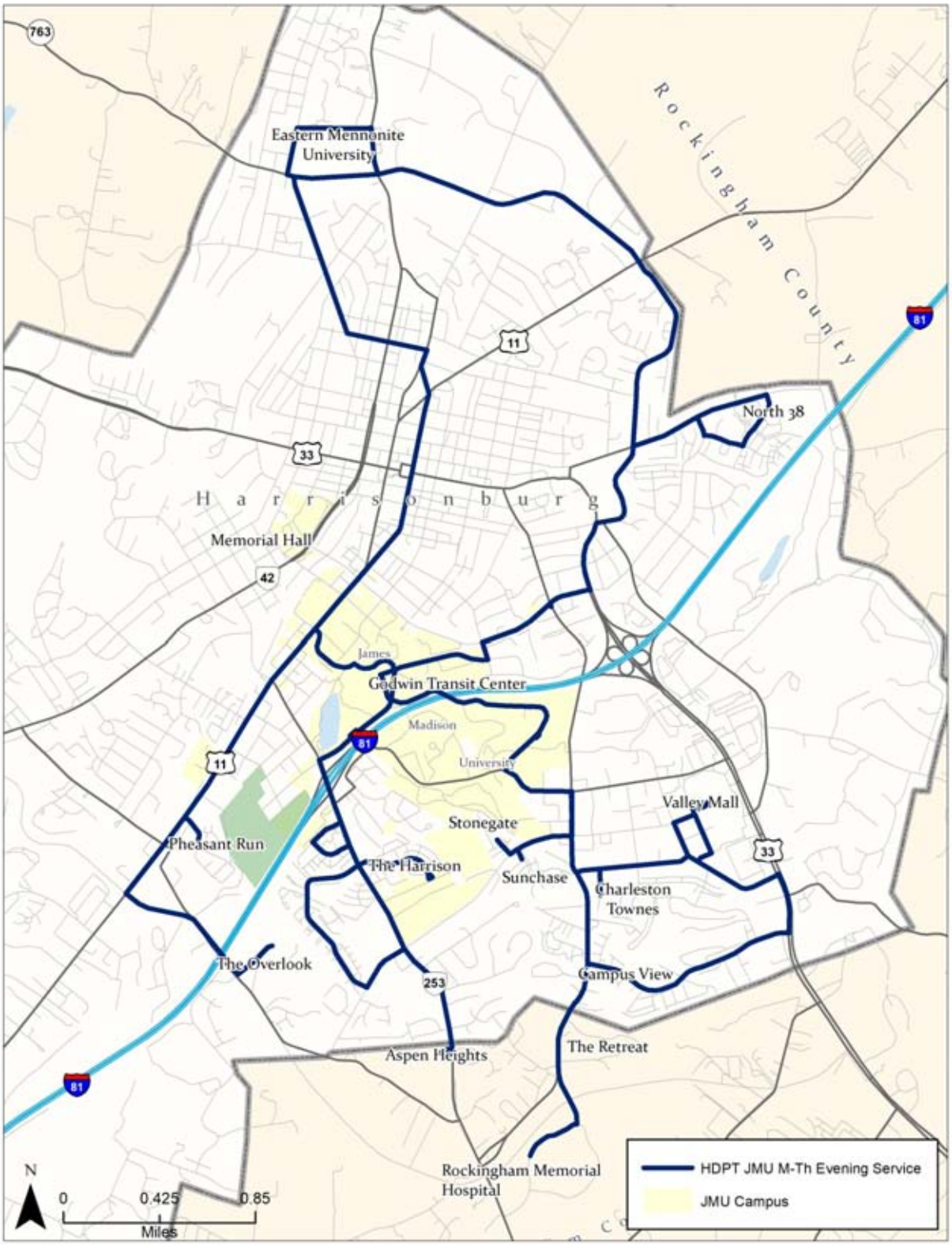
Route 33/203*: JMU – Hunters Ridge - Northview - Aspen Heights – Southview - The Harrison - JMU

Night Campus Shuttle/200*: Memorial Hall – Godwin- Festival – Walmart -Stonegate

*The previous routes 31, 32, 33, and NCS were re-numbered for the fall of 2017 schedule change. The new route numbers are 201, 202, 203, and 200. This change was needed as part of HDPT's technology upgrade.

These weekday evening routes are shown in Figure 1-5.

Figure 1-5: HDPT Weekday Evening JMU Service



The following routes operate Friday and Saturday only, from about 10:00 p.m. until 2:15 a.m.:

Route 35/210*: JMU - Grace St. Apartments – S. Main – Klines Dairy Bar - JMU

Route 36/211*: JMU - DMV – Motel 6 – Pheasant Run - JMU

Route 37/212*: JMU - Hunter's Ridge – Northview – Southview - The Harrison – JMU

Route 38/213*: JMU - Northview – Aspen Heights – RMH – The Retreat – Stonegate-Sunchase - JMU

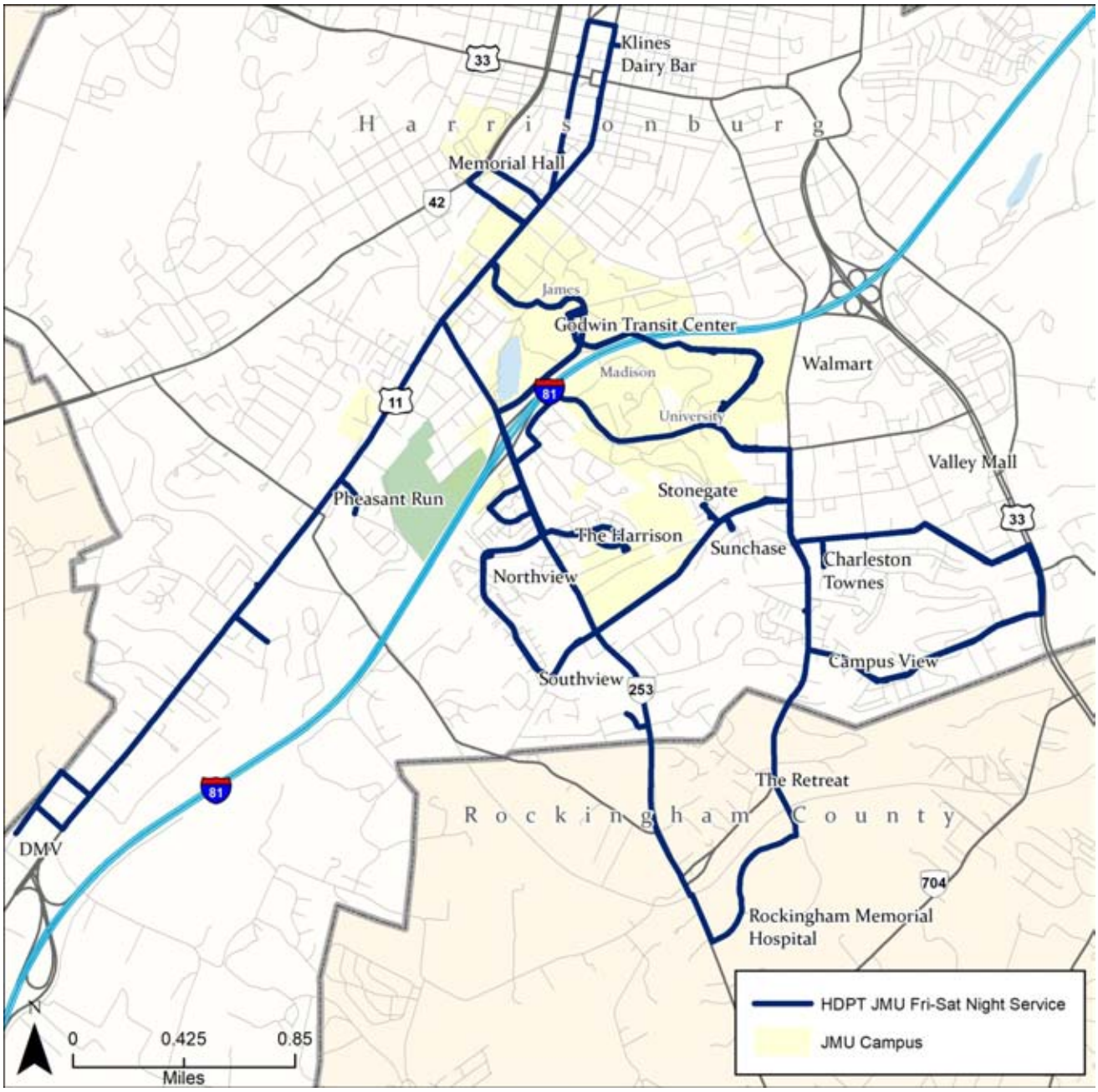
Route 39/214*: JMU – Charleston Townes – Martin's – The Pointe - JMU

Route 40/215*: The Harrison – Fox/Squire Hill – Sunchase - Charleston Townes – Martin's – The Pointe

*The previous Routes 35, 36, 37, 38, 39, and 40 were re-numbered for the fall of 2017 schedule change. The new route numbers are 210, 211, 212, 213, 214, and 215. This change was needed as part of HDPT's technology upgrade. Several routing changes were also made in conjunction with the route re-numbering.

Figure 1-6 provides a map of the late night Friday and Saturday routes.

Figure 1-6: HDPT Late Night JMU Service – Fridays and Saturdays



The following routes operate on the weekends:

Saturday Campus Shuttle: Northview- The Retreat- Sunchase – Stonegate- Southview- Squire Hill – The Harrison- Chandler Hall- Godwin Hall- Memorial Hall (9:00 a.m. to 6:19 p.m.)

Saturday Shopper: Godwin Hall -Festival Center- Sunchase - Charleston Townes- Target- Valley Mall- Walmart (9:00 a.m. to 6:00 p.m.)

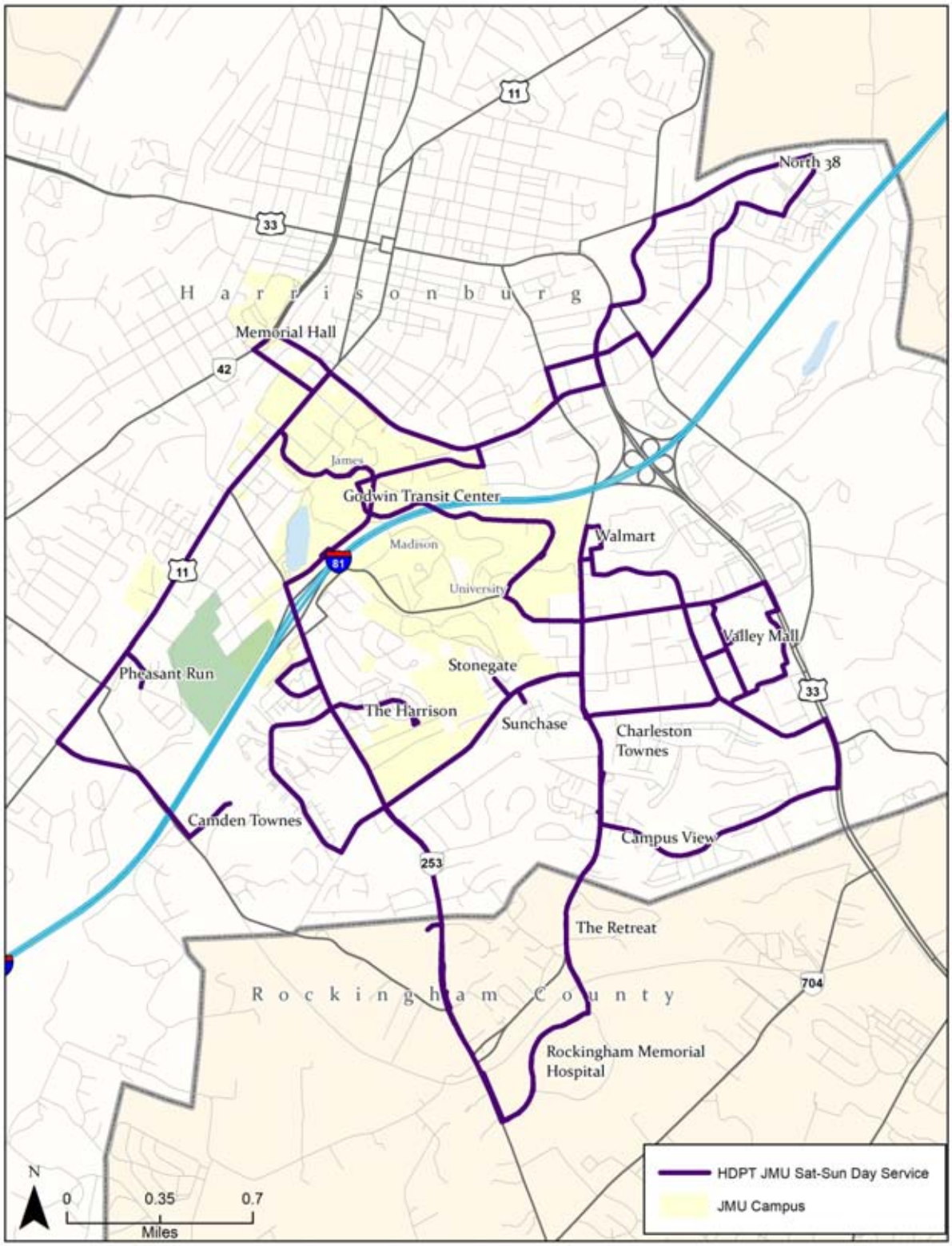
Sunday Shuttle 1: Multiple student housing complexes to campus (1:00 p.m. to 11:52 p.m.)

Sunday Shuttle 2: Multiple student housing complexes to campus (11:00 a.m. to 10:52 p.m.)

Church Shuttle: The Church Shuttle is a scheduled service that operates on Sundays during the academic year. Three trips are provided on Sunday mornings at 8:35 a.m., 9:35 a.m., and 10:25 a.m. leaving from the Festival Conference and Student Center, Godwin Transit Center, and Varner House, before serving houses of worship within Harrisonburg as requested by riders. Passengers inform the driver of the time they would like to be picked up, and they must return to campus by 1:00 p.m.

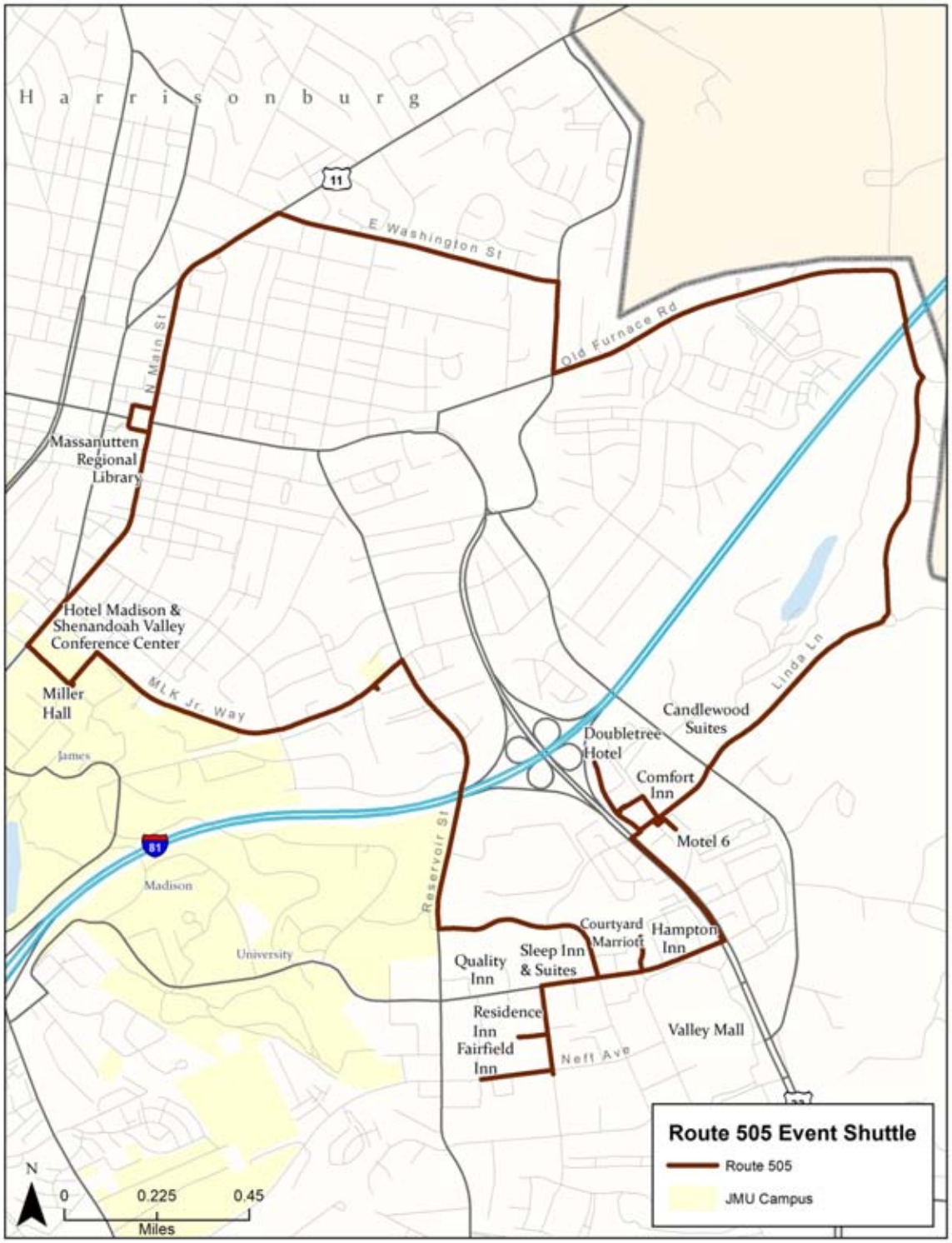
Figure 1-7 presents a map of the JMU-oriented weekend routes.

Figure 1-7: HDPT Daytime JMU Weekend Service



Hotel Shuttle – Route 505: HDPT has recently added an event day/late night route that will operate on pre-determined Fridays and Saturdays to help accommodate guests staying at a number of local hotels. These hotels include: Candlewood Suites; Motel 6; Comfort Inn; Doubletree Hilton; Hampton Inn; Residence Inn; Fairfield Inn; Courtyard Marriott; Sleep Inn; Quality Inn; Harrisonburg Hotel and Conference Center; downtown Harrisonburg and East Washington Street. The Hotel Shuttle route is shown in Figure 1-8.

Figure 1-8: Route 505 – Hotel Shuttle



ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

HDPT fixed-route vehicles are equipped with kneeling features and ramps that can be deployed from the front door so that riders who use wheelchairs or have other mobility challenges can safely board. In addition, stop announcements are made automatically by annunciators or by drivers of the fixed-routes when the annunciators are not available, so that riders with vision impairments can identify their desired alighting locations. For riders whose disabilities prevent them from accessing a bus stop, ADA complementary paratransit service is available.

ADA Complementary Paratransit Service

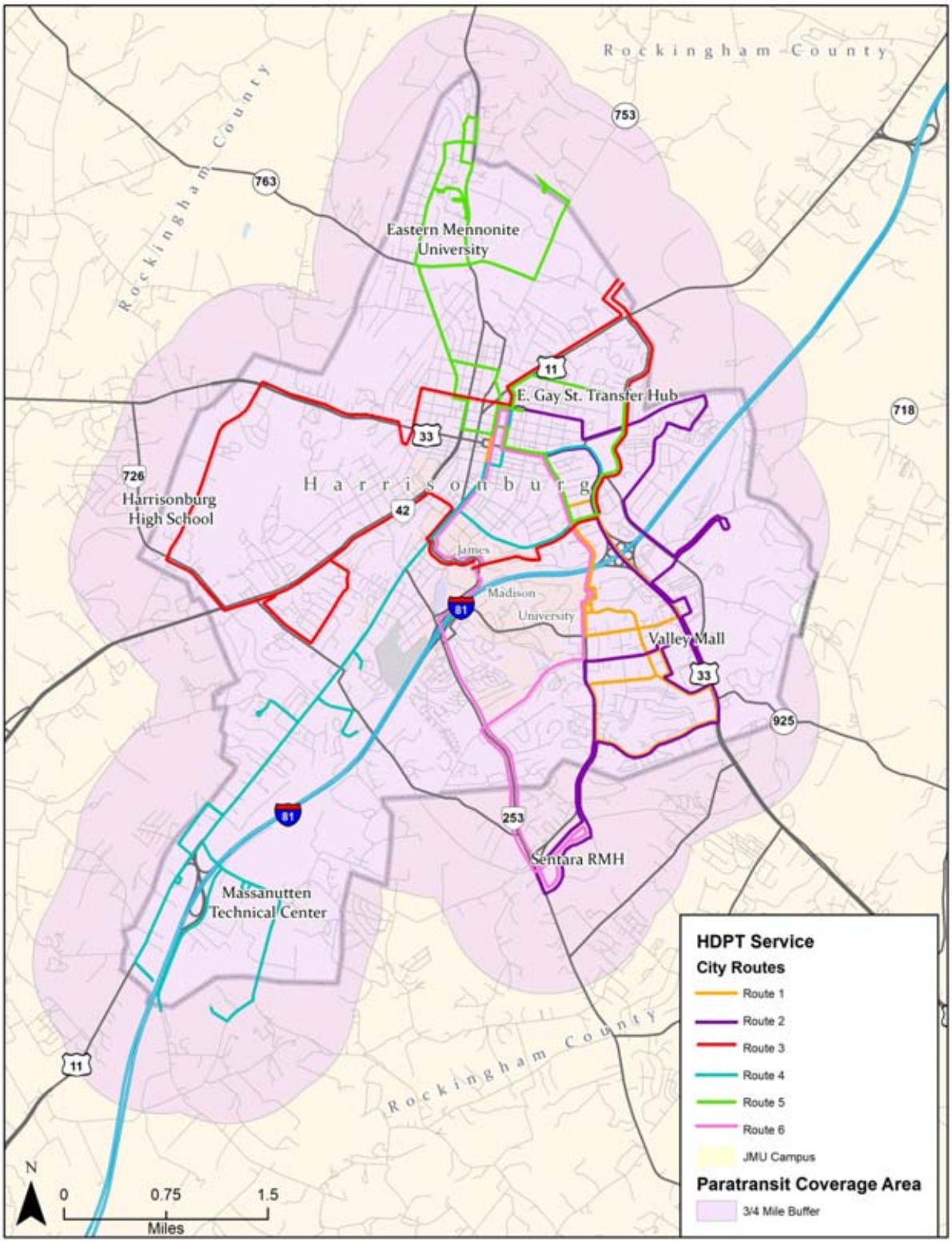
HDPT paratransit service is provided for eligible persons with disabilities, as described in the Americans with Disabilities Act (ADA), within ¾ mile of an HDPT fixed-route. Persons with disabilities who cannot use fixed-route transit services due to their disabilities must apply to HDPT in order to use the paratransit service. The paratransit service mirrors the operating hours of the fixed-route system. A map displaying the ADA service area is provided as Figure 1-9.

Passengers wishing to schedule a trip are instructed to call the day prior to the desired trip to schedule their ride, though same-day service is accommodated if there is room in the schedule. HDPT paratransit provides shared ride public transportation, which is curb-to-curb service. Assistance from the vehicle to the first doorway or from the doorway to the vehicle, for customers who need additional assistance to complete the trip, is available. Passengers eligible to use the paratransit service may have a personal care attendant (PCA) travel with them free of charge; additional passengers pay the full paratransit fare ($2.00)

HDPT has a "no-show" policy in place, where the city has the right to suspend a passenger's eligibility to use paratransit service if the passenger repeatedly fails to notify HDPT ahead of time that they need to cancel a scheduled trip.

Source: Google images

Figure 1-9: HDPT ADA Complementary Paratransit Service Area



Fare Structure

The base adult fare for HDPT fixed-routes is $1.00. Exact fare is required as drivers do not carry change. HDPT has several discounts in place for various segments of the community, as shown in the listing of the fare structure in Table 1-2. Transfers are free and valid for one-hour. Cash revenue received through the farebox is relatively low, as the majority of HDPT riders are associated with James Madison University, which has a contract with HDPT that allows students, faculty, and staff to ride at no charge. A reciprocal agreement is also in place for the Blue Ridge Community College community. HDPT's fare structure has been in effect since 2003.

Table 1-2: HDPT Fare Structure

Fare Category	Fare
Adults	$1.00
Non-city and EMU/ANU Students	$0.50
City Students through Grade 12*	No charge*
Persons with Disabilities	$0.50
Senior Citizens (age 62 and older)	$0.50
Medicare/Medicaid Card Holders	$0.50
JMU/BRCC Students, Faculty and Staff	Valid ID
Transfers	No charge
Adult Passengers (book of 25 coupons)	$20.00
Students/Senior Citizens/Persons with Disabilities (book of 25 coupons)	$10.00
ADA Paratransit	$2.00

Fleet

HDPT's public transit revenue vehicle fleet is comprised of 38 35-foot heavy duty, low floor, wheelchair-accessible Gillig transit buses and one 35-foot high floor Gillig transit bus; nine lift-equipped body on chassis paratransit vehicles; and two wheelchair accessible minivans. The 39 transit buses are equipped with bicycle racks.

HDPT recently took delivery of eight new Gillig vehicles (vehicle numbers 2031 through 2038) and in August 2017 disposed of eight vehicles. The total

number of fixed-route vehicles needed for maximum service is 32, giving HDPT seven spares, for a spare ratio of 22%. The demand-response spare ratio is currently higher, as the recent demand has called for six daily vehicles and eleven are available. The public transit fleet has grown significantly since the 2011 TDP, when there were just 27 fixed-route transit buses and eight paratransit vehicles. At that time the fixed-route spare ratio was just 4%.

HDPT's fleet is of mixed age, which is ideal from a maintenance and capital replacement perspective. The fleet inventory is provided as Table 1- 3.

Table 1-3: HDPT Revenue Vehicle Inventory

Inventory Number	Make and Model	Year	Type	Seats	Vehicle Mileage (January 2017)
2001	Gillig G27B102N4	2008	Bus	32	175,355
2002	Gillig G27B102N4	2008	Bus	32	200,049
2003	Gillig G27B102N4	2008	Bus	32	181,044
2004	Gillig G27B102N4	2008	Bus	32	192,689
2005	Gillig G27B102N4	2008	Bus	32	170,715
2006	Gillig G27B102N4	2008	Bus	32	135,668
2007	Gillig G27B102N4	2009	Bus	32	134,902
2008	Gillig G27B102N4	2009	Bus	32	145,156
2009	Gillig G27B102N4	2009	Bus	32	150,150
2010	Gillig G27B102N4	2009	Bus	32	134,287
2011	Gillig G27B102N4	2009	Bus	32	136,879
2012	Gillig G27B102N4	2009	Bus	32	143,928
2013	Gillig G27B102N4	2009	Bus	32	127,625
2014	Gillig G27B102N4	2009	Bus	32	144,180
2015	Gillig G27B102N4	2011	Bus	32	138,568
2016	Gillig G27B102N4	2011	Bus	32	166,283
2017	Gillig G27B102N4	2011	Bus	32	166,984
2018	Gillig G27B102N4	2011	Bus	32	156,442
2019	Gillig G27B102N4	2011	Bus	32	155,681
2020	Gillig G27B102N4	2011	Bus	32	156,814
2021	Gillig G27B102N4	2011	Bus	32	136,605
2022	Gillig G27B102N4	2013	Bus	29	67,829
2023	Gillig G27B102N4	2013	Bus	29	70,460
2024	Gillig G27B102N4	2014	Bus	29	44,508
2025	Gillig G27B102N4	2014	Bus	29	54,762
2026	Gillig G27B102N4	2014	Bus	29	46,872
2027	Gillig G27B102N4	2015	Bus	29	32,322

Inventory Number	Make and Model	Year	Type	Seats	Vehicle Mileage (January 2017)
2028	Gillig G27B102N4	2015	Bus	29	34,698
2029	Gillig G27B102N4	2015	Bus	29	27,917
2030	Gillig G27B102N4	2015	Bus	29	18,253
2031	Gillig G27B102N4	2016	Bus	29	3,147
2032	Gillig G27B102N4	2016	Bus	29	3,293
2033	Gillig G27B102N4	2016	Bus	29	2,999
2034	Gillig G27B102N4	2016	Bus	29	3,241
2035	Gillig G27B102N4	2016	Bus	29	3,736
2036	Gillig G27B102N4	2016	Bus	29	2,949
2037	Gillig G27B102N4	2016	Bus	29	3,032
2038	Gillig G27B102N4	2016	Bus	29	3,067
2047	Gillig G27B102N4	2007	Bus	32	89,325
2070	Chevrolet 4500 Express	2014	BOC	13	45,249
2071	Chevrolet 4500 Express	2014	BOC	13	48,232
2074	Chevrolet C450	2013	BOC	13	76,991
2077	Ford E450	2010	BOC	19	97,881
2078	Chevrolet C450	2013	BOC	17	69,070
2079	Ford E450 / Starcraft	2015	BOC	14	26,957
2080	Ford E450 / Starcraft	2015	BOC	14	21,277
2081	Ford E450 / Starcraft	2015	BOC	14	16,766
2082	Ford E450 / Starcraft	2015	BOC	14	22,968
2083	Dodge Braun Caravan	2015	Van	5	6,082
2084	Dodge Braun Caravan	2016	Van	5	3,100
2085	Ford E450/Starcraft	2017	BOC	17	1,021

EXISTING FACILITIES

Located at 475 East Washington Street, northeast of downtown Harrisonburg, the relatively new HDPT operations and maintenance facility was constructed on the same land parcel as the original facility, with the addition of an adjacent parcel that was converted from a reservoir to a parking area, and the water storage function transitioned to a water tower. The new facility was completed in 2014 and includes office, conference, and training space for the administrative and operations staff, as well as a staff kitchen, drivers lounge, and enclosed dispatch area. A separate maintenance building, wash bay and a new fuel island were constructed. A photo of the front of the operations building is shown as Figure 1-10.

The prior facility had been expanded four times to accommodate system growth. A 2009 facility feasibility study provided the groundwork for the planning, design, and construction of the new HDPT facility.

Figure 1-10: Front of HDPT Operations Facility

Source: Google images

Passenger Facilities

The six HDPT routes that operate year-round meet for transfer opportunities using a leased portion of a shopping center parking lot at the corner of N. Gay and N. Mason Streets. HDPT has installed three shelters, several benches, and two transit display cases at this location. The bus stop areas are signed, with each route assigned a pick-up location slot at the center. Drivers are able to use the restrooms located at the adjacent Merchant's Tire and Auto Center. A photo of this transfer area is shown in Figure 1-11. HDPT is interested in moving this location in the near term, to provide a transfer center that has additional passenger and driver amenities, as well as better pedestrian connections.

HDPT maintains shelters at the Cloverleaf Center transfer location on East Market Street and at several other locations. An inventory of HDPT-owned passenger amenities is provided in Table 1-4.

Figure 1-11: Roses Lot Transfer Area

Table 1-4: HDPT- Owned Passenger Shelters, Benches, and Related Accessories

Shelter or Bench Location	Size/Accessory
1351 Port Republic Road	12’ Shelter, 1 bench, trash can, display case, advertising shelter
1738 E. Market Street @ Firestone	12’ Shelter, 1 bench, trash can, display case, advertising shelter
299 East Washington @Street Simms Avenue	12’ Shelter, 1 bench, trash can, display case
471 East Washington Street@ Hearthstone Lane	12’ Shelter, 1 bench, trash can, display case
475 E. Washington Street	12’ Shelter, 1 bench, trash can, display case
59 University Boulevard	12’ Shelter, 1 bench, trash can, display case, advertising shelter
Aspen Heights - 2090 Aspen Heights Lane	16’ Shelter, 2 benches, trash can, display case, advertising shelter
Charleston Townes - 476 Lucy Drive	12’ Shelter, 1 bench, trash can, display case
Cloverleaf Shopping Center - 931 E. Market Street	16’ Shelter, 2 benches, trash can, display case
Comsomics/King's Market - 1334 Port Republic Road	10' Shelter, 1 bench
CSB -Rte. 11 North, 1240 N. Main Street	12’ Shelter, 1 bench, trash can, display case
Eastern Mennonite University - 1303 Park Road	12’ Shelter, 1 bench, trash can, display case
Friendship Industries - 803 Friendship Drive	12’ Shelter, 1 bench, trash can, display case
Gift & Thrift - 741 Mt. Clinton Pike	12’ Shelter, 1 bench, trash can, display case, advertising shelter
Hardesty-Higgins House - 45 E. Bruce Street	Solar shelter, bench, trash can

Shelter or Bench Location	Size/Accessory
Harrisonburg Family Practice- 1835 Reservoir Road	12’ Shelter, 1 bench, advertising shelter
High School Parking Lot - 1115 Garbers Church Road	12’ Shelter, 1 bench, trash can, display case
Kline’s Dairy Bar - 52 East Wolfe Street	12’ Shelter, 1 bench, trash can, display case, advertising shelter
Market Square East - 1669 E. Market Street	12’ Shelter, 1 bench, trash can, display case, advertising shelter
Martins - 2121 E. Market Street	12’ Shelter, 1 bench, trash can, display case, advertising shelter
Memorial Hall - 397 S. High Street	12’ Shelter, 2 benches, display case
Memorial Hall - 397 S. High Street	12’ Shelter, 2 benches, display case
Memorial Hall - 397 S. High Street	12’ Shelter, 2 benches, display case
Overlook at Stone Spring - 601 John Tyler Circle	16’ Shelter, 2 benches, trash can, display case, advertising shelter
Red Front Supermarket - 667 Chicago Avenue	12’ Shelter, 1 bench, trash can, display case
Ridgeville - 2357 Reservoir Road	12’ Shelter, 1 bench, advertising shelter
Roses Transfer Station - 170 E. Gay Street	12’ Shelter, 1 bench
Roses Transfer Station - 170 E. Gay Street	4 benches, 2 display cases
Roses Transfer Station - 170 E. Gay Street	12’ Shelter, 1 bench, trash can, display case
Roses Transfer Station - 170 E. Gay Street	30’ Shelter with two 24’ benches
Spotswood Square Shopping Center (Kroger) - 1764 E. Market Street	12’ Shelter, 1 bench, trash can, display case, advertising shelter
TH Middle School - 1425 W. Market Street	12’ Shelter, 1 bench, trash can, display case
The Harrison - 1144 Devon Lane	12’ Shelter, 1 bench, advertising shelter
The Harrison - 1174 Devon Lane	12’ Shelter, 1 bench, advertising shelter
The Harrison - 1239 Devon Lane	12’ Shelter, 1 bench, advertising shelter
The Pointe - 505 Chestnut Ridge Road	12' Shelter, 1 bench, non-advertising shelter
Upper Copper Beech	16' Advertising shelter, 1 bench
Valley Mall Entrance - 1907 E. East Market Street	12’ Shelter, 1 bench, trash can, display case, advertising shelter
Valley Mall - 152 Neff Avenue	12' Shelter, 1 bench, advertising shelter

The Godwin Center bus transfer facility, located on the JMU campus, is the largest activity center for the JMU-oriented fixed-routes. Most of the JMU-oriented day routes start and end at this transfer location, pictured in Figure 1-12. The shelter assets located at the Godwin Center are owned by JMU.

Figure 1-12: Godwin Transit Center

Over the past several years HDPT has significantly increased the number of shelters available for passengers throughout its service area. Prior to 2011, HDPT owned just eight passenger shelters, though there were others in the community provided by property owners. Since the 2011 TDP, HDPT has installed 33 new shelters, not including those provided by JMU or other property owners. Eighteen of these shelters also provide advertising space, which generates revenue for HDPT.

TRANSIT SECURITY PROGRAM

HDPT's transit security program includes infrastructure and training to protect the city's staff, transit riders, and property. The following sections describe these features with regard to transit facilities and vehicles.

HDPT Facilities

The HDPT operations and maintenance facility and bus parking area is fenced and locked for secure vehicle and property storage. To properly secure areas of the building, the interior and exterior door locks are coded to allow access via key fobs. For example, a visitor can enter the lobby, but needs to be let in by a staff member to access the conference room, upstairs

hallways, and restrooms. A coded key fob is required to access the downstairs of the facility, which includes the drivers' lounge, dispatch area, and staff kitchen.

The building is secured from the transit vehicle parking area as well, with a key fob required to enter from the bus parking lot to the building. There are security cameras installed on the building and in the parking lot. The buildings are protected with fire alarms and periodic building evacuation drills are held.

HDPT Vehicles

HDPT vehicles are equipped with surveillance cameras. In addition, drivers use a two-way radio system to communicate with the dispatcher. The radios are equipped with panic buttons that call the police if an emergency requires this action. The drivers also have a separate panic button that triggers the head sign of the bus to read "Call 911." HDPT's new on-board technology system lets drivers know that dispatch has received their distress message.

Drivers are trained in the use of the radios and panic buttons and receive training with regard to suspicious packages and emergency procedures. Drivers are also trained in bus evacuation and the use of fire extinguishers.

INTELLIGENT TRANSPORTATION SYSTEMS (ITS) PROGRAM

ITS programs in public transportation encompass a broad range of communication-based information and electronics technologies that serve to improve safety, efficiency and service, through use of real-time information.

Fixed-Route Technologies

HDPT has been using ITS technologies for the fixed-routes services since the 2012 implementation of NextBus, which allows staff to see where vehicles are located, as well as providing customers with real-time transit information via a web-based interface. HDPT has recently upgraded this technology to include additional features, including mobile data terminals (MDT) for a number of functions, and a mobile application for customers to receive real-time transit information on their smart phones. HDPT recently conducted a procurement process for this upgrade to the fixed-route ITS processes and selected Avail Technologies as the vendor.

The Avail Technologies products have been installed and include the following:

- Computer Assisted Dispatch/Automatic Vehicle Location (CAD/AVL), which replaced the previous system. This CAD/AVL system encompasses real-time transit information provided to the dispatch center as well as to customers.

- "My Stop," which is the Avail system's mobile application so that riders can access real-time transit information via smart phone.

- Mobile Data Terminals – The MDTs are used by drivers to track ridership by fare type, much like they did with manual tally counters. The MDTs are also used for a number of other applications, including signing onto the system, recording the pre-trip inspection report, and providing schedule adherence information.

- Datapoint Software - The database program that stores the information collected via the MDTs. HDPT currently uses Datapoint, but enters ridership information manually.

- Automatic Passenger Counters (APC), which have the capability to provide boarding data by stop.

The new fixed-route technologies were implemented between March and August of 2017, with full implementation occurring with the August service increase associated with the JMU fall semester.

Paratransit Technologies

To assist with paratransit scheduling and dispatching, HDPT uses the Engraph ParaPlan system with onboard MDTs. Data from the MDTs is transferred in real-time using cellular technology to a cloud-based data storage system. ParaPlan is also used to generate statistical reports regarding HDPT paratransit service.

Data Collection, Ridership, and Revenue Reporting Methodology

Fixed-route ridership data are first recorded by the drivers who classify each boarding passenger type on the MDT. With the new Avail system, the ridership information entered by the drivers through the MDTs populates the Datapoint ridership database directly.
The new MDTs that are part of the Avail package include data that many systems collect using electronic fareboxes. HDPT will use the MDTs to help automate ridership data, rather than investing in electronic fareboxes, which are not seen as necessary given the relatively low cash amounts collected and the availability of the Avail products that will collect comparable data.

The calculations for fixed-route revenue miles and revenue hours are collected from DataPoint. Deviations to the schedule are entered by route each day. Using DataPoint, both daily and monthly reports are generated.

Paratransit data is collected via the ParaPlan program, which transfers data to a cloud-based data storage system. Staff verifies the trips daily to guard against software anomalies. The ParaPlan reporting functions are used to generate ridership and other statistical reports.

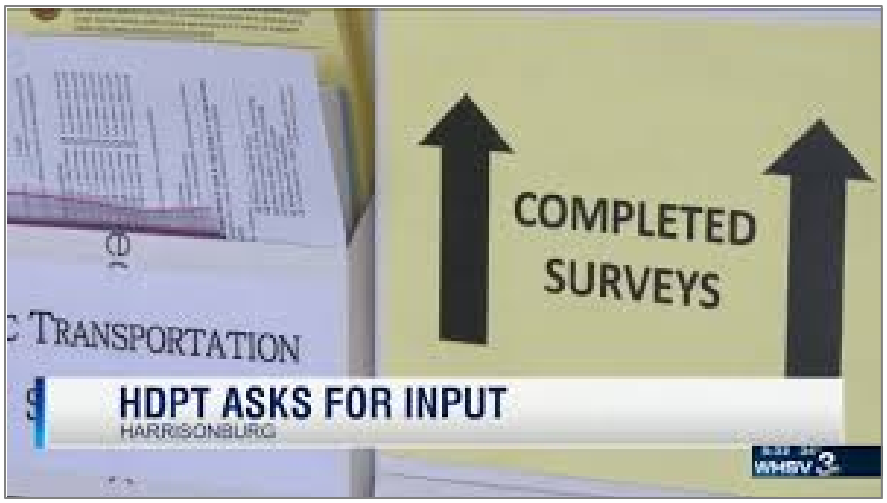
The Senior Program Support Specialist enters the data into OLGA after it has been verified internally.

PUBLIC OUTREACH

Since HDPT is part of the city government, the main forum for public input is City Council meetings, two of which are conducted each month and are open to the public. HDPT policies, budgets, and service changes are presented at City Council meetings, where the public is invited to provide their input. These regularly scheduled meetings and their agendas and minutes are posted on the city government website.

HDPT has a webpage within the city government website and provides current information on all of its transit services, including schedules, maps, fare information, policies, contact information, special notices, and information on transportation resources such as ridesharing. The HDPT webpage includes a customer service form, where the public can provide input or comments and request follow-up by HDPT staff. In addition, HDPT participates with Google Transit, which provides trip planning services on the HDPT website. Also through Google Transit, HDPT's bus stops appear on Google Maps.

HDPT has a social media presence using both Twitter and Facebook. These outlets are used for HDPT to reach out to riders, as well as for riders to express opinions regarding services provided. HDPT staff regularly meet with community organizations to explain the services provided by HDPT, and engage in "ride the bus" programs that teach potential riders how to use the system.



Source: Google images. Photo of survey boxes used for TDP public survey.

HDPT is included in the public planning processes conducted through the Harrisonburg-Rockingham Metropolitan Planning Organization (MPO). All regular and special meetings of the MPO Policy Board and Technical Advisory Committee (TAC) provide a public comment

period that can be used by citizens to voice concerns or provide input on issues relevant to metropolitan transportation planning.

The TDP process provided an opportunity for public outreach, including on-board rider surveys, public surveys, and stakeholder outreach. The survey process and stakeholder information for this TDP is highlighted in Chapter 3.

OTHER AREA TRANSPORTATION PROVIDERS/SERVICES

This last section of Chapter 1 provides an overview of the other transportation providers and services that are available to Harrisonburg area residents, as well as other options available in the Central Shenandoah Valley.

Other Public Transportation Programs

The BRITE Bus is a regional public transportation program provided by the Central Shenandoah Planning District Commission. The BRITE Bus offers public transportation services in the Cities of Staunton and Waynesboro and in Augusta County. One of the BRITE Bus routes, the BRCC North, provides a connection between Blue Ridge Community College (BRCC), located in Weyers Cave, and James Madison University, Dayton, Bridgewater, and Verona. The route travels directly from Weyers Cave to JMU in the northbound direction, and makes local stops in the southbound direction, including Walmart on Route 42 (just outside of Harrisonburg), Dayton, Bridgewater, and Mount Crawford. Connections from the BRCC North can be made at BRCC to the BRCC South to get to Staunton and connect with the rest of the BRITE Bus system. The BRCC North bus connects to HDPT at the Godwin Transportation Center on the JMU campus.

Human Service Agency Transportation Programs

There are several human service agencies in the Harrisonburg area that provide transportation for their clients. Typically these services offer access from a client's home to the program site and back, trips for medical appointments, and/or group trips. The clients of these programs use HDPT for some of their trip needs. These programs are described below.

The Arc of Harrisonburg and Rockingham

The Arc of Harrisonburg and Rockingham provides a variety of services for persons with intellectual and developmental disabilities. Transportation is provided for clients to attend program activities using a fleet of six vehicles. The Arc receives some funding assistance for vehicle purchases through the Federal Section 5310 program, which is administered by DRPT. The Arc is located on Simms Avenue and served by HDPT Route 5, which travels along East

Washington Street. HDPT also provides ADA paratransit for several ARC clients who attend the facility.

Friendship Industries

Friendship Industries' mission is to develop and maintain employment opportunities for adults with disabilities. Friendship Industries has both on-site and off-site employment opportunities for their clients. Transportation is provided to these employment locations, depending upon the needs of the clients. The agency owns six vehicles and receives some funding assistance for vehicle purchases through the Federal Section 5310 program, which is administered by DRPT. Friendship Industries is served by HDPT on request, via the Route 5.

Harrisonburg-Rockingham Community Services Board (CSB)

The CSB provides mental health, substance abuse, and developmental services. Transportation is provided by case managers for clients to access support services and employment. The agency has eight vehicles, four of which are used for CSB residential services. The CSB, located on North Main Street, is served by HDPT Route 3.

Harrisonburg- Rockingham Social Service District

The mission of the Harrisonburg - Rockingham Social Service District is "the promotion of self-reliance and protection of citizens through community-based services." The agency provides limited transportation using agency vehicles for essential life trips, as well as assisting with public transportation to help support clients who need assistance in accessing training and employment opportunities. The agency is located downtown (110 N. Mason Street), and is served by HDPT Route 4 and Route 6.

LogistiCare

LogistiCare is the statewide Medicaid broker for non-emergency Medicaid transportation. LogistiCare contracts with local private transportation operators to provide transportation to Medicaid-eligible appointments. LogistiCare purchases bus tickets in bulk from HDPT for clients to use if HDPT is the least expensive and appropriate mode for the trip.

Valley Program for Aging Services

The Valley Program of Aging Services operates an extensive transportation program for senior citizens and people with disabilities. The program provides transportation to access senior centers in the region, as well as providing demand-response transportation for medical and other trip purposes.

James Madison University Transportation Services

JMU has a contract with HDPT to provide a significant level of public transportation services to help meet the needs of students, faculty and staff. The FY2017 contract is just over $1.64 million. In addition to HDPT services, the following transportation services are also available for the JMU community.

SafeRides

SafeRides is a student-run, non-profit organization that provides free rides home for JMU students on Friday and Saturday nights between the hours of 10:00 p.m. and 3:00 a.m. The organization uses volunteer drivers and has a fleet of six cars. The service can be accessed via telephone or mobile application. In order to manage demand, students are limited to one ride per night. One of the primary purposes of the service is to prevent drinking and driving.

Zimride

Zimride is a ride-matching service that pairs students who need a ride with those who have a vehicle and are making the same trip. The system is open only to the JMU community, though the system does have partnerships with other universities that can be accessed if desired by users. Membership is free for JMU students and staff. The cost of the ride is split using a mutually agreeable method.

Zipcar

Zipcar is a national, 24/7 car sharing service that is available at JMU for students who are over age 18. Cars can be rented based on an hourly or daily rate. Gas, insurance, and an E-Z Pass are included in the rental fees. The cars are located at the JMU Bookstore near the Godwin Transit Center and at the Festival Conference Center parking lot. A Zipcar membership is required (currently $25 per year), and the company conducts driving record checks prior to allowing membership.

Vanpools by Enterprise

JMU offers vanpools by Enterprise as a ride-sharing option for faculty and staff. The option is available for groups of six or more faculty/staff members that join together to share the costs associated with leasing and operating a van. Currently there are no active vanpools in the program at JMU.

Regional and Break Shuttles

A number of private companies offer shuttles to several regional destinations each weekend, including connections to Amtrak in Charlottesville and Washington, D.C. The JMU Transportation Department maintains a listing of the private services that are available, including costs and contact information.

In addition, JMU directly operates shuttle service to the Charlottesville Amtrak and Greyhound stations and to the Charlottesville Airport for Thanksgiving and winter and spring breaks.

JMU Transportation Services

JMU maintains a fleet of vehicles that are used for a number of purposes including campus shuttle services for special events, group travel/field trips, break shuttles, and team travel.

Bike Rentals/Bike Share

Both bike rental services and bike sharing services are available on campus. Bike rentals are offered through the University Recreation department and bike sharing is offered through Baas Bikes.

Intercity Travel Options

Currently, residents of Harrisonburg do not have direct access to intercity bus or rail services. Riders can take the BRCC North and South buses to access the Amtrak Station in Staunton, which is served by the Cardinal Train, providing passenger rail service three times per week.

Intercity bus travel through the I-81 corridor, including a stop in Harrisonburg, is likely to be implemented in FY2018 through the Virginia intercity bus program. DRPT recently conducted a competitive procurement process to choose an intercity bus carrier for service in the corridor from Blacksburg to Northern Virginia. There was also a recent study completed to examine the feasibility of providing inter-regional bus service between Harrisonburg and Charlottesville via I-81 and I-64.

Rideshare Services

Ridesharing services, including carpool and vanpool matching services and a guaranteed ride home program are offered in the region through a partnership between the Central Shenandoah Planning District Commission (of which Harrisonburg is a member) and the Thomas Jefferson Planning District Commission.

Taxi and Transportation Network Companies

Table 1-5 provides a list of the taxi and transportation network companies (TNCs) that operate in the City of Harrisonburg.

Table 1-5: Taxi Companies and TNCs Operating in Harrisonburg

Name	Address	Zip Code
ABC Cab of Harrisonburg	1622 Country Club Road	22801
Checkered Cab	1381 N. Liberty Street	22801
Green Taxi Cab	4681 S. Valley Pike	22801
Royal Cab	954 S. High Street	22801
Yellow Cab	1391 N. Liberty Street	22802
Uber - Transportation Network Company	www.uber.com	
Lyft - Transportation Network Company	www.lyft.com	

Chapter 2
Goals, Objectives, and Standards

HARRISONBURG DEPARTMENT OF PUBLIC TRANSPORTATION – MISSION AND GOALS

The mission statement for the Harrisonburg Department of Public Transportation (HDPT) is:

> *"Harrisonburg Department of Public Transportation strives to ease traffic congestion and provide alternative transportation to the citizens and students of Harrisonburg. Services provided are to be an asset to the community by being safe, clean, reliable, and cost effective."*[1]

This mission has been in place for several years, as documented in the 2011 Transit Development Plan and the 2009 Performance Review.

HDPT has a simple set of goals, which are stated as priorities, and included on all printed materials provided to the public, as well as on the website. These priorities are:

- Safety
- Customer service
- Schedule

HDPT does not develop annual objectives, but rather develops projects and adjusts services based on how well the system is performing with regard to safety, customer service, and on-time performance.

HARRISONBURG-ROCKINGHAM MPO LONG RANGE TRANSPORTATION PLAN GOALS

The Harrisonburg-Rockingham Metropolitan Planning Organization's (MPO's) 2035 Long Range Transportation Plan (LRTP) included six goals, several of which are relevant to the provision of public transportation in the MPO region. These goals are:

Goal 1: Strategic Investment to Provide Connectivity and Accessibility throughout the HRMPO Area

[1] HDPT TDP Update Letter, dated 1-15-2016.

Goal 2: Optimize Utilization of Existing Infrastructure for the Safe and Efficient Movement of People and Goods

Goal 3: Accommodate User Mobility without the Use of Automobiles

Goal 4: Provide a Range of Mobility Options

Goal 5: Provide a Connection between Land Use and Transportation Decisions

Goal 6: Enhance the Quality of Life for All Residents

These goals are currently being updated as part of the MPO's 2040 LRTP.

The MPO's LRTP goals have been included here for reference, as the newly revised DRPT TDP guidance suggests that the TDP should incorporate the strategic goals of adopted regional long range transportation plans.

SERVICE, PERFORMANCE AND SAFETY STANDARDS

Service, performance, and safety standards are benchmarks by which a system, individual routes and services can be evaluated. These standards are typically developed in categories, such as performance (productivity, fiscal condition), safety, and service (service coverage, passenger convenience, and passenger comfort). The most effective standards are straightforward and relatively easy to calculate and understand. Recent DRPT TDP guidance suggests that these standards be based on SMART principles – Specific, Measurable, Agreed, Realistic, and Time-Bound.

Service standards are also used as a measure of compliance with Title VI of the Civil Rights Act of 1964, to ensure that services are provided equitably to all persons in the service area regardless of race, color, or national origin.

Service Standards

Within the HDPT Title VI Plan, there are service standards outlined in the categories of vehicle load, vehicle headway, service availability, and on-time performance. These measures reflect HDPT priorities of safety, customer service, and schedule. Each of these standards is detailed below.

Vehicle Load

Given the nature of several of HDPT routes, which provide service to major apartment complexes, and through the JMU campus, crowding can be an issue when JMU is in session. HDPT's Title VI Plan standards for vehicle load are presented in Table 2-1.

Table 2-1: HDPT Vehicle Load Standards

Vehicle Type	Average Vehicle Capacities			Maximum Load Factor
	Seated	*Standing*	*Total*	
Small Bus	12	7	19	1.6
35' Transit Bus - JMU	32	38	70	2.2
35" Transit Bus - City	32	5	37	1.2

Vehicle loads reflect both safety and passenger comfort, which tie back to HDPT values of safety and customer service. HDPT indicated in its Title VI Plan that it will examine and introduce ways to alleviate overcrowding when the vehicle load factor exceeds the recommended maximum load factor per vehicle type.

Vehicle Headway

Vehicle headway standards are included in HDPT's Title VI Plan. The standards listed in the plan call for 60 minute headways for city routes for all time periods (peak, base, and Saturday). Headway standards for JMU routes are 30 minutes.

Service Availability

HDPT discusses service availability in terms of geographic coverage in its Title VI Plan, indicating that routes are structured to serve the major points of interest in the City of Harrisonburg, as well as major points on the JMU campus and local apartment complexes.

On-Time Performance

The third priority for HDPT is "The Schedule." With HDPT's CAD/AVL system, it is relatively easy to monitor on-time performance for fixed routes. Staff is able to review the on-time performance of each route on a monthly basis, showing if there are deficiencies in the route.

HDPT defines the following as insufficient on-time performance:

- Ten minutes late, more than 10% of the time
- Early

The CAD/AVL system uses the time points built into the system to check these parameters. HDPT can then use this information to adjust the route as needed.

The on-time performance standard for ADA paratransit is:

- The paratransit vehicle will arrive at the pick-up within 15 minutes of the scheduled pick-up time, 90% of the time.

Performance Standards

Performance measures typically include some measure of service productivity (i.e., passengers per revenue hour), and some inclusion of expenses (i.e., cost per trip). The operating data by category for FY2016 are provided in Table 2-2. HDPT will use these measures as a baseline when evaluating route performance. HDPT may want to further break down the JMU performance measures, as the Inner Campus Shuttle tends to skew the performance higher than what is seen for the off-campus routes; and the night routes perform at lower productivity than the day routes.

Table 2-2: HDPT Performance by Service Type – FY2016

Service	Revenue Hours	Passenger Trips	Operating Cost	Trips/ Hour	Cost/Trip
City Fixed Routes	20,975	340,732	$ 1,238,993	16.24	$ 3.64
JMU Routes - All	40,234	2,435,477	$ 2,376,622	60.53	$ 0.98
Paratransit	12,774	30,123	$ 598,286	2.36	$ 19.86

Small Transit Intensive Cities Performance Factors

Important performance factors for HDPT from a financial standpoint are those factors used as criteria for awarding funding under the FTA's Small Transit Intensive Cities (STIC) formula. HDPT has been awarded funding from this program several times, including $573,114 in FY2017. The FY2017 program awarded $191,038 in funding for each performance factor that was exceeded. The following performance factors are used:

- Passenger miles per vehicle revenue mile *
- Passenger miles per vehicle revenue hour
- Vehicle revenue miles per capita
- Vehicle revenue hours per capita*
- Passenger miles per capita
- Passenger trips per capita *

*Denotes factors where HDPT met or exceeded the standard set, which was the average value achieved by all UZAs with populations between 200,000 and 1,000,000.

Table 2-3 shows the average values for these factors, as well as the HDPT values for the FY2017 funding cycle.

Table 2-3: FTA Small Transit Intensive Cities Factors for FY2017 Funding

Factor	HDPT	Average of Systems
Passenger Miles per Vehicle Revenue Mile	**6.9**	6.4
Passenger Miles per Vehicle Revenue Hour	70	111.9
Vehicle Revenue Miles per Capita	11	11.3
Vehicle Revenue Hours per Capita	**1.1**	0.7
Passenger Miles per Capita	76.1	80.9
Passenger Trips per Capita	**42.2**	12.9

Source: FTA, FY2017 Small Transit Intensive Cities Apportionments

While HDPT does not have control over how the agency compares to the average, the agency can work toward maximizing the factors over which it does have control.

Safety Standards

HDPT's highest listed priority is safety. Like many transit agencies, HDPT uses the number of "reportable events" per 100,000 revenue miles of service as the basis for its safety standard. [2] HDPT sets its standard to a five-year average. Currently the standard is no more than 0.26 reportable events per 100,000 revenue miles.

[2] **Reportable Event, as defined for data collection associated with the National Transit Database:**
A safety or security event occurring on transit right-of-way, in a transit revenue facility, in a transit maintenance facility, or involving a transit revenue vehicle that results in one or more of the following conditions:
Non-Rail Modes:

- A fatality confirmed within 30 days of the event
- An injury requiring immediate medical attention away from the scene for one or more person
- Property damage equal to or exceeding $25,000
- Collisions involving transit revenue vehicles that require towing away from the scene for a transit roadway vehicle or other non-transit roadway vehicle
- An evacuation for life safety reasons

Chapter 3
Service and System Evaluation and Transit Needs Analysis

INTRODUCTION

This chapter describes a particularly important component of the TDP – the evaluation of the current service and the transit needs analysis, both of which contributed to the development of service alternatives and improvements. Since one of the key purposes of the TDP is to improve the efficiency and effectiveness of transit services, the focus of the system evaluation is to identify capital needs and any areas for improvement in HDPTs operational performance. The first part of the chapter focuses on trend data and current route performance, followed by a review of peer systems, and survey and stakeholder data and opinions. The transit needs analysis completes the chapter.

This chapter has nine major components that are presented in the order shown below:

- Trend and Performance Data and Characteristics
- Financial Analysis
- Peer Review and Analysis
- Onboard Rider Surveys
- Public Surveys
- Stakeholder Opinions
- Demographics and Land Use
- Review of Previous Plans and Studies
- Chapter Conclusions and Focus for Alternatives

TREND AND PERFORMANCE DATA AND CHARACTERISTICS

Fixed-Route Service

HDPT fixed-route ridership has grown significantly since the 2011 TDP, with much of that growth occurring between 2011 and 2013 when services were added to several new student-oriented apartment complexes. The highest ridership recorded for the years FY2011 through FY2016 occurred in FY2015, reaching 2,792,129 passenger trips. While service was added in FY2016, ridership was down slightly. Fixed-route passenger trips were the highest in FY2015, and productivity was actually the highest in FY2014, with 48.9 passenger trips per revenue hour recorded. Service hours were added in FY2015 to accommodate demand, which reduced productivity slightly to 46.8 trips per revenue hour in FY2015. Service hours were also added

in FY2016, which also slightly reduced productivity to 44 passenger trips per revenue hour. While the last two years showed slightly lower fixed-route productivity, both are significantly higher than the FY2011 fixed-route productivity of 38.5 trips per revenue hour.

The average miles per hour for the fixed-routes declined in FY2016, with construction on and near the JMU campus that has slowed traffic. This traffic congestion may also play a role in the slight reduction in ridership that was experienced between FY2015 and FY2016.

With the addition of service between FY2011 and FY2013, operating expenses increased as well; and the cost per hour rose from $49.37 to $56.70. Costs have since risen at a much slower rate, even with the addition of service hours. The FY2016 cost per revenue hour of $58.19 was lower than the FY2015 cost per revenue hour of $59.00, though the total operating expenses were about $120,000 higher.

Table 3-1 provides operating statistics for HDPT for FY2011 through FY2016, as reported by HDPT and the National Transit Database.

Demand-Response Service

As shown in Table 3-1, demand for paratransit service has increased significantly since FY2011, with ridership increases recorded each year. Revenue hours have increased to keep up with demand up until FY2016, which showed a slight drop in revenue hours, though a continued increase in passenger trips. Productivity has ranged from a low of 2.13 trips per revenue hour (FY2011) to a high of 2.62 trips per hour (FY2012). FY2016 productivity was 2.36 trips per revenue hour.

Paratransit operating costs rose consistently each year between FY2011 and FY2015. The FY2016 operating costs were lower than the FY15 operating costs, at $598,286, which resulted in reductions in the cost per hour and the cost per trip. HDPT staff indicated that the cost reductions were primarily caused by a change in the city's cost allocation formula, rather than a true reduction in expenses.

Table 3-1: System-Wide Performance and Trend Data –FY2011 through FY2016

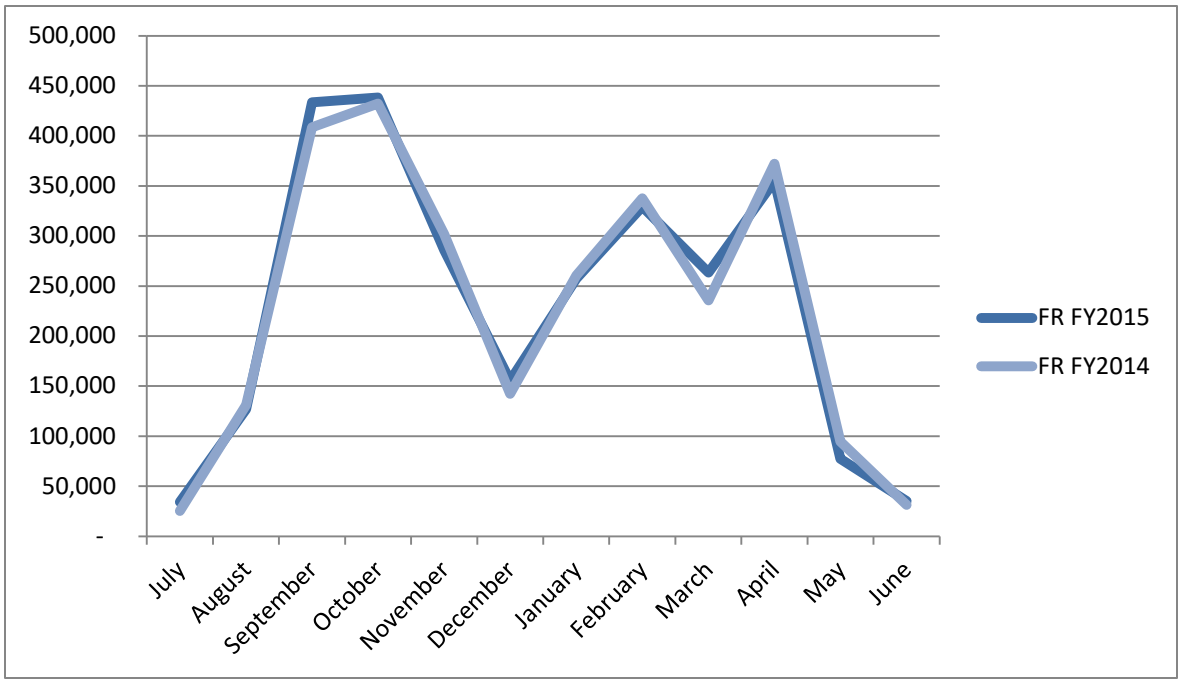
Fixed-route Service	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016
Fixed-route Passenger Trips	2,063,300	2,509,800	2,724,912	2,773,461	2,792,129	2,777,607
Fixed-route Revenue Hours	53,600	56,500	56,035	56,723	59,721	63,107
Fixed-route Revenue Miles	507,700	557,200	568,559	590,090	616,880	629,757
Fixed-route Operating Costs	$2,646,200	$3,001,700	$3,177,384	$3,257,660	$3,523,337	$3,672,004
FR Trips/Revenue Hour	38.5	44.4	48.6	48.9	46.8	44.0
FR Trips/Revenue Mile	4.06	4.50	4.79	4.70	4.53	4.41
FR Miles/Hour	9.47	9.86	10.15	10.40	10.33	9.98
FR Cost/Trip	$1.28	$1.20	$1.17	$1.17	$1.26	$1.32
FR Cost/Revenue Hour	$49.37	$53.13	$56.70	$57.43	$59.00	$58.19
Demand Response Service	**FY2011**	**FY2012**	**FY2013**	**FY2014**	**FY2015**	**FY2016**
Paratransit Passenger Trips	20,200	24,900	24,323	26,964	28,290	30,123
Paratransit Revenue Hours	9,500	9,500	10,957	11,771	12,844	12,774
Paratransit Revenue Miles	78,300	90,900	97,394	112,149	115,674	125,188
Paratransit Operating Costs	$442,600	$481,500	$528,853	$642,122	$659,661	$598,286
DR Trips/Revenue Hour	2.13	2.62	2.22	2.29	2.20	2.36
DR Trips/Revenue Mile	0.040	0.045	0.043	0.046	0.046	0.048
DR Miles/Hour	8.24	9.57	8.89	9.53	9.01	9.80
DR Cost/Trip	$21.91	$19.34	$21.74	$23.81	$23.32	$19.86
DR Cost/Revenue Hour	$46.59	$50.68	$48.27	$54.55	$51.36	$46.84

Source: HDPT and the National Transit Database

Ridership by Month

Given the major participation by JMU in the HDPT system, the HDPT fixed-route ridership experiences significant month to month fluctuation based on the JMU academic calendar. Figure 3-1 provides a graphic depiction of HDPT ridership by month for FY2015 and FY2014. As the graph shows, the trends for these two years are quite similar, with ridership generally peaking in October, as the JMU population peaks and the students have learned how to use the system. In addition to summer break, school breaks also affect ridership in November, December, January, and March.

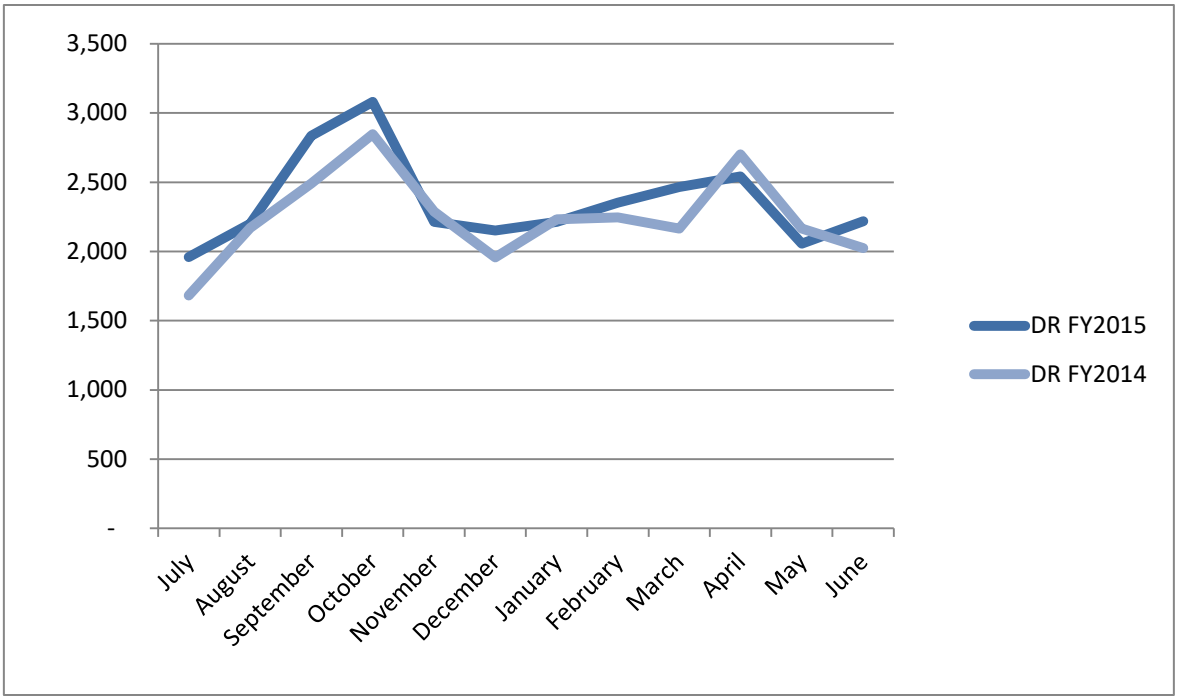
Figure 3-1: HDPT Fixed-route Ridership by Month- FY2014 and FY2015



Source: HDPT

HDPT paratransit ridership also exhibits seasonal variation, but not nearly to the degree that the fixed-route ridership does. A higher percentage of the year-round city riders use paratransit as compared to the percentage of JMU students that use paratransit. The paratransit ridership by month for FY2014 and FY2015 is provided in Figure 3-2.

Figure 3-2: HDPT Paratransit Ridership by Month – FY2014 and FY2015



Source: HDPT

Route Level Operating Statistics and Profiles

City Routes – FY2015 and FY2016 Characteristics and Route Profiles

HDPT's six city routes (route numbers 1 through 6) experienced ridership growth between FY2015 and FY2016 of 4%. In FY2016 the highest ridership city route was Route 3, which operates as a loop, serving all three of HDPT's major transfer centers, including Godwin on the JMU campus. The route productivity on this route was also the highest among the year-round city routes at 23.7 trips per revenue hour.

In terms of ridership growth between FY2015 and FY2016, Route 2 experienced the highest percentage of growth (16%), followed by the relatively new Route 6 (14%). Route 2 serves the newly developing Urban Development Area (UDA) of Rockingham County, adjacent to the Sentara Rockingham Hospital, as does Route 6.

Route 1 experienced the second highest ridership and productivity among the six city routes, but experienced a ridership loss of 5% between FY2015 and FY2016. It should be noted that there is some service area duplication between Route 1 and Route 2.

The city routes comprised 12.3% of HDPT's total fixed-route ridership in FY2016. This figure is up since the 2011 TDP, when the city routes comprised 11% of the system ridership. Productivity is also up significantly on the city routes, as compared to the 2011 TDP analysis. In FY2016, the city routes averaged 16.2 trips per revenue hour, as compared to 11.8 trips per revenue hour in FY2010. The operating speed for the city routes was 11.86 miles per hour in FY2016 and 11.83 miles per hour in FY2015. Table 3-2 provides the route level operating statistics for the HDPT year-round city routes for FY2015 and FY2016. Route profiles for the each of the city routes follow the summary data, beginning on page 3-8.

Table 3-2: FY2016 and FY2015 Operating Statistics for HDPT's Year Round Fixed-route Transit Services

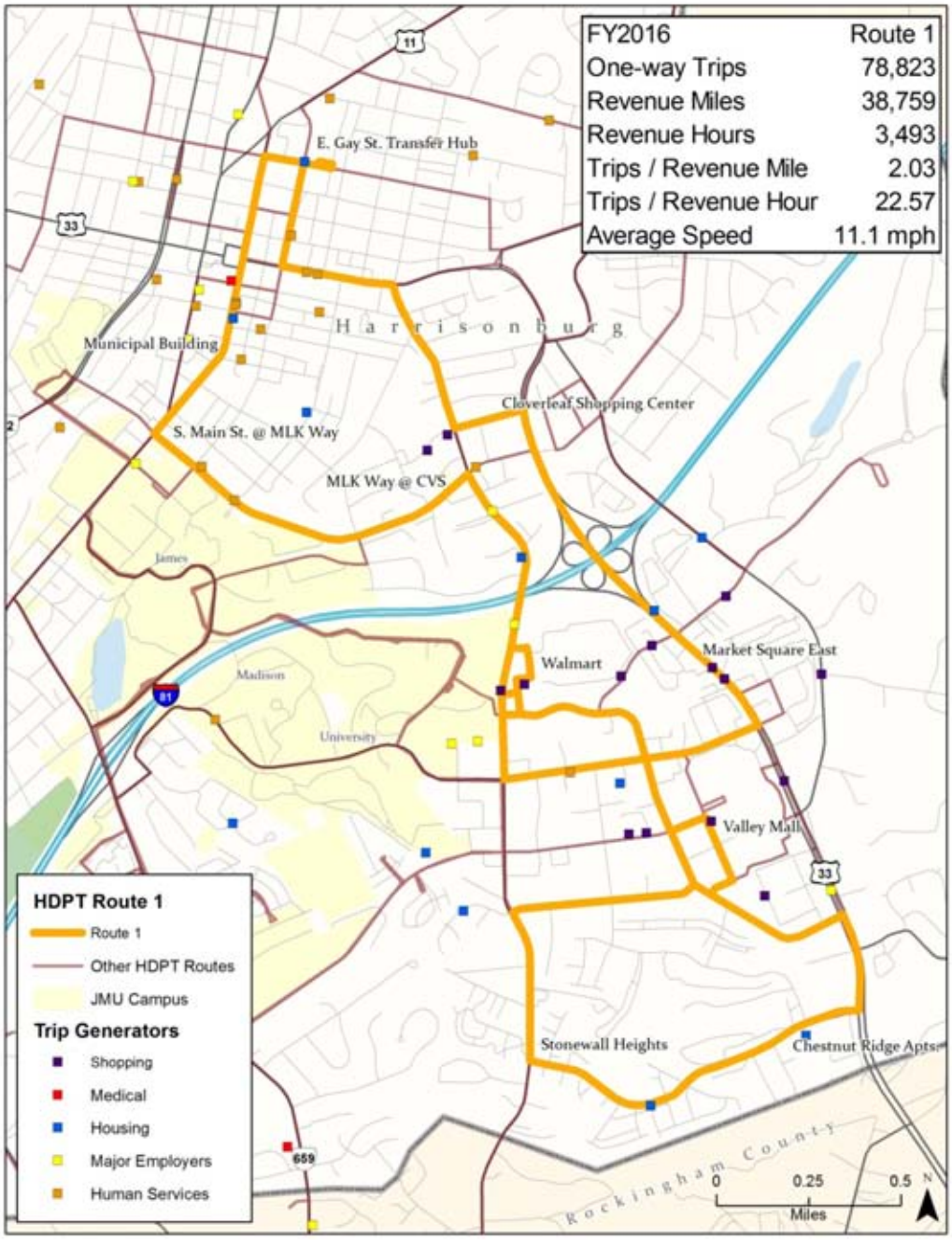
Route	Passenger Trips		Ridership	Revenue Hours		Revenue Miles		Trips/Rev. Hour		Trips/Rev. Mile		Miles/Hour	
	FY2016	FY2015	Change	FY2016	FY2015	FY2016	FY2015	FY2016	FY2015	FY2016	FY2015	FY2016	FY2015
City Routes													
1	78,823	83,314	-5%	3,493	3,481	38,759	38,977	22.6	23.9	2.03	2.14	11.10	11.20
2	51,031	44,036	16%	3,533	3,525	43,765	42,670	14.4	12.5	1.17	1.03	12.39	12.10
3	83,031	76,589	8%	3,500	3,494	48,913	48,834	23.7	21.9	1.70	1.57	13.98	13.98
4	38,527	39,629	-3%	3,511	3,504	46,340	45,476	11.0	11.3	0.83	0.87	13.20	12.98
5	52,607	52,895	-1%	3,458	3,453	35,828	35,851	15.2	15.3	1.47	1.48	10.36	10.38
6	36,713	32,862	12%	3,480	2,957	35,084	29,597	10.5	11.1	1.05	1.11	10.08	10.01
Subtotal	**340,732**	**329,325**	**3%**	**20,975**	**20,414**	**248,689**	**241,405**	**16.2**	**16.1**	**1.37**	**1.36**	**11.86**	**11.83**
Bridgewater/ Dayton Shuttle	1,057	1,036	2%	329	306	5,482	6,336	3.2	3.4	0.19	0.16	16.66	20.71

Source: HDPT

Route 1- East Market Street

Route 1 provides service from the East Gay Street Hub south to the housing developments along Chestnut Ridge Drive via Cloverleaf Shopping Center, Valley Mall, and Walmart. Service is provided Monday through Friday from 6:34 a.m. to 6:20 p.m. and Saturdays from 8:34 a.m. to 5:20 p.m. Hourly headways are offered and each cycle has a 14-minute recovery time. A route map and statistical profile for the route is provided in Figure 3-3.

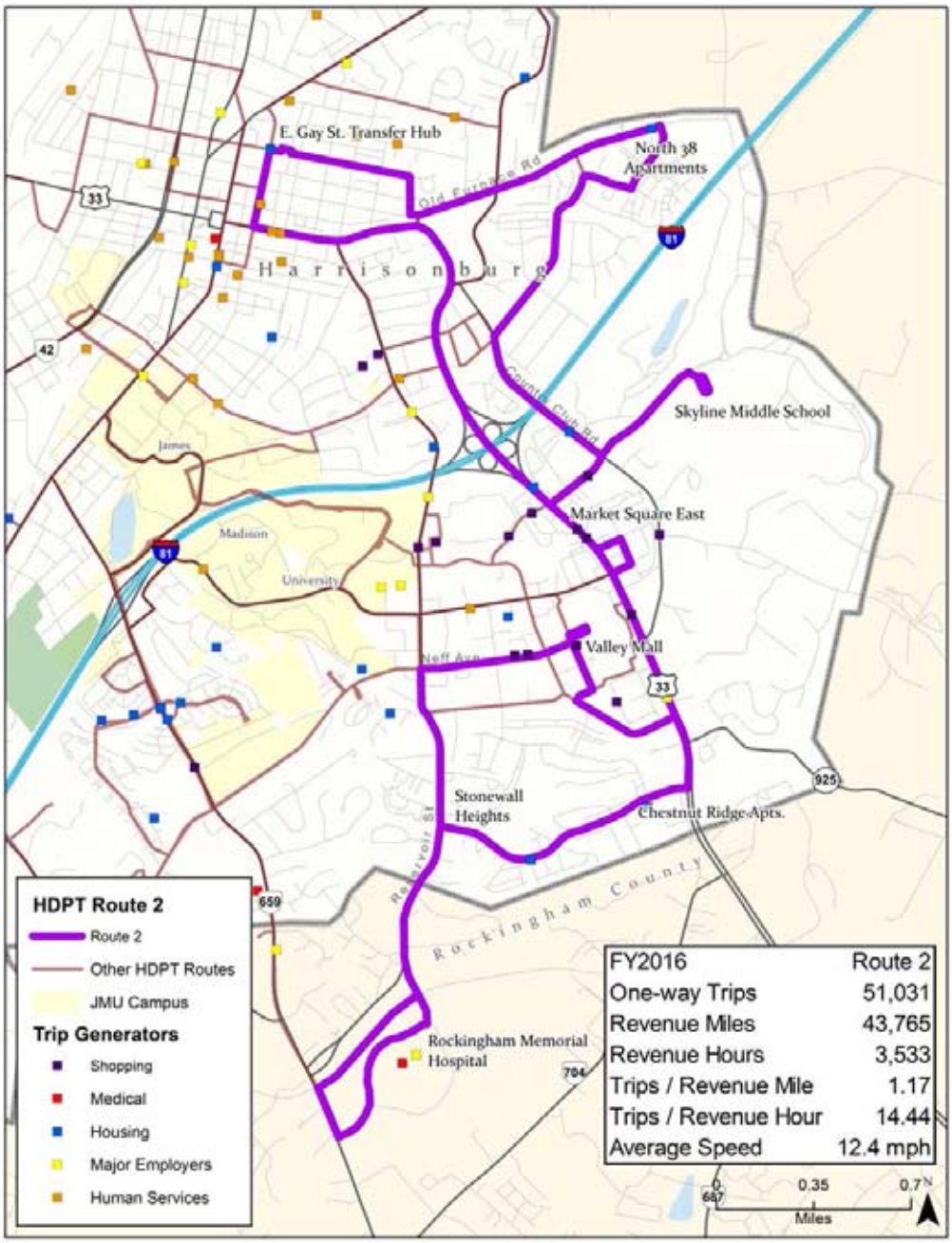
Figure 3-3: Route Profile- HDPT Route 1



Route 2 – Reservoir Street

Route 2 provides service from the East Gay Street Hub to Sentara Rockingham Memorial Hospital via East Market Street, Valley Mall and Reservoir Street, returning via Chestnut Ridge Drive, Country Club Road, Blue Ridge Drive, Oriole Lane, and Old Furnace Road. Service is provided Monday through Friday from 6:30 a.m. to 6:16 p.m. and Saturdays from 8:30 a.m. to 5:16 p.m. Hourly headways are offered and each cycle has a 14-minute recovery time. A route map and statistical profile for the route is provided in Figure 3-4.

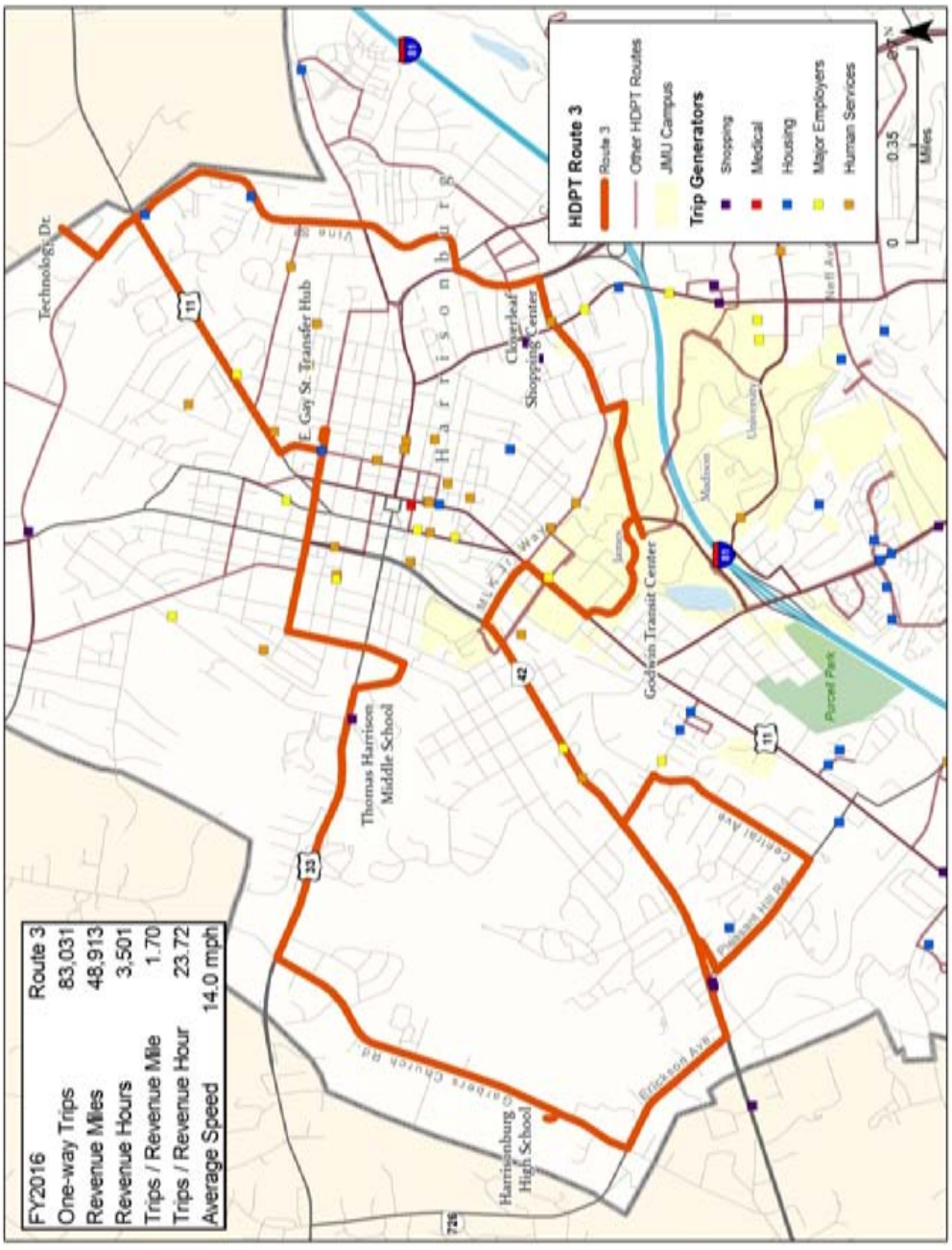
Figure 3-4: Route Profile - HDPT Route 2



Route 3 – South High Street

Route 3 is a loop route that connects all three of HDPT's main transfer points, as well as serving Harrisonburg High School and Thomas Harrison Middle School. Service is provided Monday through Friday from 6:42 a.m. to 6:37 p.m. and Saturdays from 8:42 a.m. to 5:37 p.m. Hourly headways are offered and each cycle has a 13-minute recovery time at the East Gay Street Hub and a five-minute layover at the Cloverleaf Shopping Center. A route map and statistical profile for the route is provided in Figure 3-5.

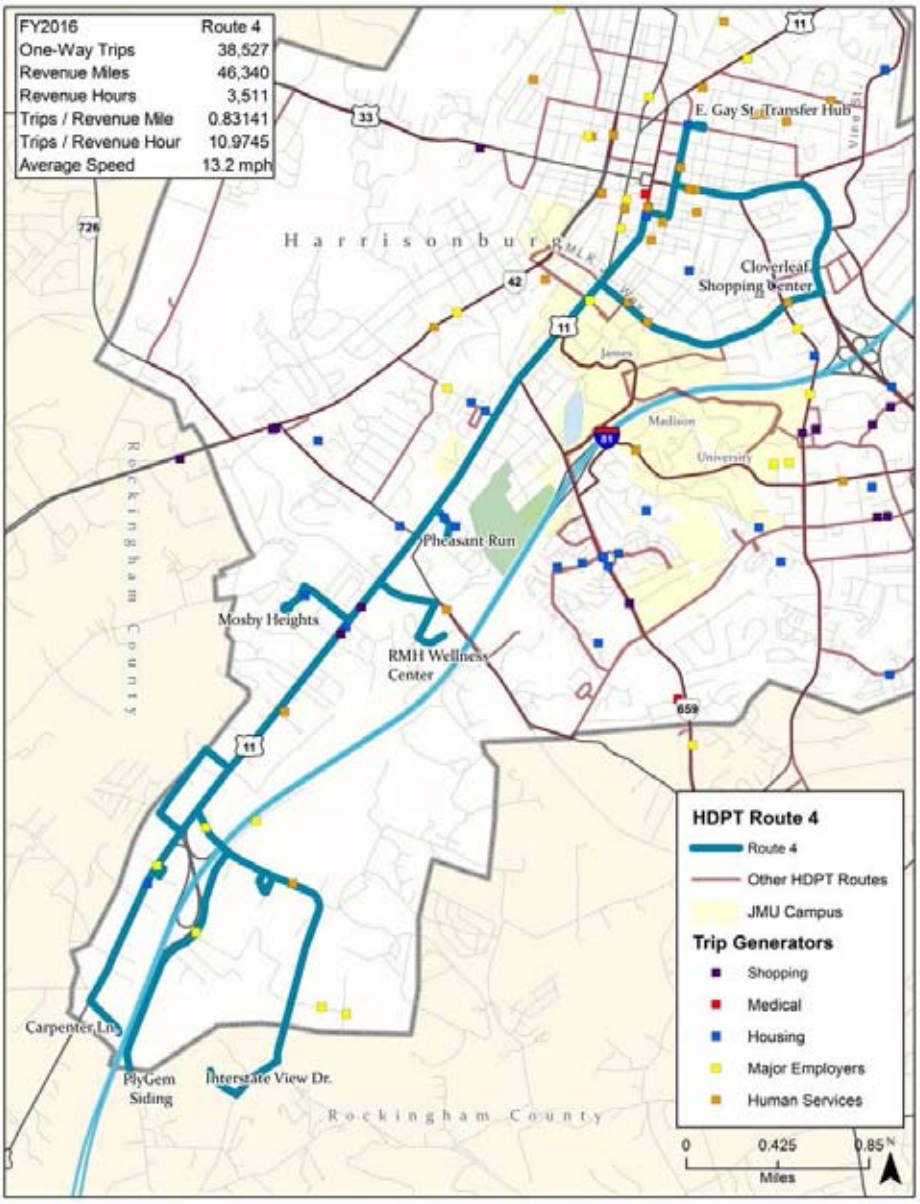
Figure 3-5: Route Profile – HDPT Route 3



Route 4 – South Main Street

HDPT Route 4 is a relatively linear route that provides service from the East Gay Street Hub and Cloverleaf Shopping Center to the southern border of Harrisonburg via South Main Street. Call- ahead diversions are offered to several locations to the east of I-81 along Pleasant Valley Road. A tripper bus is sometimes needed to maintain the schedule for this route when diversions are offered. Service is provided Monday through Friday from 6:42 a.m. to 6:39 p.m. and Saturdays from 8:42 a.m. to 5:39 p.m. Without diversions, the schedule shows a 13-minute recovery time at the East Gay Street Hub and a three-minute layover at the Cloverleaf Shopping Center. Figure 3-6 provides a profile for Route 4.

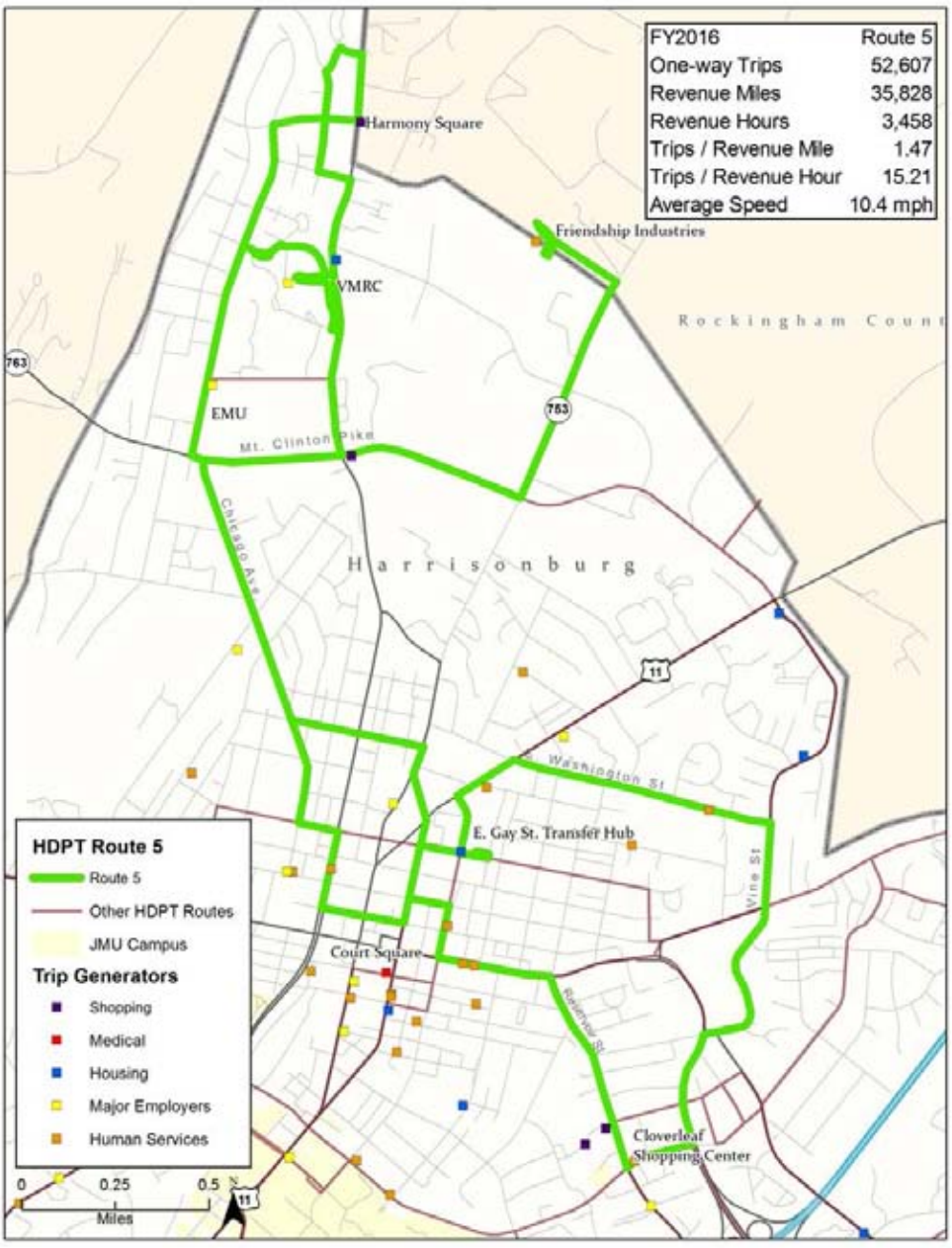
Figure 3-6: Route Profile – HDPT Route 4



Route 5 – North High Street

Route 5 connects the Virginia Mennonite Retirement Community (VMRC) and Eastern Mennonite University to downtown via Chicago Avenue. A loop via East Washington Street, Vine Street, Cloverleaf Shopping Center, and Reservoir Street is also traveled, after serving the East Gay Street Transit Hub. Service is provided Monday through Friday from 7:09 a.m. to 6:56 p.m. and Saturdays from 9:09 a.m. to 5:56 p.m. The primary layover point for the route is the VMRC, with about a 13-minute recovery. A six-minute layover is also included at the East Gay Street Transit Hub. A route profile is provided as Figure 3-7.

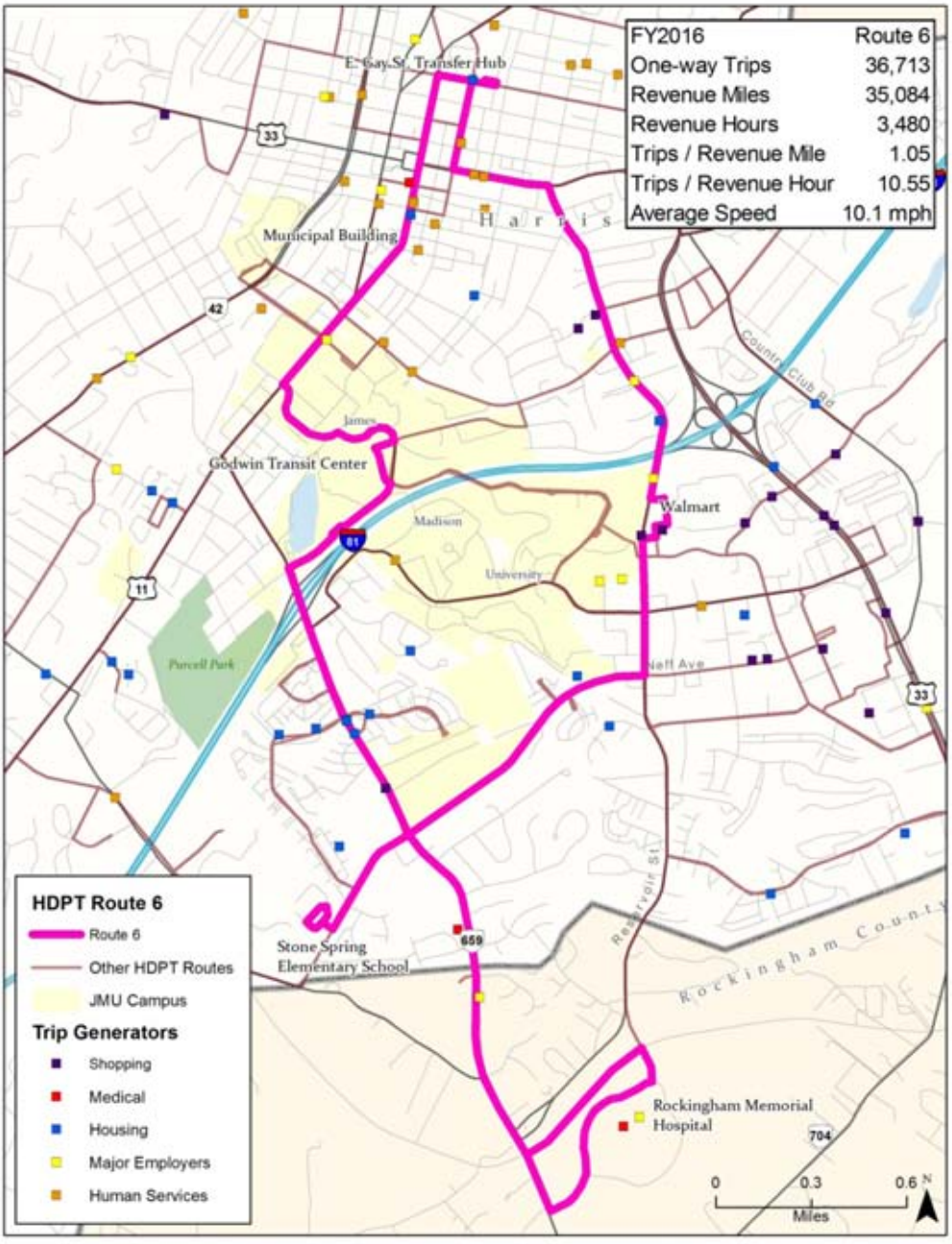
Figure 3-7: Route Profile – HDPT Route 5



Route 6 – Port Republic Road

The newest of HDPT city routes is Route 6, which provides a connection between JMU, Port Republic Road, Sentara Rockingham Memorial Hospital, Walmart and downtown. The route is a loop route. Service is provided Monday through Friday from 6:50 a.m. to 6:38 p.m. and Saturdays from 8:50 a.m. to 5:38 p.m. Layover points are provided at both Godwin Transit Center on the JMU campus and at the East Gay Street Hub. A route profile is provided as Figure 3-8.

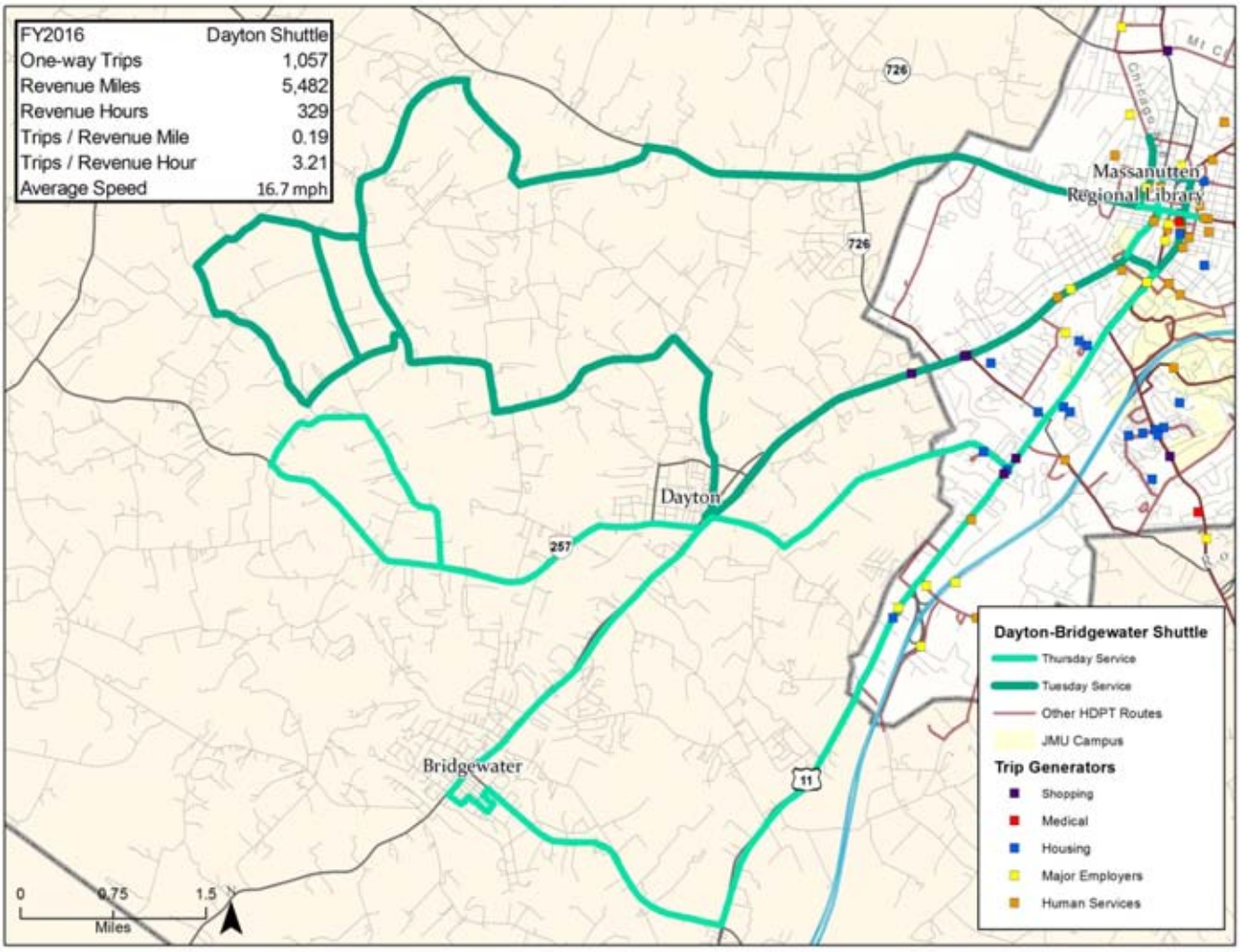
Figure 3-8: Route Profile – HDPT Route 6



Bridgewater/Dayton Shuttle

The Bridgewater/Dayton Shuttle was originally created to provide safer travel options into the City of Harrisonburg for Old Order Mennonites in the region who historically relied on horse and buggy for travel. The shuttle provides service between Harrisonburg and the Town of Dayton on Tuesdays and Thursdays; with the Town of Bridgewater also served on Thursdays. There are two morning runs that leave Harrisonburg from the Massanutten Library at 8:30 a.m. and 11:30 a.m., with an afternoon run offered on demand only. A route profile of the Bridgewater/Dayton Shuttle is provided as Figure 3-9.

Figure 3-9: Route Profile – HDPT Bridgewater/Dayton Shuttle



JMU Routes - FY2015 and FY2016 Characteristics- Weekday Routes

During JMU's fall and spring semesters, HDPT operates 14 day routes on weekdays to provide transportation between off-campus apartments and shopping locations to the JMU campus, as well as to provide on-campus circulation. The weekday off-campus day routes are numbered 7 through 18. There is also a weekday Shopper Shuttle Route that operates between campus and various primary shopping areas in Harrisonburg. The Inner Campus Shuttle (ICS) provides on-campus circulation and is operated with three vehicles. The Extra and Express vehicles provide tripper service where needed. The schedules for these routes vary according to the JMU class schedule, with different route schedules offered on Monday, Wednesday, Friday, as compared to Tuesday and Thursday. In addition, some routes offer a "long" and "short" schedule. The "long" schedules provide more campus mobility, offering service to multiple campus locations, whereas the "short" schedules offer fewer on-campus stops.

Service on these routes is generally provided Monday through Friday from 7:30 a.m. to 7:00 p.m. Headways vary according to route length and the long and short schedules. Most routes serve the Godwin Transit Center, which is JMU's primary transit hub.

The statistical analysis for these routes shows that ridership overall among all day-routes was similar between FY2015 and FY2016, though the off-campus routes were down by about 5%. The ICS showed a significant increase in ridership, which offset some of the lower ridership on the off-campus routes. The ICS is HDPT's busiest route, accounting for 24% of all fixed-route passenger trips in FY2016. Ridership on the route was 664,167 in FY2016, which was eight percent higher than ridership in FY2015. Productivity on the route is also very high, at 146 passenger trips per revenue hour, often operating at capacity. These data are shown in Table 3-3.

Of the thirteen off-campus day routes, Route 8 had the highest ridership in FY2016, with 130,611 passenger trips. Service productivity on the Route 8 was also the highest among the off-campus day routes, providing 77.8 passenger trips per revenue hour. Ridership on this route was down about 6% from FY2015, where 138,474 trips were provided. Route 8 serves a large portion of the JMU campus via Carrier Drive, University Boulevard, and Reservoir Street on the way to and from the Sunchase Apartments.

Route 9 had the second highest ridership among the off-campus day routes in FY2016, providing 121,773 passenger trips. This route serves a large portion of the JMU campus on its way to and from Stonegate Apartments. Ridership was up slightly on this route between FY2015 and FY2016, as it operated about 230 more revenue hours in FY2016 as compared to FY2015.

Route 7 rounded out the top three off-campus daytime routes, providing 119,189 passenger trips in FY2016. Ridership on Route 7 was down about 5% from FY2015. Route 7 provides service to and from several apartment complexes along Lois Lane.

Table 3-3: Operating Statistics for the JMU Weekday Routes – Daytime Routes, FY2016 and FY2015

Route	Passenger Trips		Ridership	Revenue Hours		Revenue Miles		Trips/Rev. Hour		Trips/Rev. Mile		Miles/Hour	
	FY2016	FY2015	Change	FY2016	FY2015	FY2016	FY2015	FY2016	FY2015	FY2016	FY2015	FY2016	FY2015
7	119,189	125,780	-5%	2,249	2,214	19,584	19,085	53.0	56.8	6.09	6.59	8.71	8.62
8	130,611	138,474	-6%	1,679	1,670	16,295	16,157	77.8	82.9	8.02	8.57	9.71	9.67
9	121,773	119,701	2%	2,301	2,071	24,763	22,261	52.9	57.8	4.92	5.38	10.76	10.75
10	99,416	99,169	0%	1,677	1,671	13,679	13,698	59.3	59.3	7.27	7.24	8.16	8.20
11	67,787	83,753	-19%	1,741	1,706	13,439	15,552	38.9	49.1	5.04	5.39	7.72	9.12
12	57,877	61,834	-6%	1,624	1,141	18,786	21,534	35.6	54.2	3.08	2.87	11.57	18.87
13	75,627	73,434	3%	1,559	1,530	11,430	11,261	48.5	48.0	6.62	6.52	7.33	7.36
14	87,154	85,742	2%	1,602	1,602	17,185	15,612	54.4	53.5	5.07	5.49	10.73	9.75
15	103,703	130,660	-21%	1,747	1,722	17,893	18,833	59.4	75.9	5.80	6.94	10.24	10.94
16	50,191	49,695	1%	1,709	1,705	16,525	16,540	29.4	29.1	3.04	3.00	9.67	9.70
17	88,953	93,717	-5%	1,570	1,566	17,903	17,844	56.7	59.8	4.97	5.25	11.40	11.39
18	110,513	98,009	13%	1,674	1,680	13,814	13,876	66.0	58.3	8.00	7.06	8.25	8.26
Shopper Week	68,305	85,388	-20%	1,645	1,587	16,158	13,654	41.5	53.8	4.23	6.25	9.82	8.60
ICS 1	263,800	218,419	21%	1,548	1,536	14,010	13,915	170.4	142.2	18.83	15.70	9.05	9.06
ICS 2	206,148	196,491	5%	1,412	1,413	12,782	12,860	146.0	139.1	16.13	15.28	9.05	9.10
ICS 3	194,219	202,238	-4%	1,573	1,565	14,142	14,087	123.5	129.2	13.73	14.36	8.99	9.00
Extra 1	55,926	55,024	2%	1,454	1,470	7,381	7,357	38.5	37.4	7.58	7.48	5.08	5.00
Extra 2	67,354	58,704	15%	1,474	1,496	7,406	6,863	45.7	39.2	9.09	8.55	5.02	4.59
Extra 3	66,801	59,361	13%	1,352	1,378	7,416	7,049	49.4	43.1	9.01	8.42	5.49	5.12
Express	106,048	109,098	-3%	1,618	1,532	12,437	12,626	65.5	71.2	8.53	8.64	7.69	8.24
Subtotal	**2,141,395**	**2,144,691**	**-0.2%**	**33,208**	**32,255**	**293,028**	**290,664**	**64.5**	**66.5**	**7.31**	**7.38**	**8.82**	**9.01**

Source: HDPT

Note: The Routes 7, 8, 9, and 10 were re-numbered during 2017. The new route numbers are 19, 20, 21, and 22.

In terms of ridership growth, the largest percentage increase in ridership among the off-campus day routes was seen on Route 18, with a 13% increase in ridership between FY2015 and FY2016, and essentially the same number of revenue service hours. Route 18 provides service from campus to three housing complexes off of Port Republic Road: Hunters Ridge, Camden Townes, and The Harrison.

The weekday Shopper Shuttle, Route 15 and Route 11 saw significant ridership decreases, with ridership down 20% on the Shopper Shuttle, 21% on Route 15 and 19% on Route 11. Route 15 continues to be a very strong route, providing over 59 passenger trips per revenue hour, even with the drop in ridership. Route 15 provides service to apartment locations along Chestnut Ridge Drive and Lucy Drive, some of which are also served by Route 2. Route 11 is primarily a campus route, connecting Memorial Hall with Miller Hall, Chandler Hall, and Festival Conference Center. The operating speed in FY2016 on the Route 11 was significantly lower, which likely explains the drop in ridership, as the route took longer to traverse campus, offering a less appealing option.

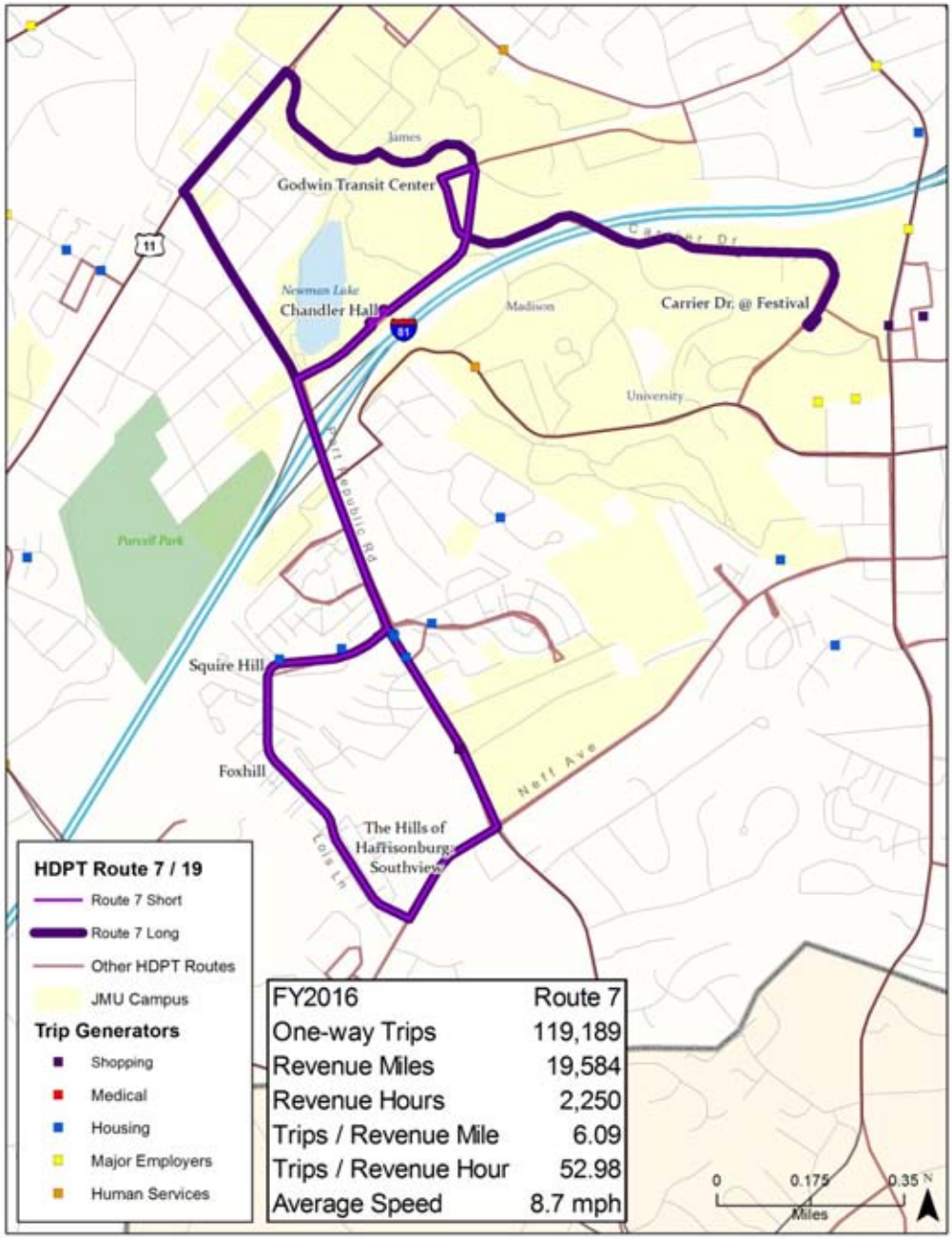
JMU- Oriented Day Routes – Route Profiles

Profiles for each of the JMU-oriented day routes are provided on the following pages.

Route 19/7

Route 19 (previously numbered Route 7) provides service from the apartment complexes along Lois Lane to campus via Port Republic Road. The Monday-Wednesday-Friday schedule operates from 7:18 a.m. to 7:09 p.m. and includes 11 long trips and 9 short trips. The Tuesday-Thursday schedule operates from 7:19 a.m. to 7:09 p.m. and includes 9 long trips and 12 short trips. The route profile for FY2016 is provided in Figure 3-10.

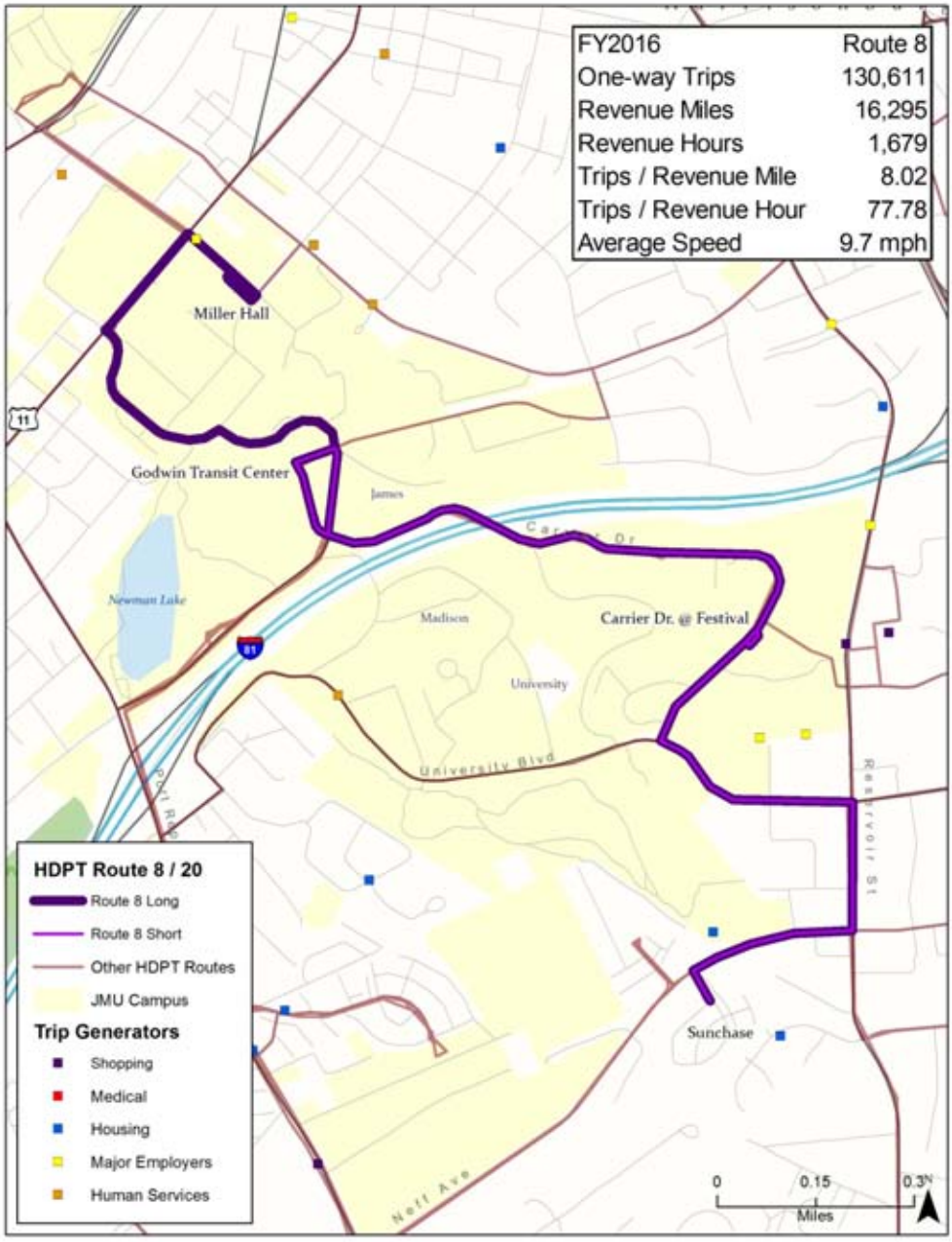
Figure 3-10: Route Profile- HDPT Route 19/7



Route 20/8

Route 20 (previously numbered Route 8) connects the JMU campus and Sunchase Apartments. This route operates both long and short runs, offering service Monday-Wednesday-Friday from 7:30 a.m. to 7:06 p.m. (12 long runs and 8 short runs), and Tuesday-Thursday from 7:27 a.m. to 7:02 p.m. (8 long runs and 8 short runs). The route profile for FY2016 is provided in Figure 3-11.

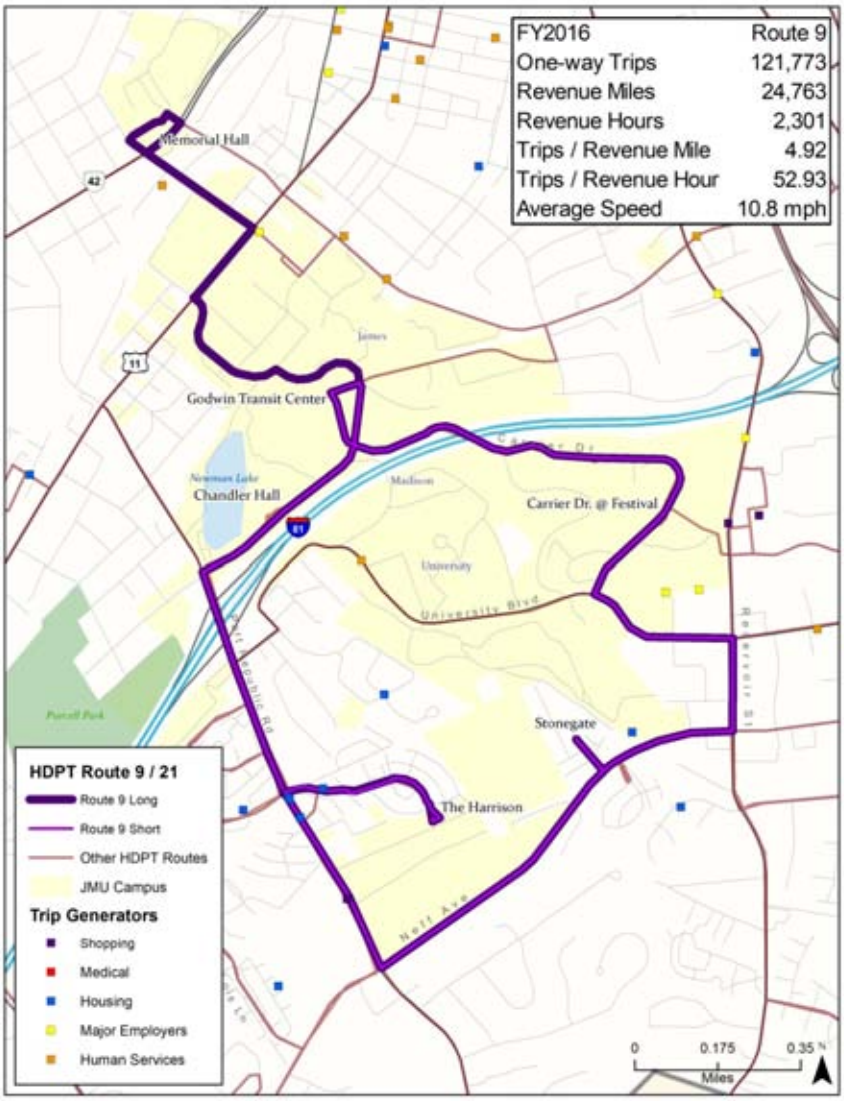
Figure 3-11: Route Profile – HDPT Route 20/8



Route 21/9

Route 21 (previously numbered Route 9) connects the JMU campus with Stonegate Apartments. This route operates both long and short runs, offering service Monday-Wednesday- Friday from 7:25 a.m. to 7:02 p.m. (11 long runs and 11 short runs) and Tuesday-Thursday from 7:25 a.m. to 6:52 (8 long runs and 8 short runs). The route profile for FY2016 is provided in Figure 3-12.

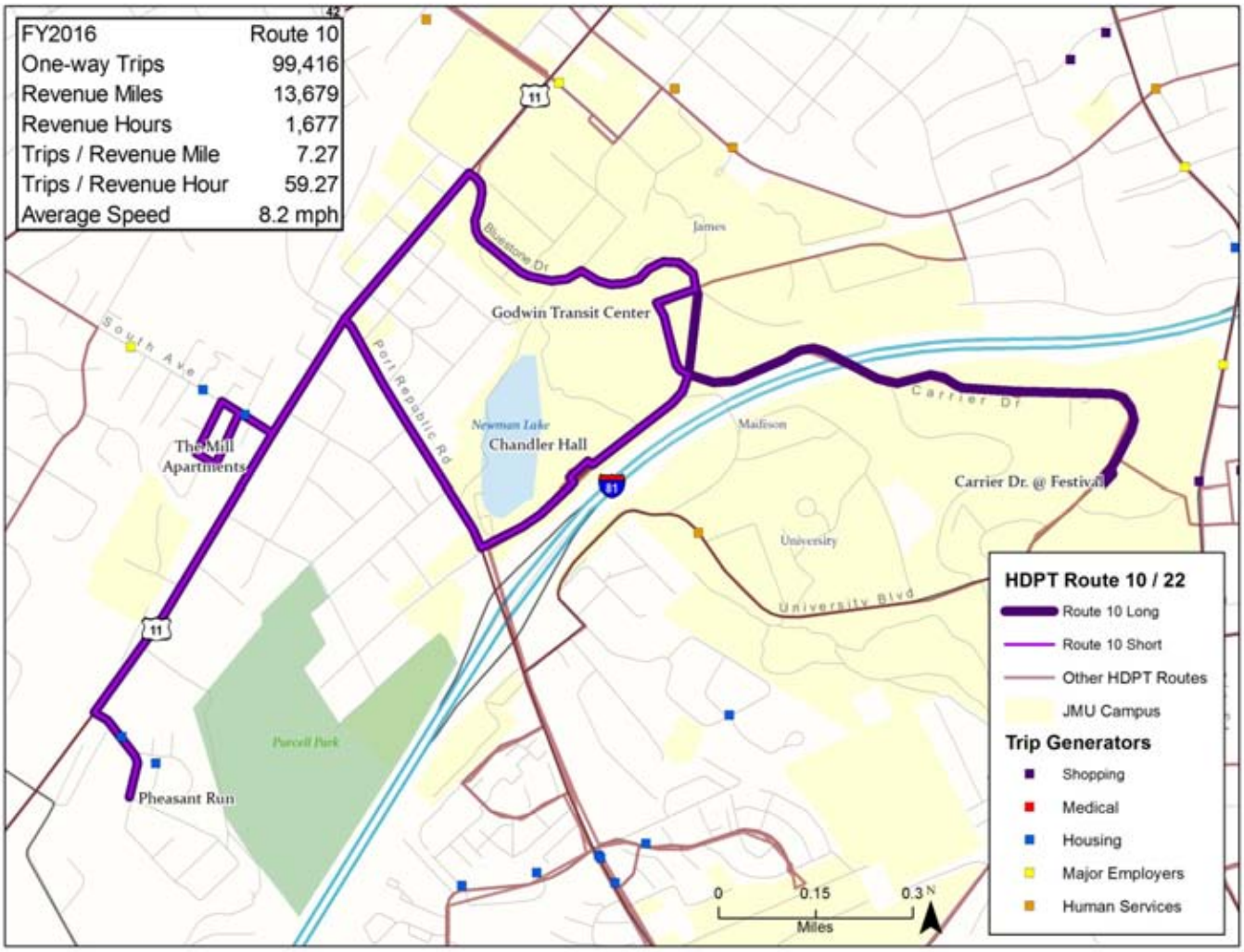
Figure 3-12: Route Profile- HDPT Route 21/9



Route 22/10

Route 22 (previously numbered Route 10) connects Pheasant Run and The Mill Apartments, off South Main Street, to campus. This route offers both long and short runs, providing service Monday-Wednesday- Friday from 7:30 a.m. to about 6:50 p.m. (11 long runs and 5 short runs); and Tuesday-Thursday from 7:35 a.m. to 6:53 p.m. (10 long runs and 7 short runs). The route profile for Route 10 is provided as Figure 3-13.

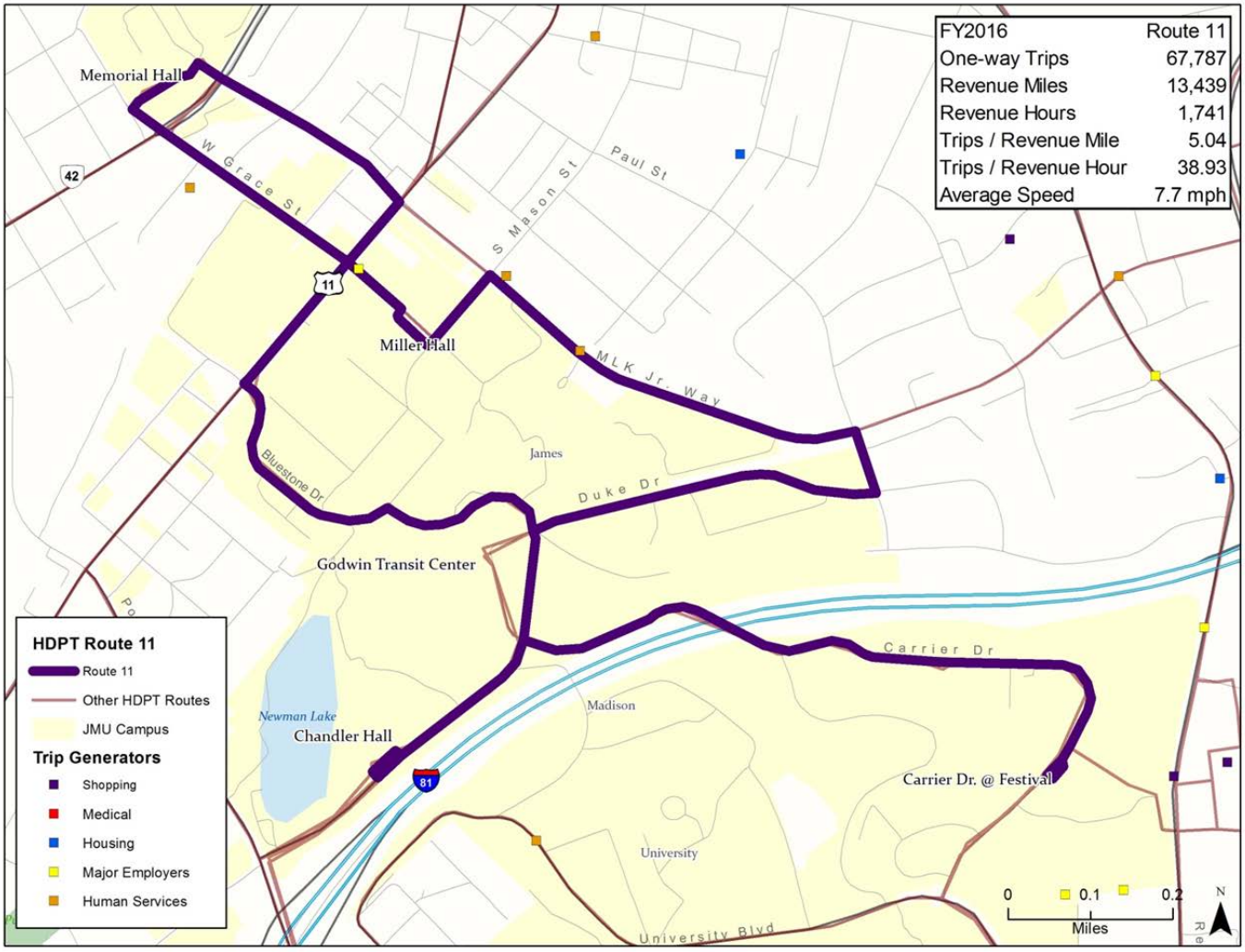
Figure 3-13: Route Profile- Route 22/10



Route 11

Route 11 is primarily a campus route, although it does serve some off-campus locations along Martin Luther King Jr. Way. The route connects Memorial Hall with Miller Hall, Showker, and Festival Conference Center. This route does not have a long and short pattern. The Monday-Wednesday-Friday schedule is different than the Tuesday-Thursday schedule. Fourteen vehicle trips are made each service day, from about 7:26 a.m. to 6:45 p.m. The route profile for Route 11 is provided as Figure 3-14.

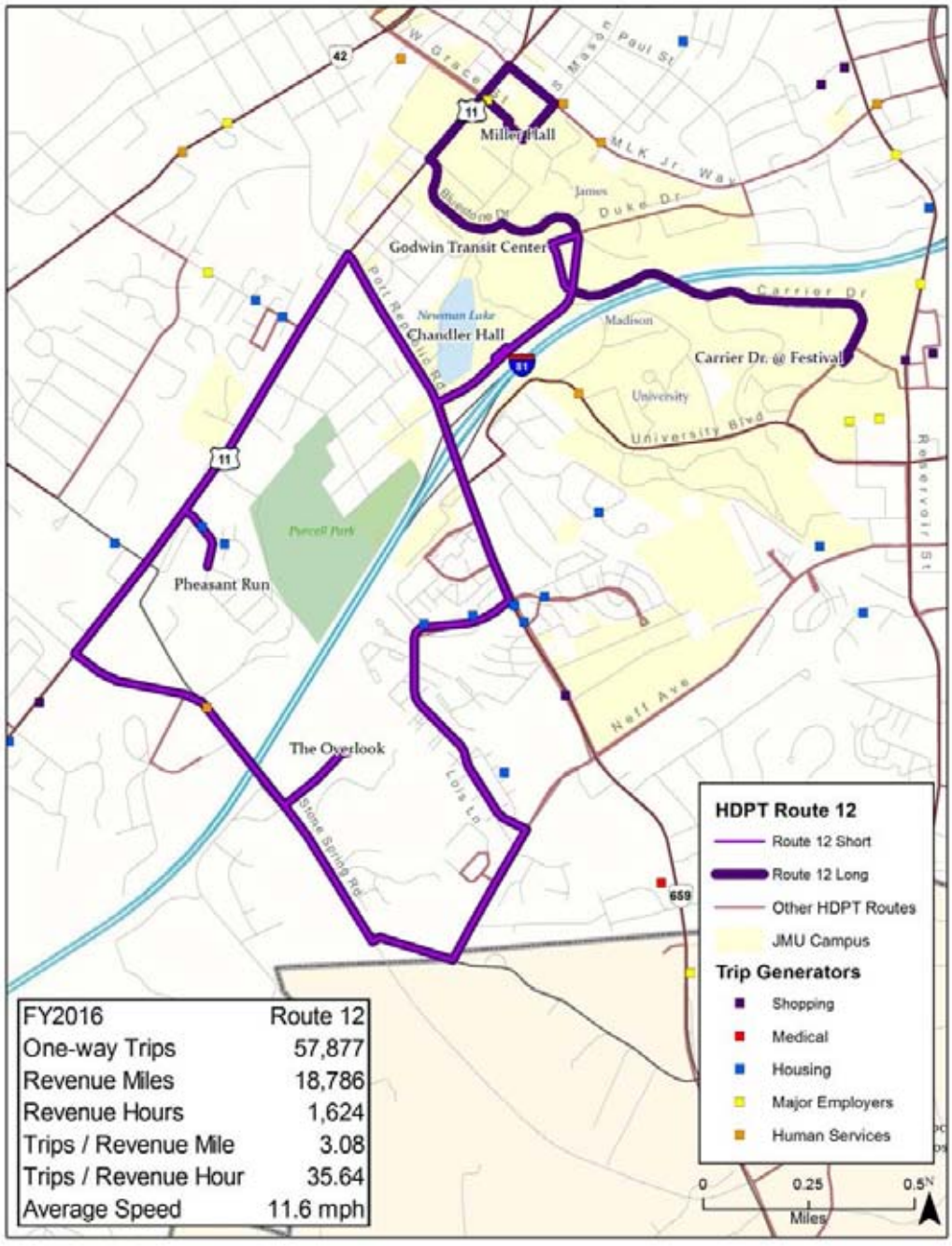
Figure 3-14: Route Profile- HDPT Route 11



Route 12

Route 12 serves several off-campus housing locations including the apartment complexes along Lois Lane, the Overlook off Stone Spring Road, and Pheasant Run, located off South Main Street. The Monday-Wednesday- Friday service pattern is from 7:16 a.m. to 7:04 p.m. (11 long runs). The Tuesday-Thursday service pattern operates from 7:28 a.m. to 7:16 p.m. (8 long runs and 8 short runs). The route profile for Route 12 is provided as Figure 3-15.

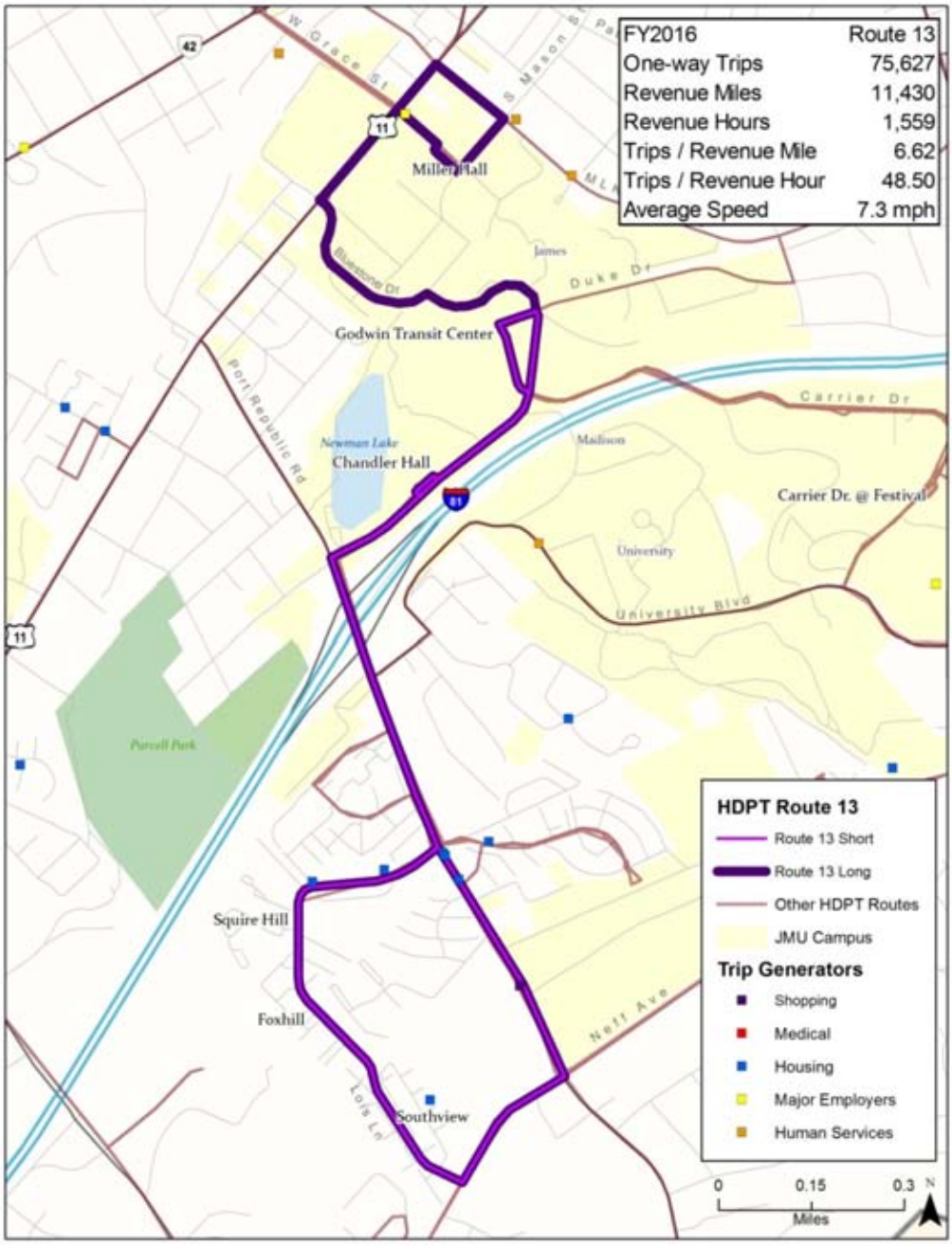
Figure 3-15: Route Profile- HDPT Route 12



Route 13

Route 13 connects the apartment complexes along Lois Lane with the JMU Campus, operating along Lois Lane in the opposite direction of Route 12. Service is provided Monday-Wednesday - Friday from 7:24 a.m. to 5:44 p.m. (10 long runs, 8 short runs) and Tuesday-Thursday from 7:24 a.m. to 6:06 p.m. (8 long runs and 11 short runs). The route profile for Route 13 is provided as Figure 3-16.

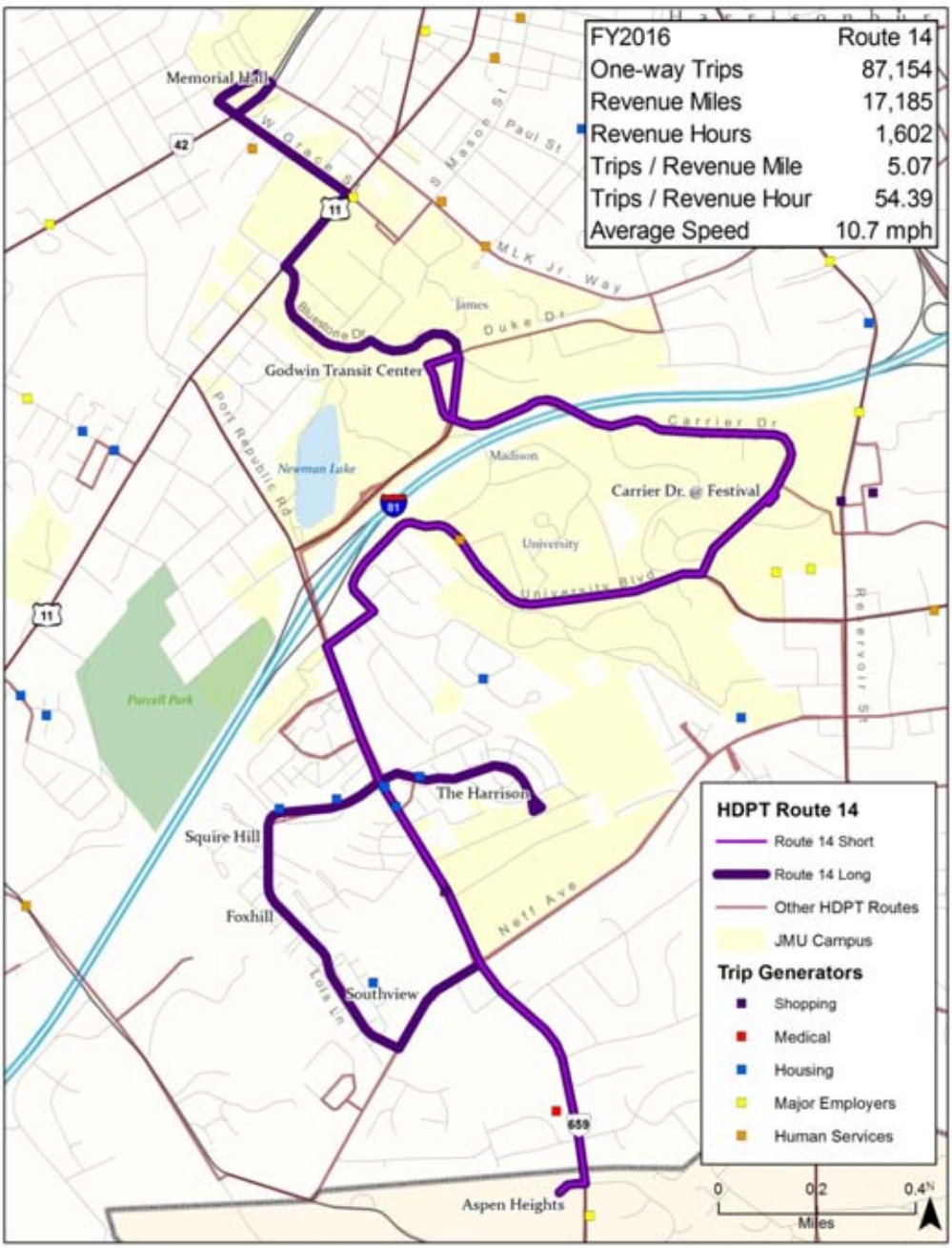
Figure 3-16: Route Profile – HDPT Route 13



Route 14

The focus of Route 14 is to connect Aspen Heights, the apartment complexes along Lois Lane, and The Harrison to the JMU campus. Service is provided Monday-Wednesday-Friday from 7:24 a.m. to 6:53 p.m. (11 vehicle trips) and Tuesday-Thursday from 7:26 a.m. to 5:03 p.m. (7 vehicle trips). With the exception of the first run of the day, all stops are served each run. The route profile for Route 14 is provided as Figure 3-17.

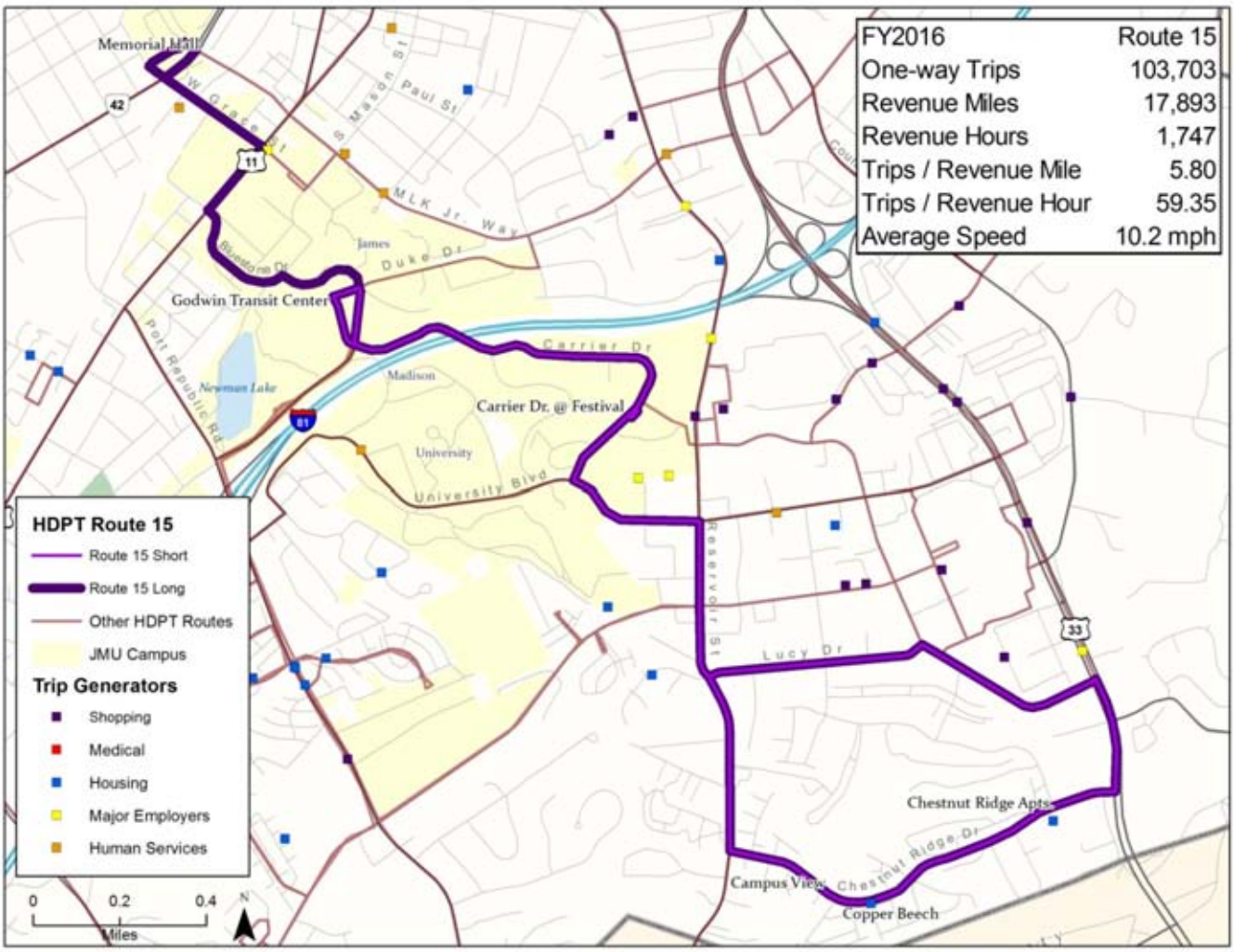
Figure 3-17: Route Profile- HDPT Route 14



Route 15

The focus of Route 15 is the apartment complexes along Chestnut Ridge Drive and Lucy Drive to the JMU campus. Service is provided Monday-Wednesday- Friday from 7:09 a.m. to 6:45 p.m. (20 vehicle trips), and Tuesday-Thursday from 7:04 a.m. to 7:14 p.m. (17 vehicle trips). Figure 3-18 provides the route profile for Route 15.

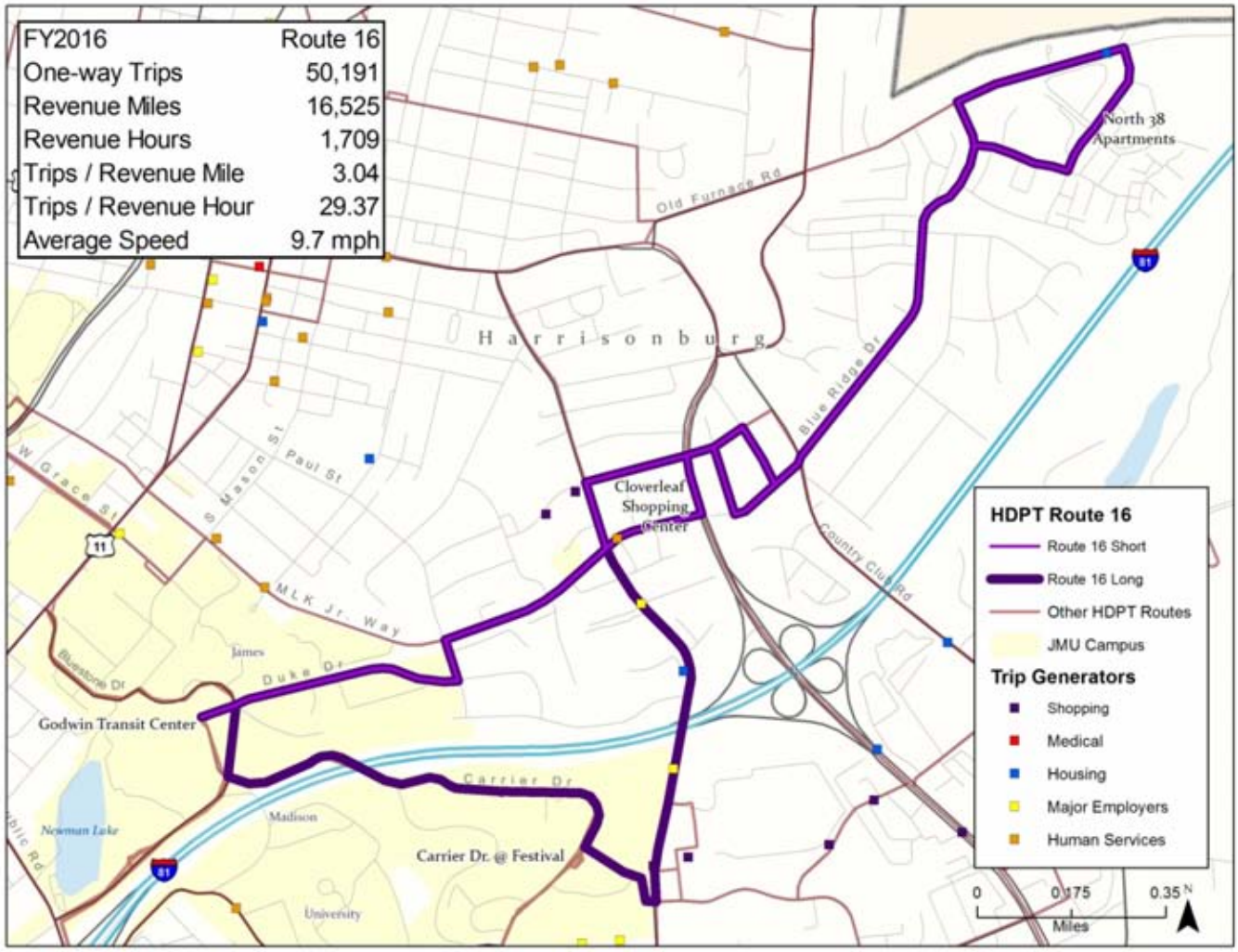
Figure 3-18: Route Profile- HDPT Route 15



Route 16

Route 16 provides service to Madison Manor and the North 38 apartments via Cloverleaf Shopping Center. Service is provided Monday-Wednesday- Friday from 7:30 a.m. to about 7:10 p.m., offering 20 vehicle trips; and Tuesday-Thursday from 7:30 a.m. to 6:55 p.m., offering 16 vehicle trips. None of the Route 16 runs serve each stop, with MLK Jr. Way/CVS skipped in the mornings, and Reservoir Street and Festival skipped in the afternoons. Figure 3-19 provides a route profile for Route 16.

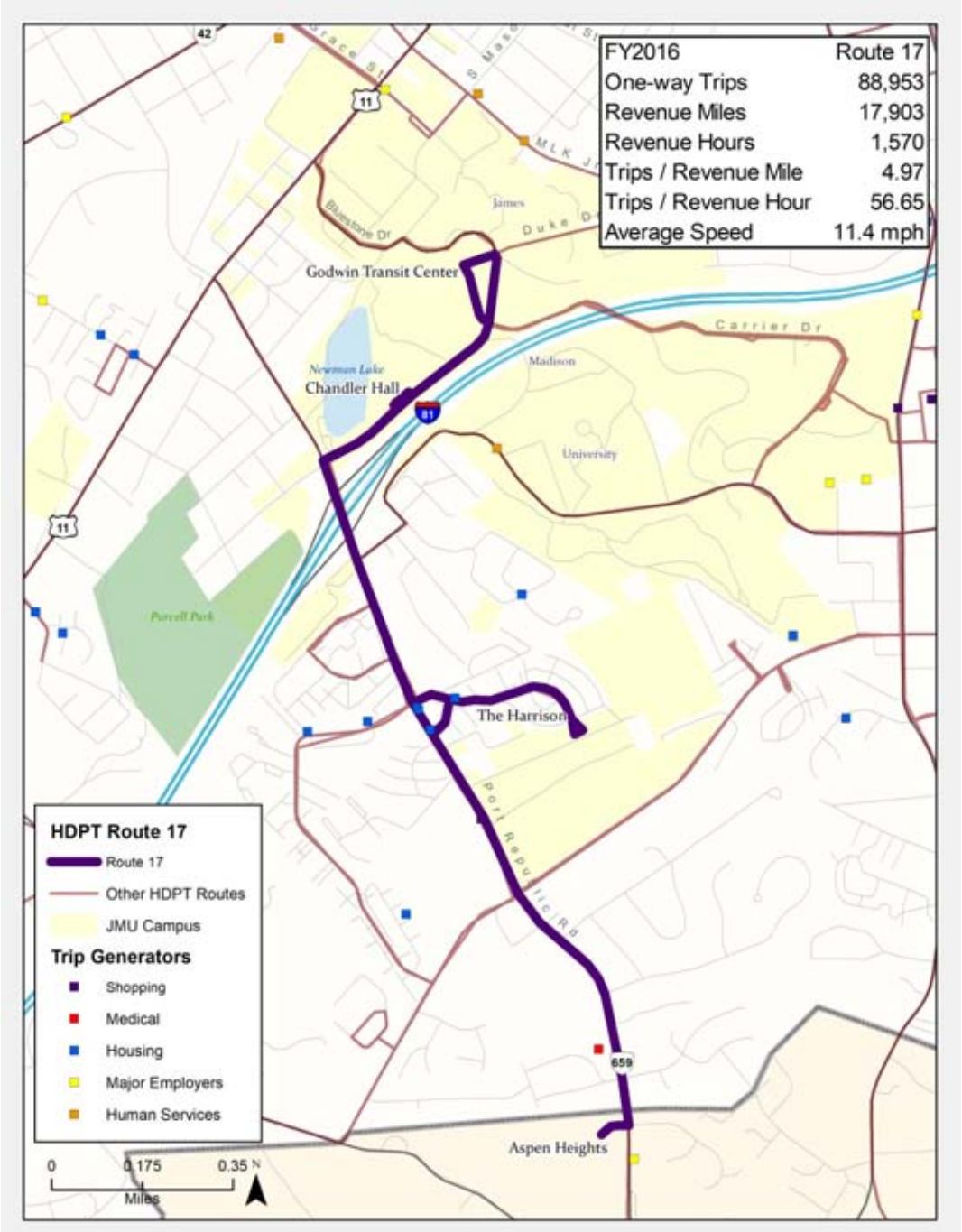
Figure 3-19: Route Profile – HDPT Route 16



Route 17

Route 17 provides service from the JMU campus south along Port Republic Road to Northview, Aspen Heights, and The Harrison. Service is provided Monday-Wednesday-Friday from 7:29 a.m. to 6:31 p.m. (21 vehicle trips) and Tuesday- Thursday from 7:30 a.m. to 6:55 p.m. (26 vehicle trips). Figure 3-20 provides a route profile for Route 17.

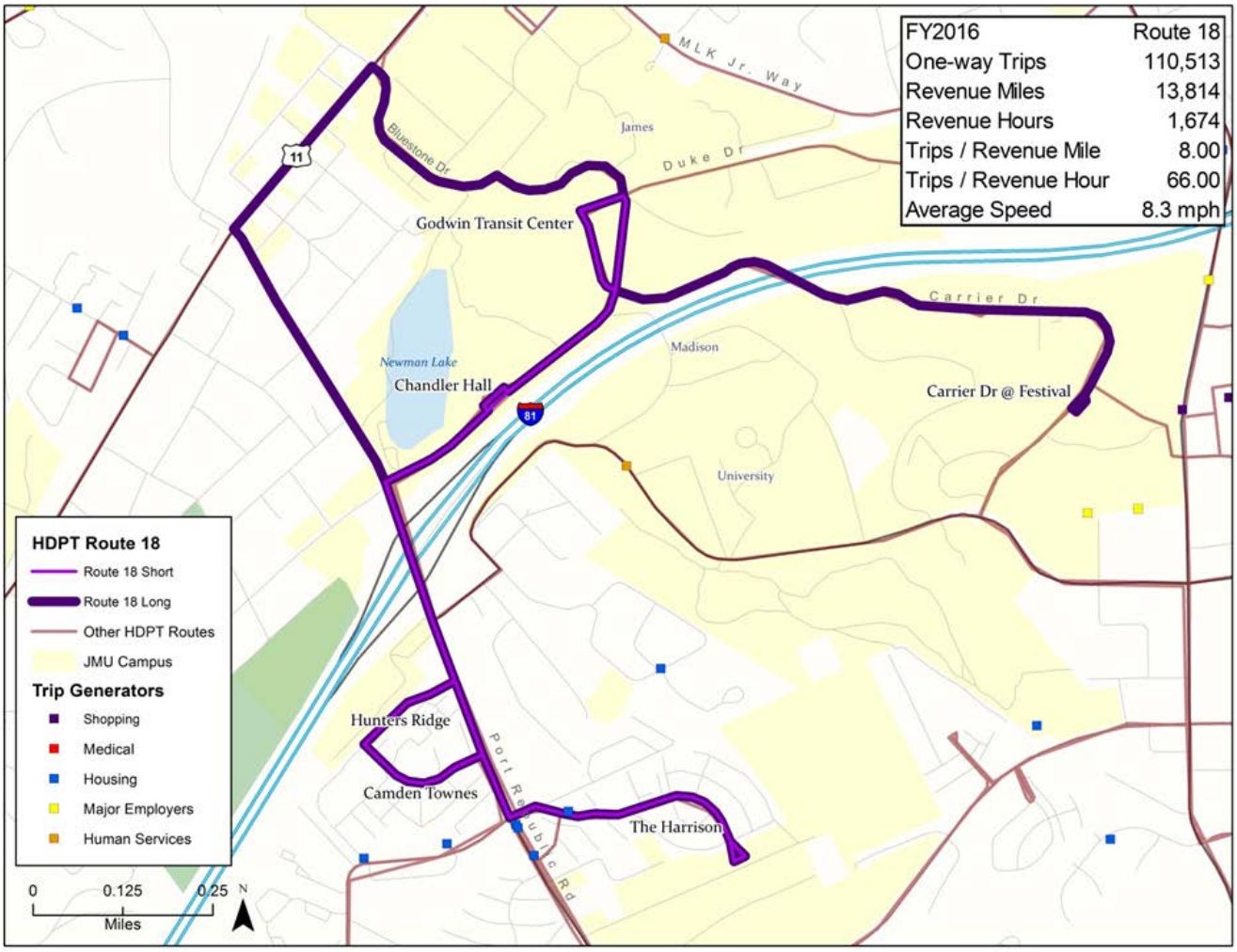
Figure 3-20: Route Profile – HDPT Route 17



Route 18

Route 18 provides service from campus to Hunters Ridge, Camden Townes, and The Harrison. Service is provided Monday-Wednesday-Friday from 7:30 a.m. to 6:44 p.m. (11 long runs and 10 short runs); and Tuesday-Thursday from 7:29 a.m. to 6:43 p.m. (8 long runs and 15 short runs). Figure 3-21 provides a route profile for Route 18.

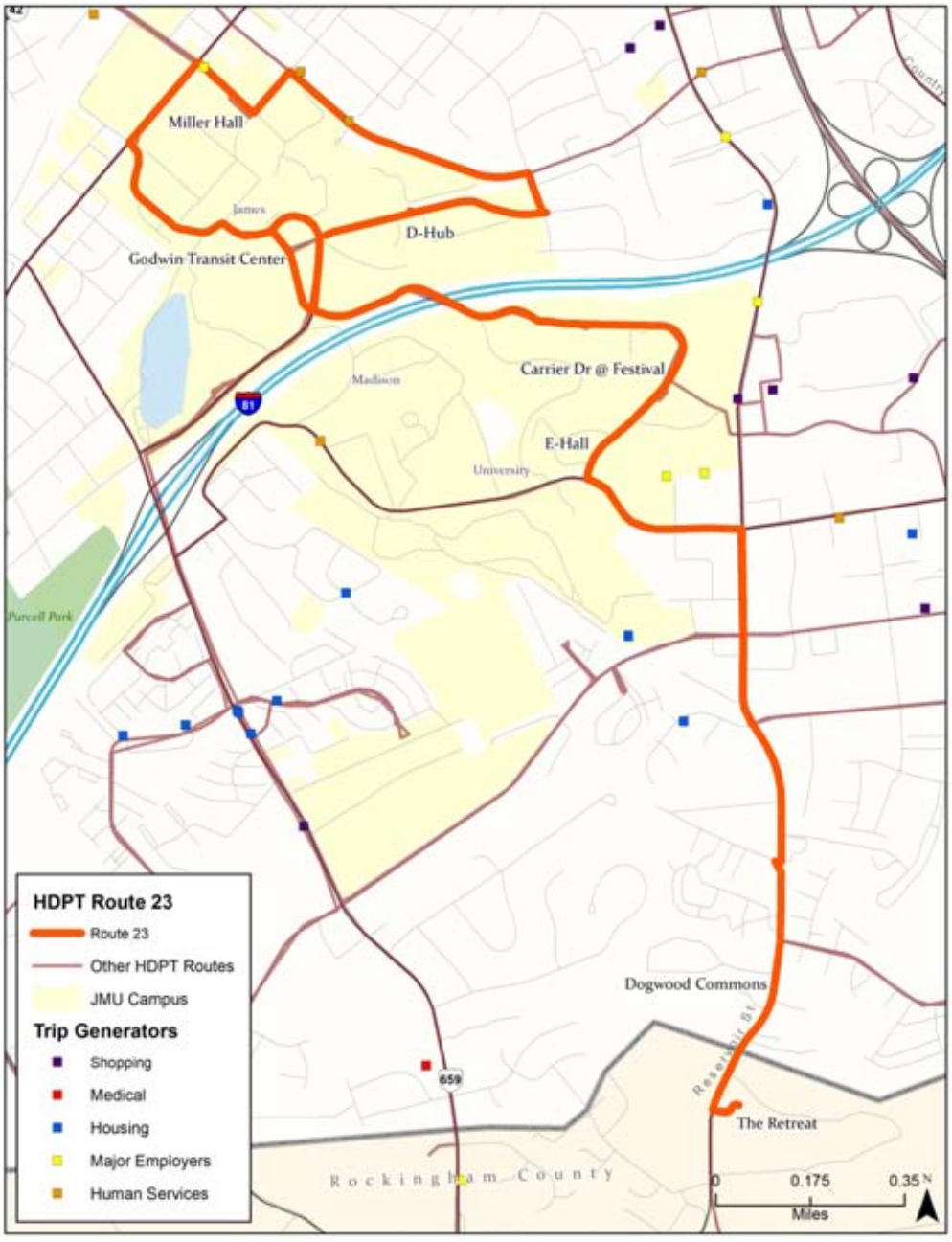
Figure 3-21: Route Profile – HDPT Route 18



Route 23

The Route 23 is a new route, implemented in the Fall of 2017. The route provides service from a new student-oriented apartment complex in Rockingham County (The Retreat) to JMU via Reservoir Street. Monday-Wednesday-Friday service is provided from 7:18 a.m. to 7:09 p.m., including 9 long runs and 10 short runs. Tuesday-Thursday service is provided from 7:18 a.m. to 6:59 p.m. and includes 8 long runs and 10 short runs. Figure 3-22 provides a map of the route. As a new route, service statistics are not yet available.

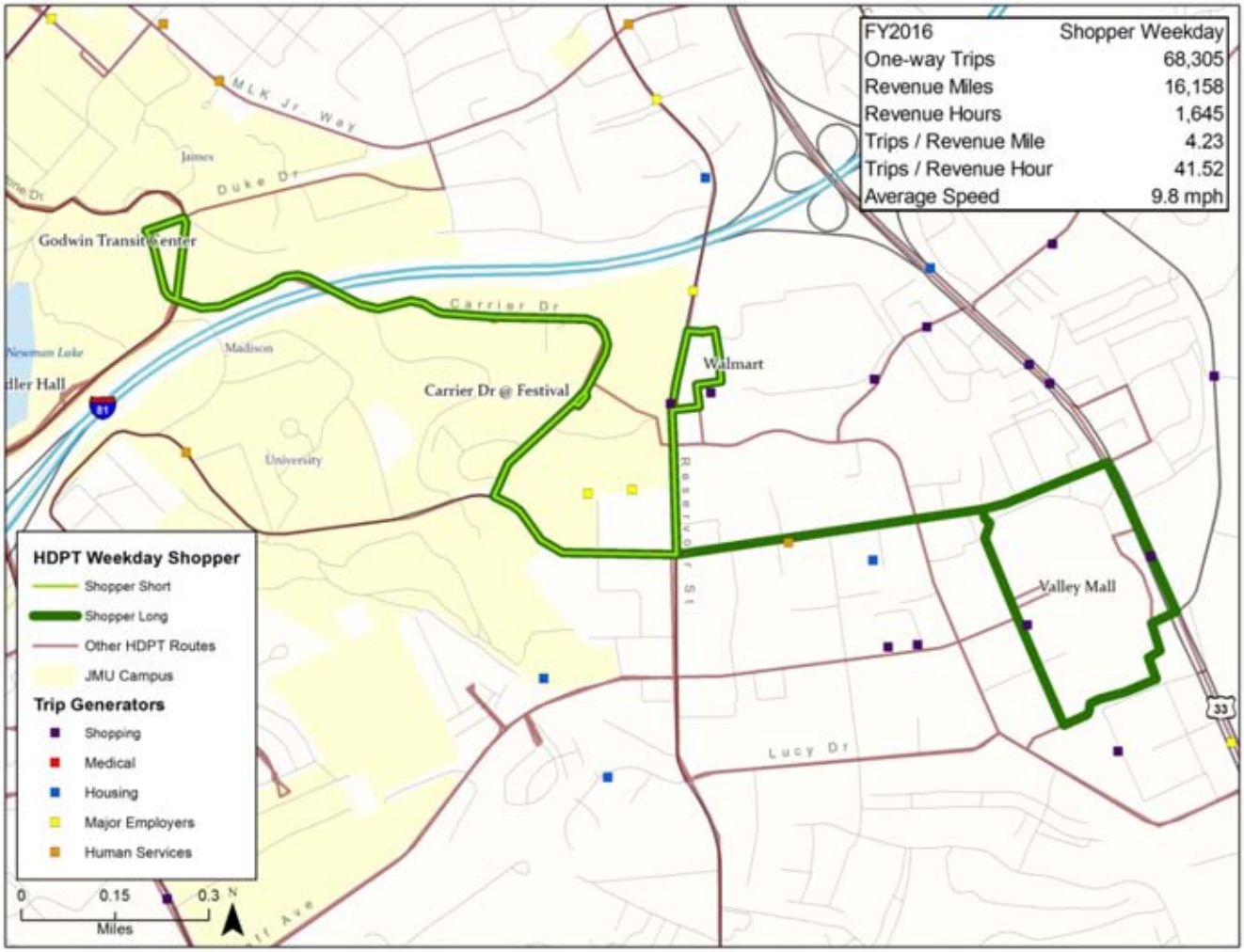
Figure 3-22: HDPT Route 23



Shopper Shuttle – Weekday

The weekday Shopper Shuttle provides a direct connection to Target, Valley Mall, and Walmart. Service is provided Monday –Friday from 7:45 a.m. to 6:45 p.m. A total of 15 vehicle trips are made each weekday. Target, the Valley Mall, and the Cinema are skipped on trips that occur outside of their business hours. Figure 3-23 provides a route profile for the weekday Shopper Shuttle.

Figure 3-23: Route Profile- HDPT Shopper Shuttle Weekday



Inner Campus Shuttle (ICS)

The ICS is the primary daytime route that provides mobility from one side of campus to the other, originating at Festival Conference and Student Center and terminating at Memorial Hall. All other routes that serve campus also play a major role in providing campus mobility, particularly the "long" versions of the routes. The ICS operates Monday through Friday from 7:16 a.m. to 7:05 p.m. A slightly different schedule is offered on Monday-Wednesday-Friday as compared to Tuesday-Thursday. Service is provided on four to twenty minute headways, depending upon the time of day. Three vehicles are assigned to the route. A route profile is provided in Figure 3-24.

Figure 3-24: Route Profile – Inner Campus Shuttle

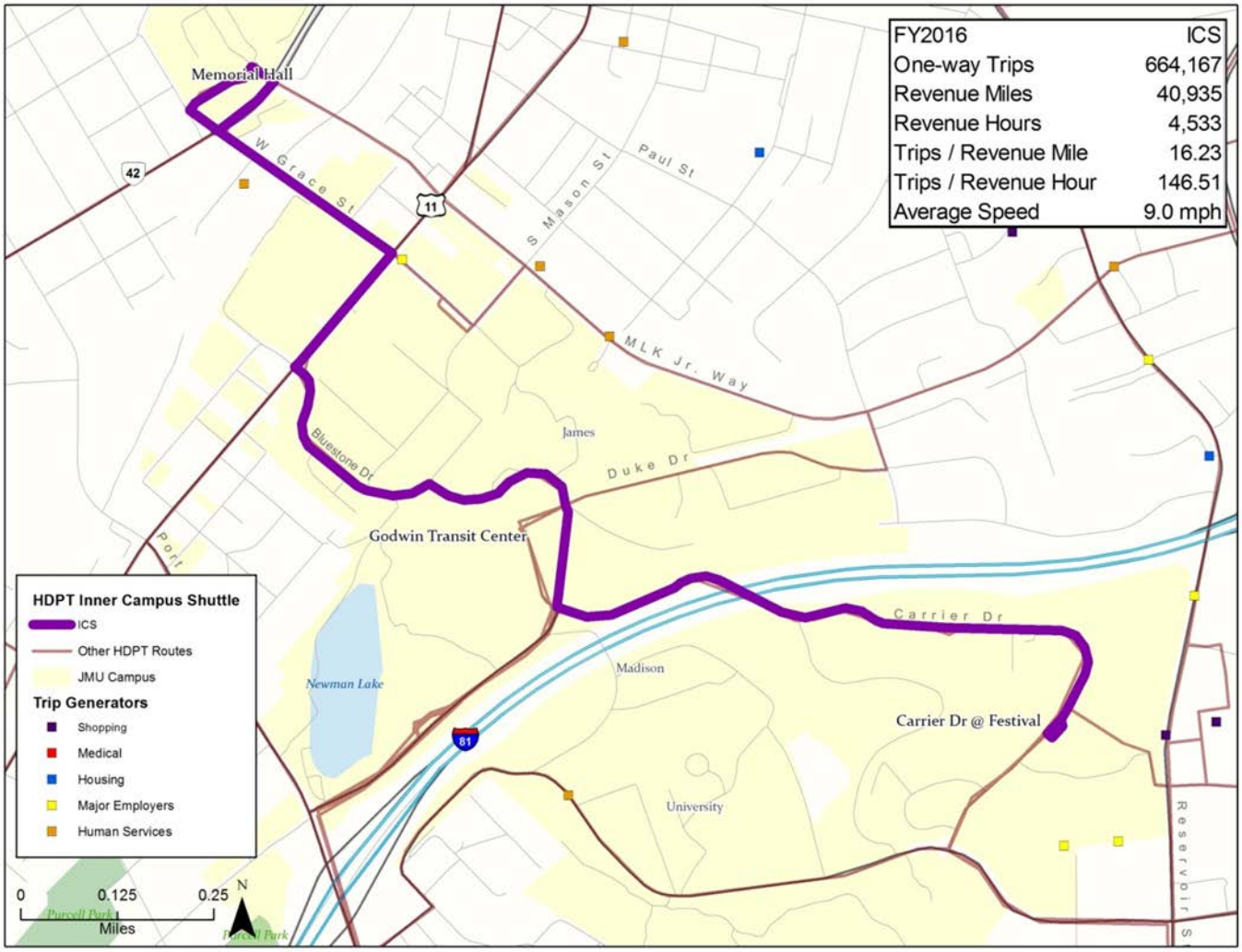


Table 3-4: Operating Statistics for the JMU Evening and Night Routes, FY2016 and FY2015

Route	Passenger Trips		Ridership	Revenue Hours		Revenue Miles		Trips/Rev. Hour		Trips/Rev. Mile		Miles/Hour	
	FY2016	FY2015	Change	FY2016	FY2015	FY2016	FY2015	FY2016	FY2015	FY2016	FY2015	FY2016	FY2015
31	8,795	10,630	-17%	652	648	10,739	10,693	13.5	16.4	0.82	0.99	16.47	16.50
32	32,270	33,089	-2%	663	660	8,399	8,355	48.7	50.1	3.84	3.96	12.67	12.66
33	39,692	42,419	-6%	807	803	10,351	10,292	49.2	52.8	3.83	4.12	12.83	12.82
35	9,731	13,307	-27%	208	209	2,454	2,406	46.8	63.7	3.97	5.53	11.80	11.51
36	10,759	14,684	-27%	208	208	2,678	2,732	51.7	70.6	4.02	5.37	12.88	13.13
37	5,331	9,083	-41%	208	208	2,440	2,648	25.6	43.7	2.18	3.43	11.73	12.73
38	6,385	9,814	-35%	208	209	3,011	2,861	30.7	47.0	2.12	3.43	14.48	13.69
39	9,551	12,733	-25%	207	209	2,797	2,691	46.1	60.9	3.41	4.73	13.51	12.88
40	3,665	6,122	-40%	208	209	2,965	3,034	17.6	29.3	1.24	2.02	14.25	14.52
NCS	45,041	48,888	-8%	565	562	6,146	6,092	79.7	87.0	7.33	8.02	10.88	10.84
Extra Night	2,638	2,215	19%	97	51	823	429	27.2	43.4	3.21	5.16	8.48	8.41
Subtotal	**173,858**	**202,984**	**-14%**	**4,031**	**3,976**	**52,803**	**52,233**	**43.1**	**51.1**	**3.29**	**3.89**	**13.10**	**13.14**

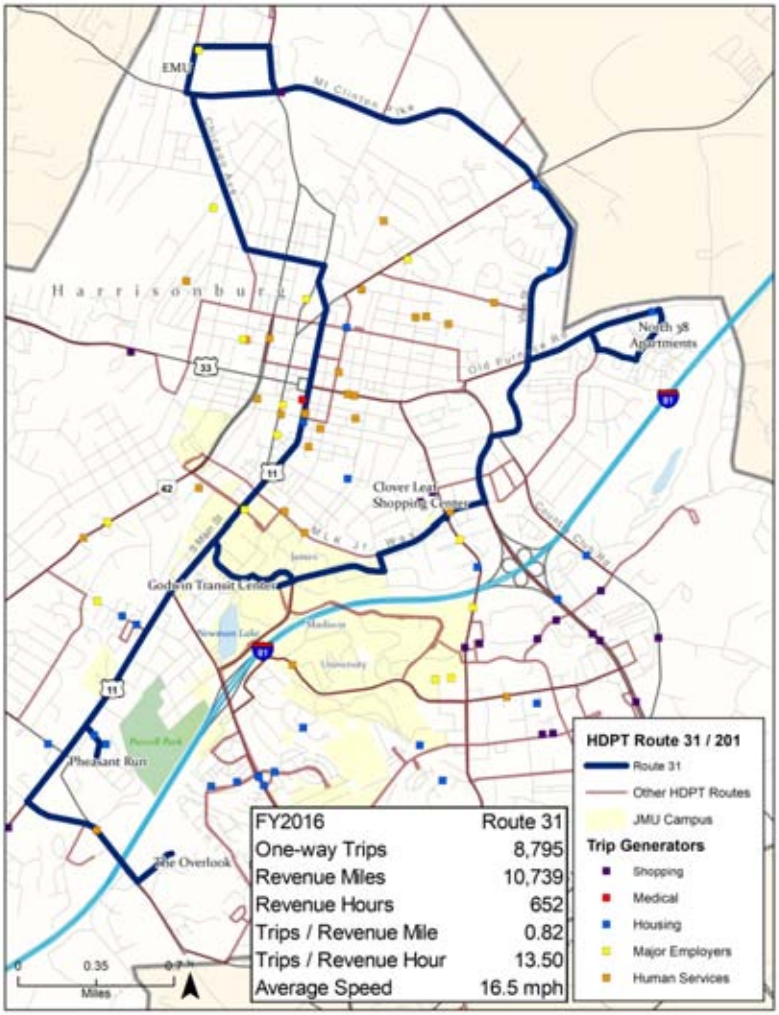
Note: These routes were re-numbered for the fall 2017 schedule change. The new route numbers are as follows:

Route 31 – Route 201
Route 32 – Route 202
Route 33 – Route 203
Route 35 – Route 210
Route 36 – Route 211
Route 37 – Route 212
Route 38 – Route 213
Route 39 – Route 214
Route 40 – Route 215
NCS – Route 200

Route 201/31

Route 201, (previously numbered Route 31) covers a large geographic area, providing loop service from campus, south along South Main Street and Stone Spring Drive to serve the Overlook. The route then returns along South Main Street, serving Pheasant Run and downtown Harrisonburg before heading north to serve Chicago Avenue and Eastern Mennonite University. The route returns to campus via Mt. Clinton Pike, Old Furnace Road and North 38 Apartments, then Cloverleaf Shopping Center and back to campus. Service is provided Monday through Thursday from 7:00 p.m. to 10:46 p.m.; Fridays from 7:00 p.m. to 9:46 p.m., and Saturdays from 6:00 p.m. to 9:46 p.m. Hourly service is offered. Figure 3-25 provides the route profile for Route 31.

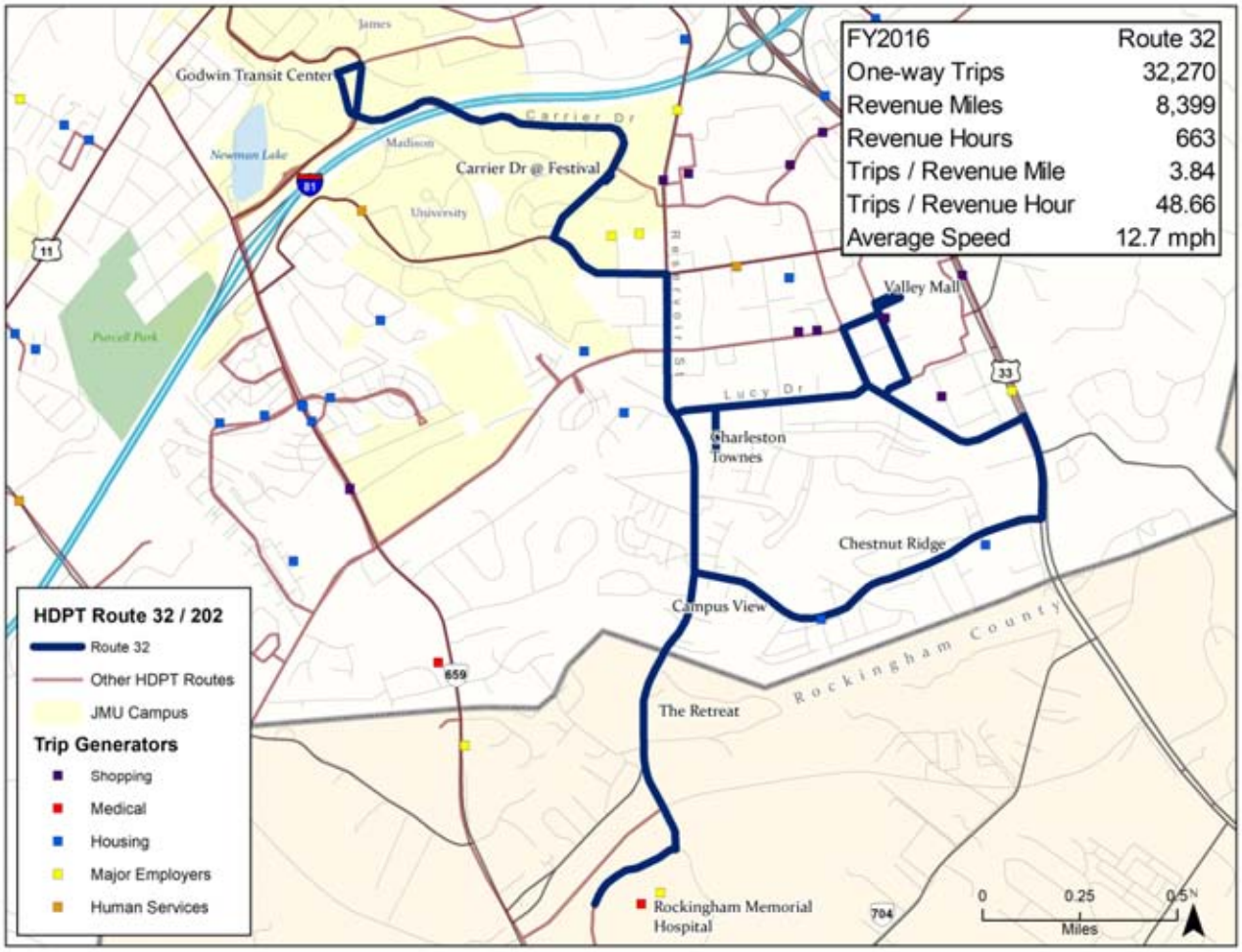
Figure 3-25: Route Profile –HDPT Route 201/31



Route 202/32

Route 202 (previously numbered Route 32) provides service from campus to the Charleston Townes Apartments, the Retreat, and then on to the Valley Mall, south to Chestnut Ridge Drive, then north on Reservoir Street back to campus. Service is provided Monday through Thursday from 7:00 p.m. to 10:52 p.m.; on Fridays from 7:00 p.m. to 9:52 p.m.; and on Saturdays from 6:00 p.m. to 9:52 p.m. Hourly service is provided. Figure 3-26 provides the route profile for Route 32.

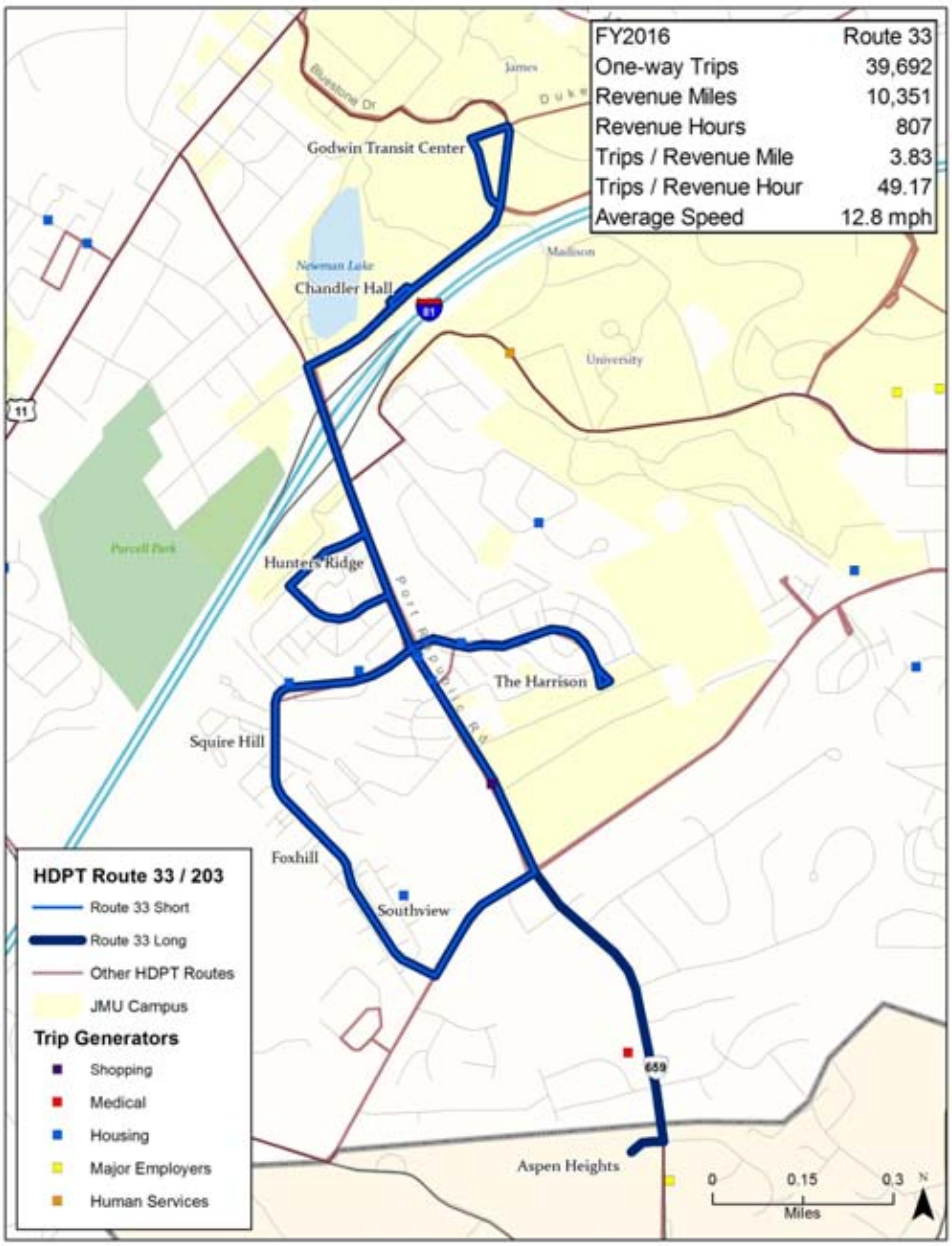
Figure 3-26: Route Profile – HDPT Route 202/32



Route 203/33

Of the three early evening routes, the Route 203 (previously numbered Route 33) experiences the highest ridership and productivity. Service is provided Monday through Thursday from 7:00 p.m. to 11:52 p.m.; on Fridays from 7:00 p.m. to 9:52 p.m.; and on Saturdays from 6:00 p.m. to 9:52 p.m. The route connects campus to several apartment communities off of Port Republic Road, including Hunter's Ridge, the communities along Lois Lane, Aspen Heights, and The Harrison. Service is provided twice each hour for each community, except for Aspen Heights, which is served hourly. Figure 3-27 provides the route profile for Route 33.

Figure 3-27: Route Profile – HDPT Route 203/33



Routes 210 (35) through 215 (40)

Routes 210, 211, 212, 213, 214, and 215 (previously numbered Routes 35, 36, 37, 38, 39, and 40) operate Fridays and Saturdays between the hours of 10:00 p.m. and 2:20 a.m. The routes operate as loops, some traveling clockwise, and some traveling counterclockwise to provide service to the primary off-campus housing locations. There is a significant level of service duplication along particular segments with large student populations (i.e., Devon Lane, Lois Lane, and Chestnut Ridge). Each route provides between five and eight vehicle trips during the service period, with the most trips in FY2016 provided by Route 35, which is the shortest of the routes. The path of travel for this route has been changed with the fall 2017 schedule change to connect downtown Harrisonburg with JMU.

Figures 3-28 through 3-33 provide the route profiles for each of the late night routes, using the data from the FY2016 route alignments. The maps have been updated to reflect the current routings.

Figure 3-28: Route Profile – HDPT Route 210 (former Route 35)

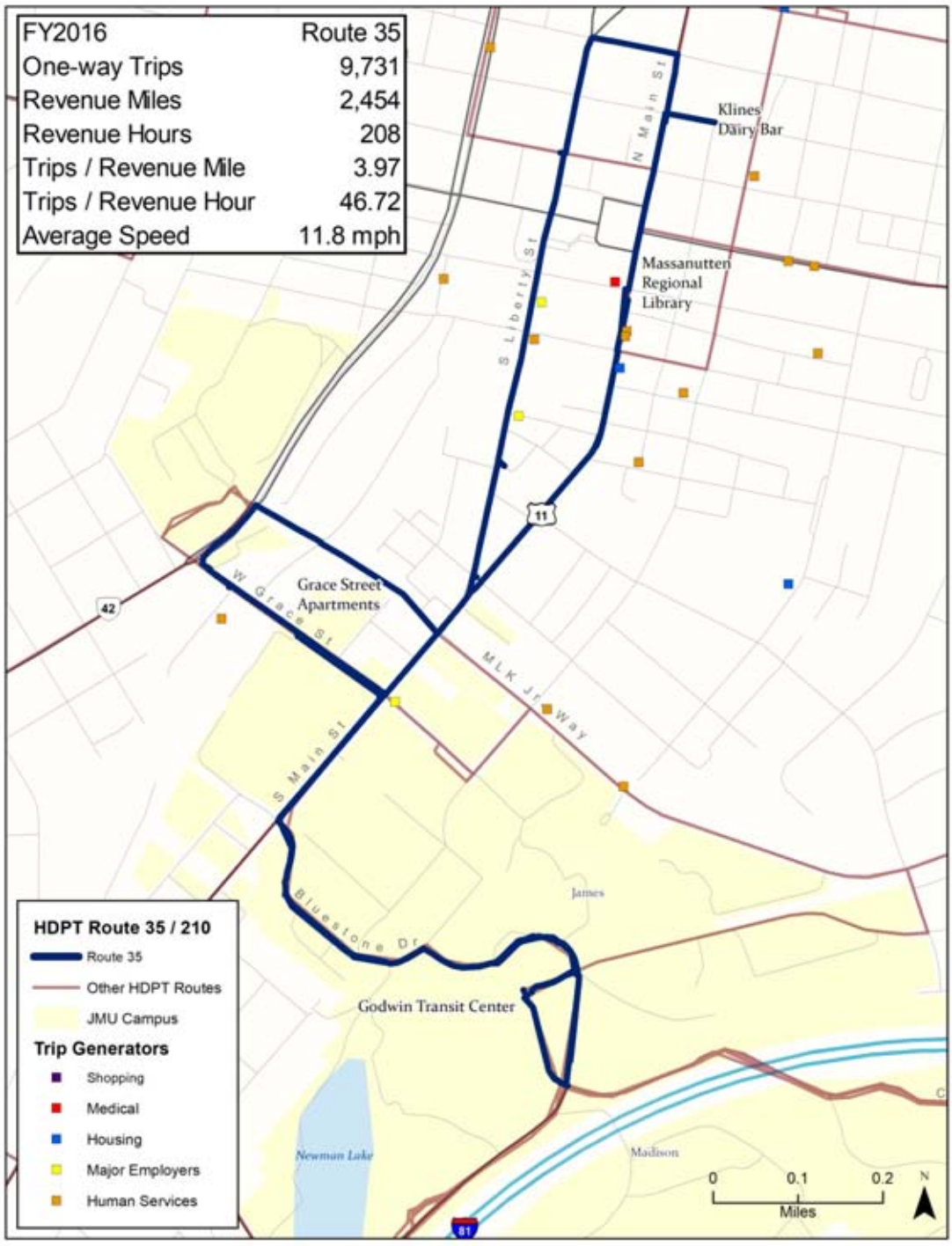


Figure 3- 29: Route Profile – HDPT Route 211- Former Route 36

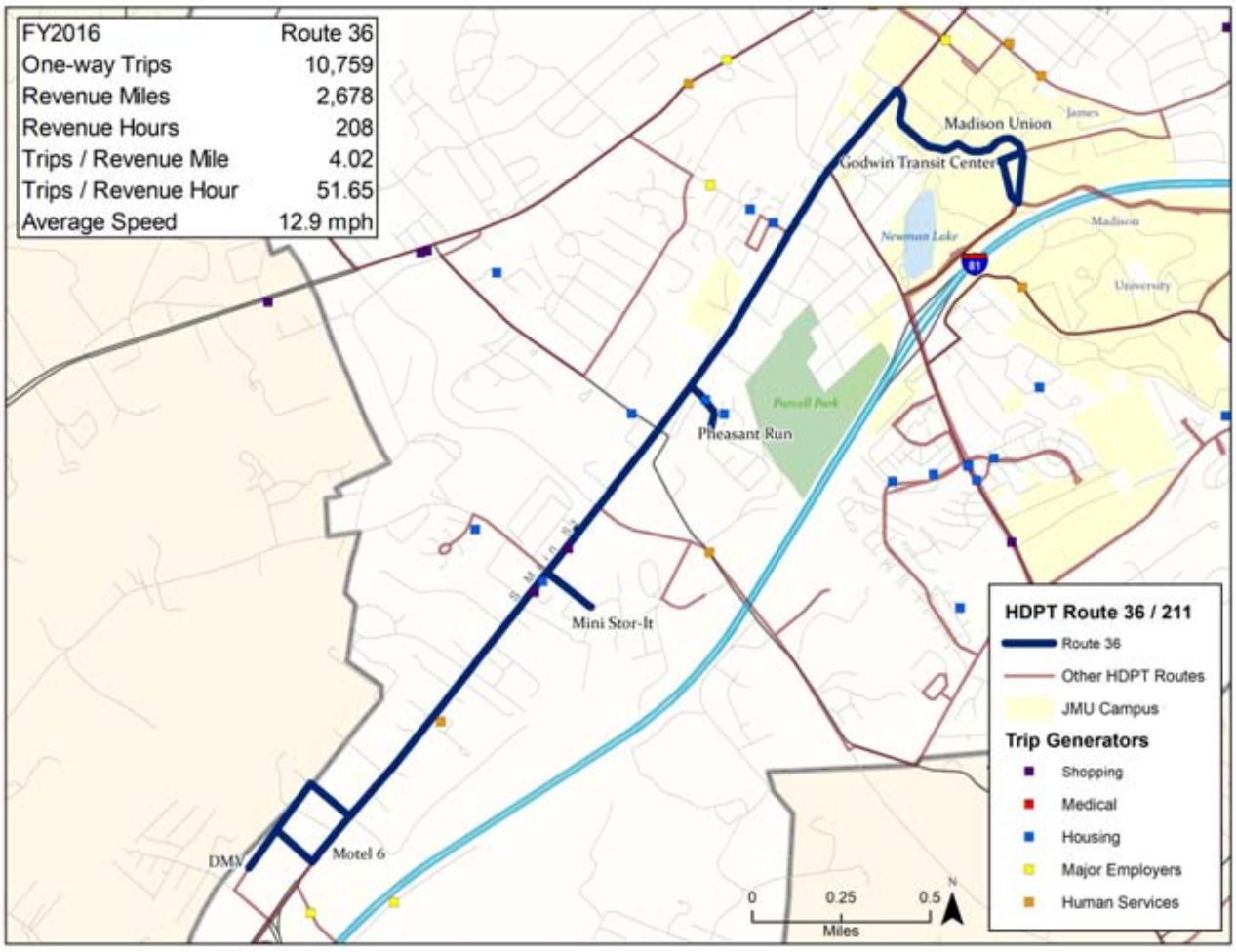


Figure 3-30: Route Profile – HDPT Route 212 – Former Route 37

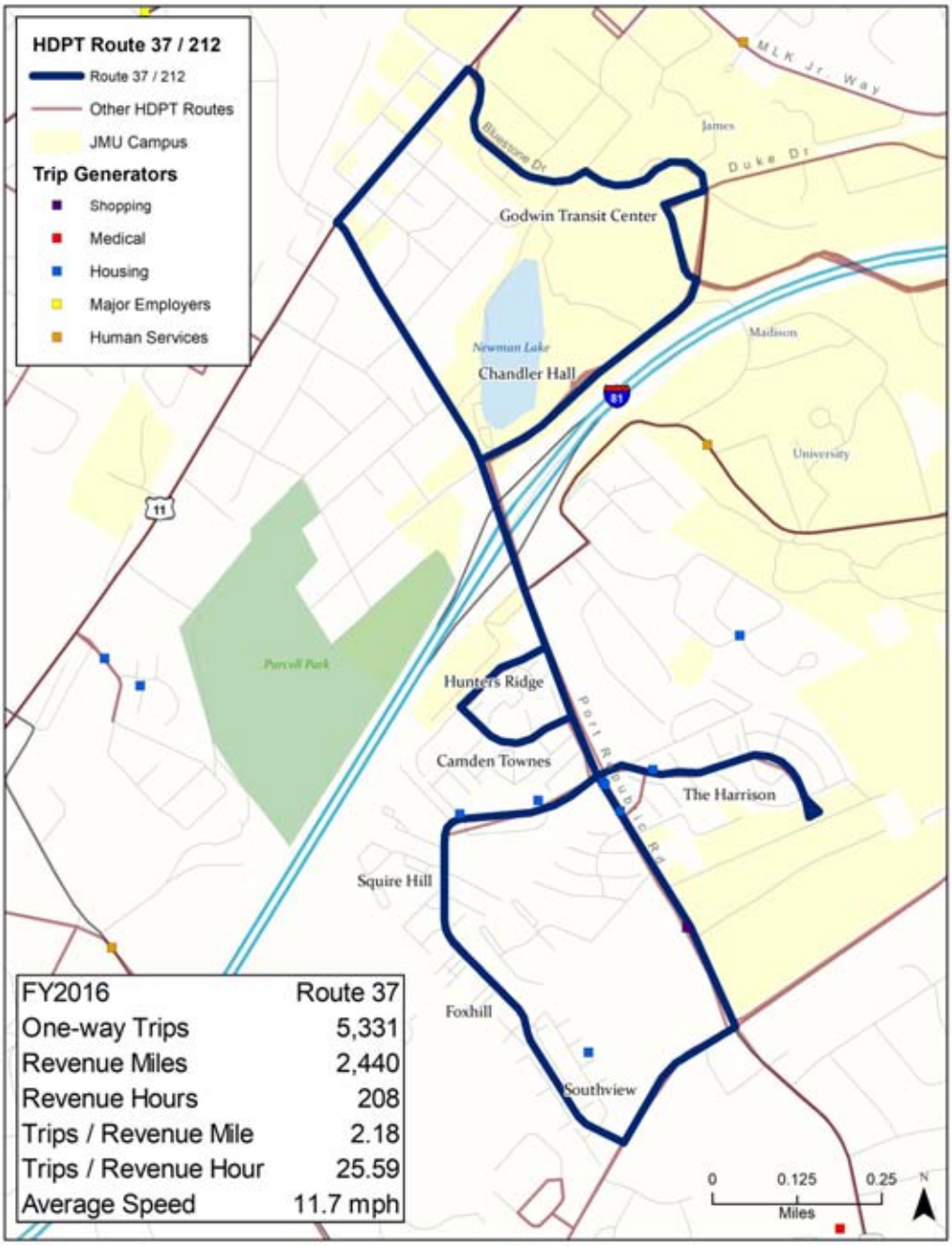


Figure 3-31: Route Profile- HDPT Route 213 – Former Route 38

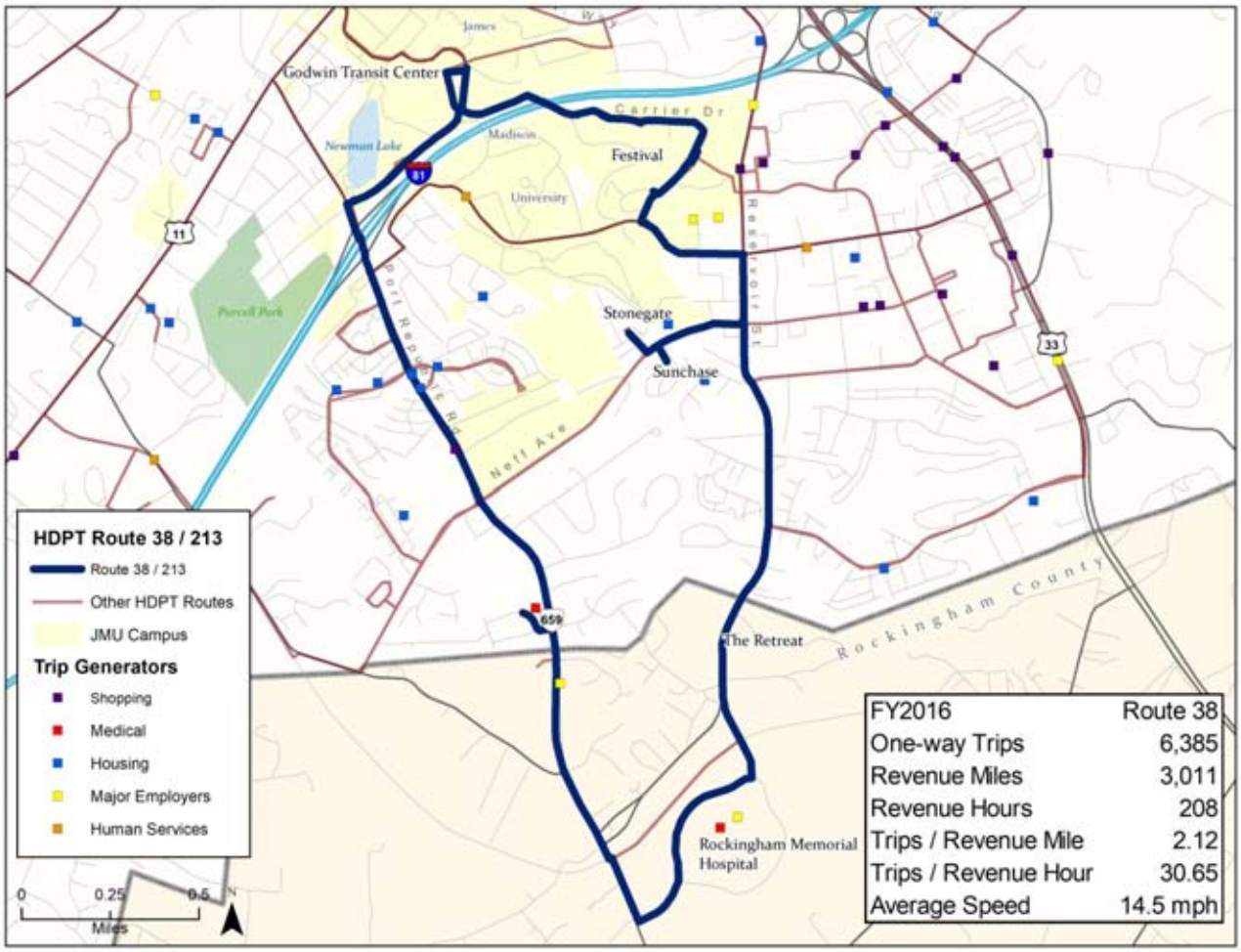


Figure 3-32: Route Profile – HDPT Route 214 – Former Route 39

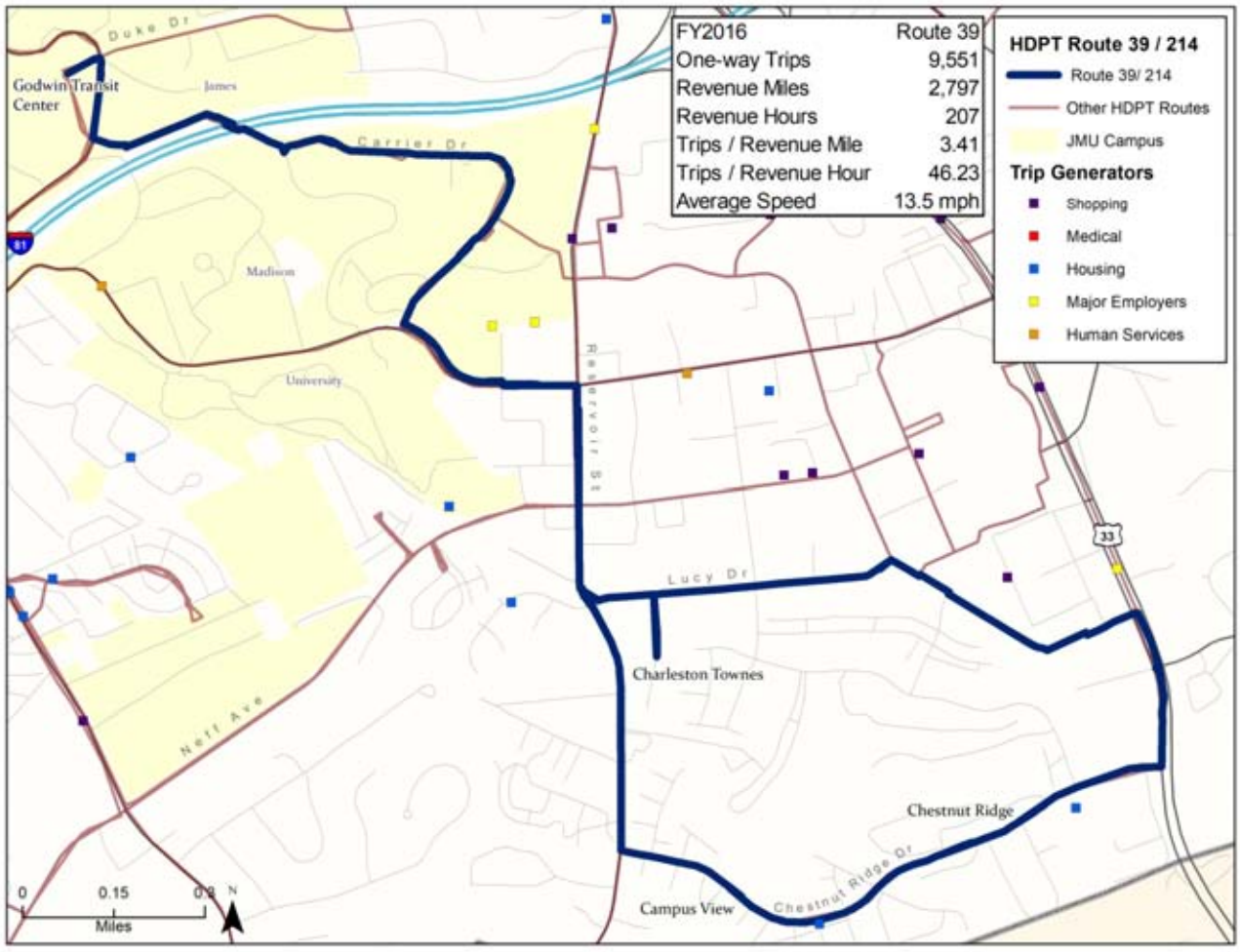
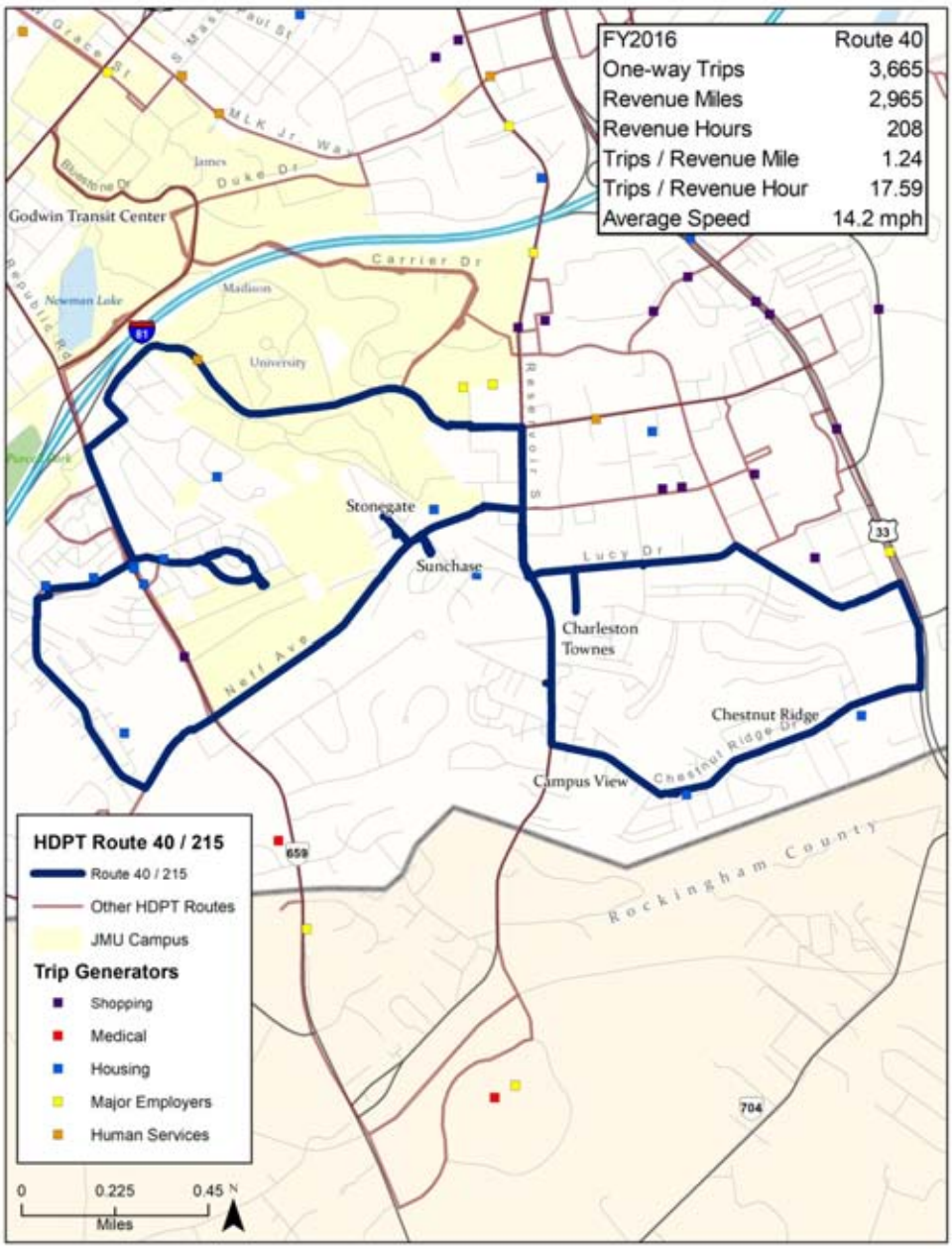


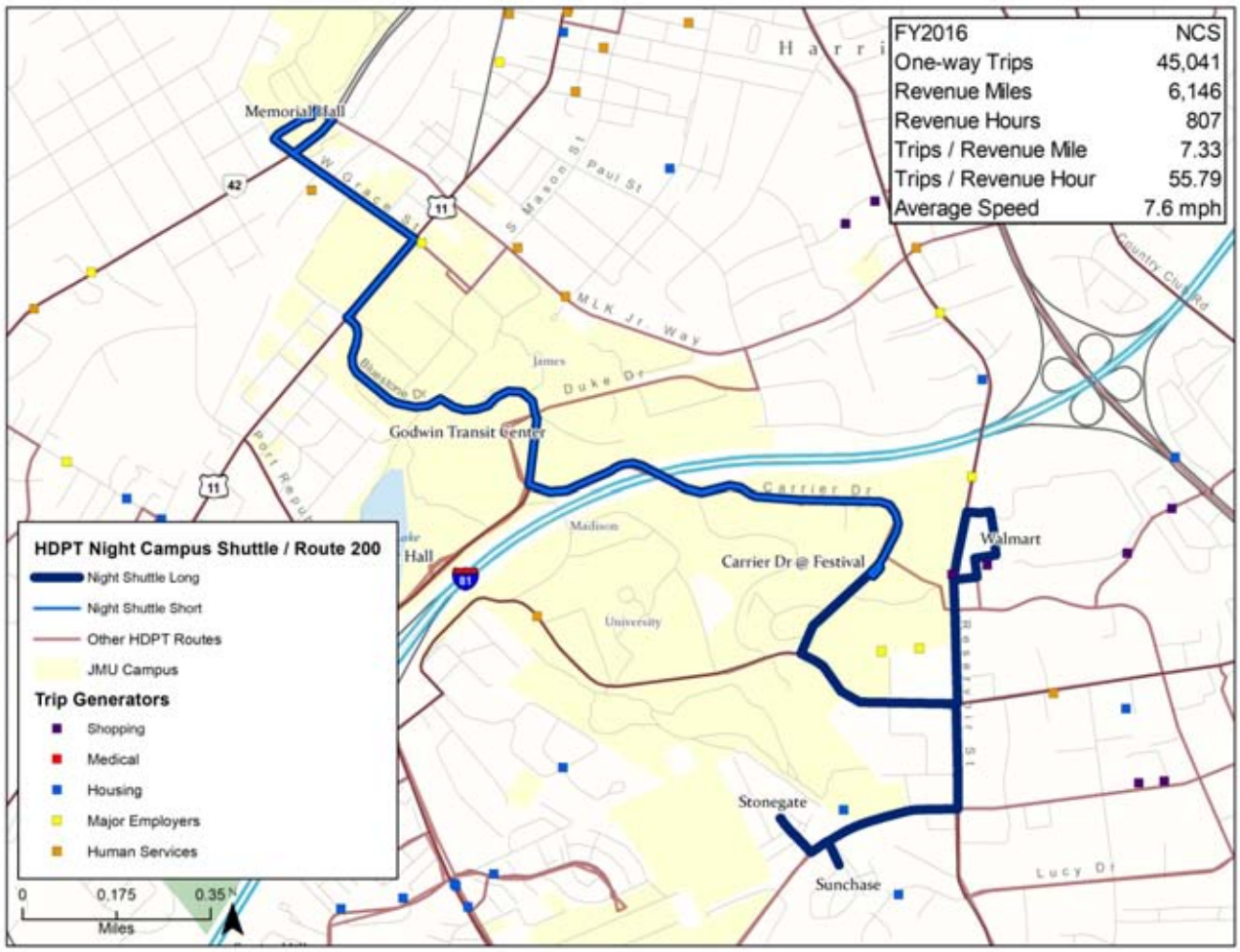
Figure 3-33: Route Profile – HDPT Route 215- Former Route 40



Night Campus Shuttle (NCS/Route 200)

The NCS/Route 200 connects Memorial Hall with Festival Conference Center via campus, and makes trips to Stonegate apartment complex, with a trip to Harrisonburg Crossing (Walmart), provided once each hour. Campus service is offered every 35 minutes or so. The hours of service are Monday - Thursday 7:05 p.m. to 10:23 p.m., Fridays 7:05 p.m. to 9:57 p.m., and Saturdays from 6:05 p.m. to 9:57 p.m. While ridership was down about eight percent on the NCS between FY2015 and FY2016, the route still operated with a high level of productivity (79.7 passenger trips per revenue hour). The route profile for the NCS is provided as Figure 3-34.

Figure 3-34: Route Profile – HDPT Night Campus Shuttle – Route 200



JMU Routes - FY2015 and FY2016 Characteristics and Profiles- Weekend Routes

Excluding the late-night services, there are five routes that operate on weekends – two on Saturdays and three on Sundays. The Saturday routes are the Campus Shuttle and Shopper Shuttle and the Sunday routes are Sunday Shuttles #1 and #2 and the Church Shuttle. The FY2015 and FY2016 statistics for these routes are shown in Table 3-5, followed by the route profiles.

HDPT is also introducing a new route that will operate during event weekends. It will connect local hotels to campus and the downtown area.

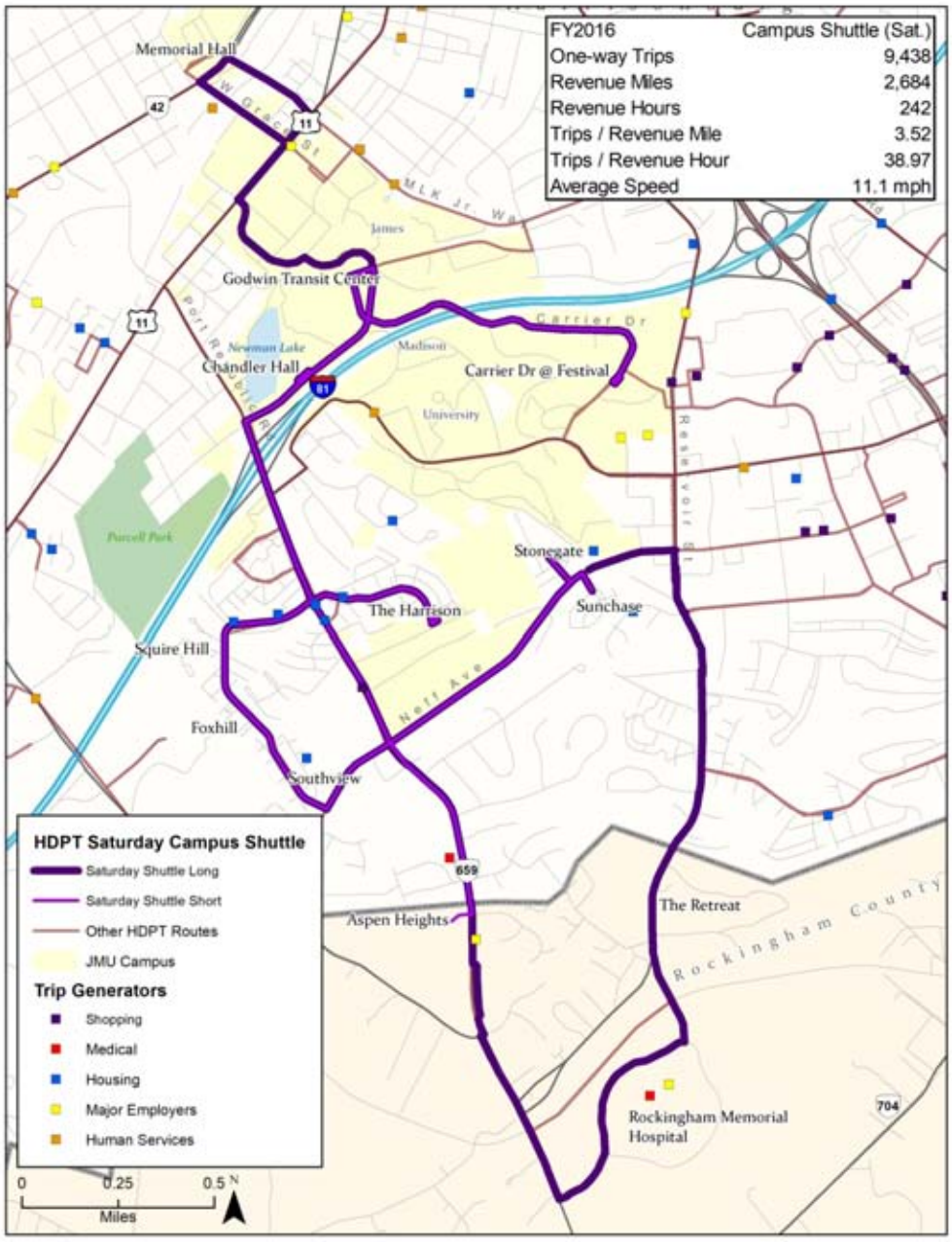
Table 3-5: FY15 and FY16 Operating Statistics for the JMU Weekend Routes (Excluding Late Night Routes)

Route	Passenger Trips		Ridership	Revenue Hours		Revenue Miles		Trips/Rev. Hour		Trips/Rev. Mile		Miles/Hour	
	FY2016	FY2015	Change	FY2016	FY2015	FY2016	FY2015	FY2016	FY2015	FY2016	FY2015	FY2016	FY2015
Campus Shuttle Saturday	9,438	9,980	-5%	242	207	2,684	2,450	39.0	48.2	3.52	4.07	11.09	11.84
Shopper Sat	13,203	17,730	-26%	198	241	2,610	2,815	66.8	73.7	5.06	6.30	13.21	11.70
Sunday I	7,740	8,632	-10%	313	321	3,785	3,850	24.7	26.9	2.04	2.24	12.09	11.99
Sunday II	14,571	17,293	-16%	339	345	4,232	4,601	43.0	50.1	3.44	3.76	12.48	13.34
Church Shuttle	341	405	-16%	130	125	1,347	1,086	2.6	3.2	0.25	0.37	10.36	8.69
Subtotal	**45,293**	**54,040**	**-19%**	**1,222**	**1,239**	**14,658**	**14,802**	**37.1**	**43.6**	**3.09**	**3.65**	**12.00**	**11.95**

Saturday Campus Shuttle

The Saturday Campus Shuttle provides connections from several student-oriented apartment complexes to campus. Service is offered from 9:00 a.m. until 5:42 p.m., with hourly service. Figure 3-35 provides a profile of the route.

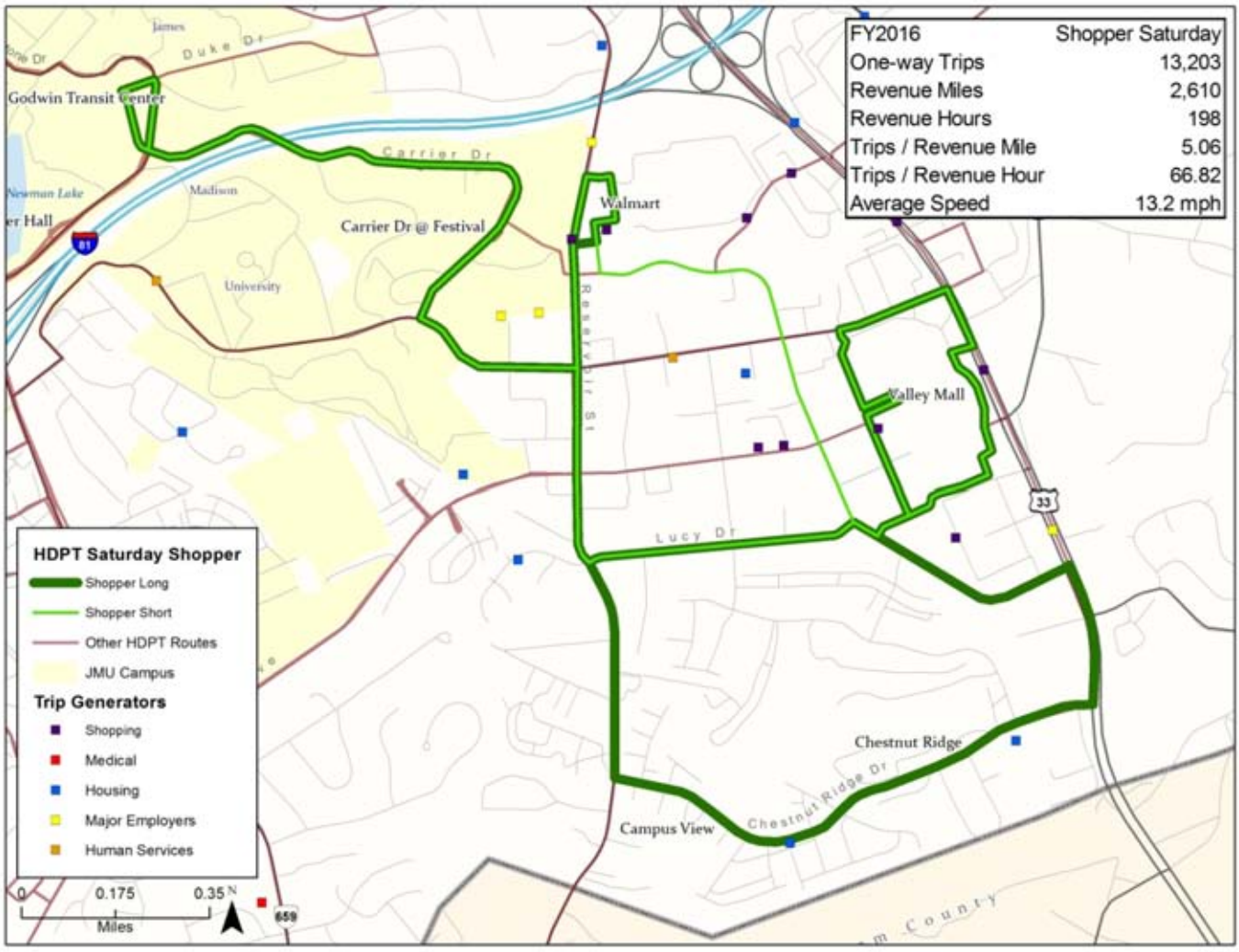
Figure 3-35: Route Profile – HDPT Campus Shuttle, Saturday



Shopper Shuttle- Saturday

On Saturdays the Shopper Shuttle is a longer route than on weekdays, extending service on certain runs to Sunchase, Lucy Drive, and Chestnut Ridge Road. All trips serve campus, Valley Mall, and Walmart. Thirteen vehicle trips are provided between 9:00 a.m. and 6:06p.m. The Shopper Shuttle is the most productive of the weekend services, providing 66.8 passenger trips per revenue hour in FY2016. Ridership on the route was down 26% between FY2015 and FY2016. Figure 3-36 provides a profile of the route.

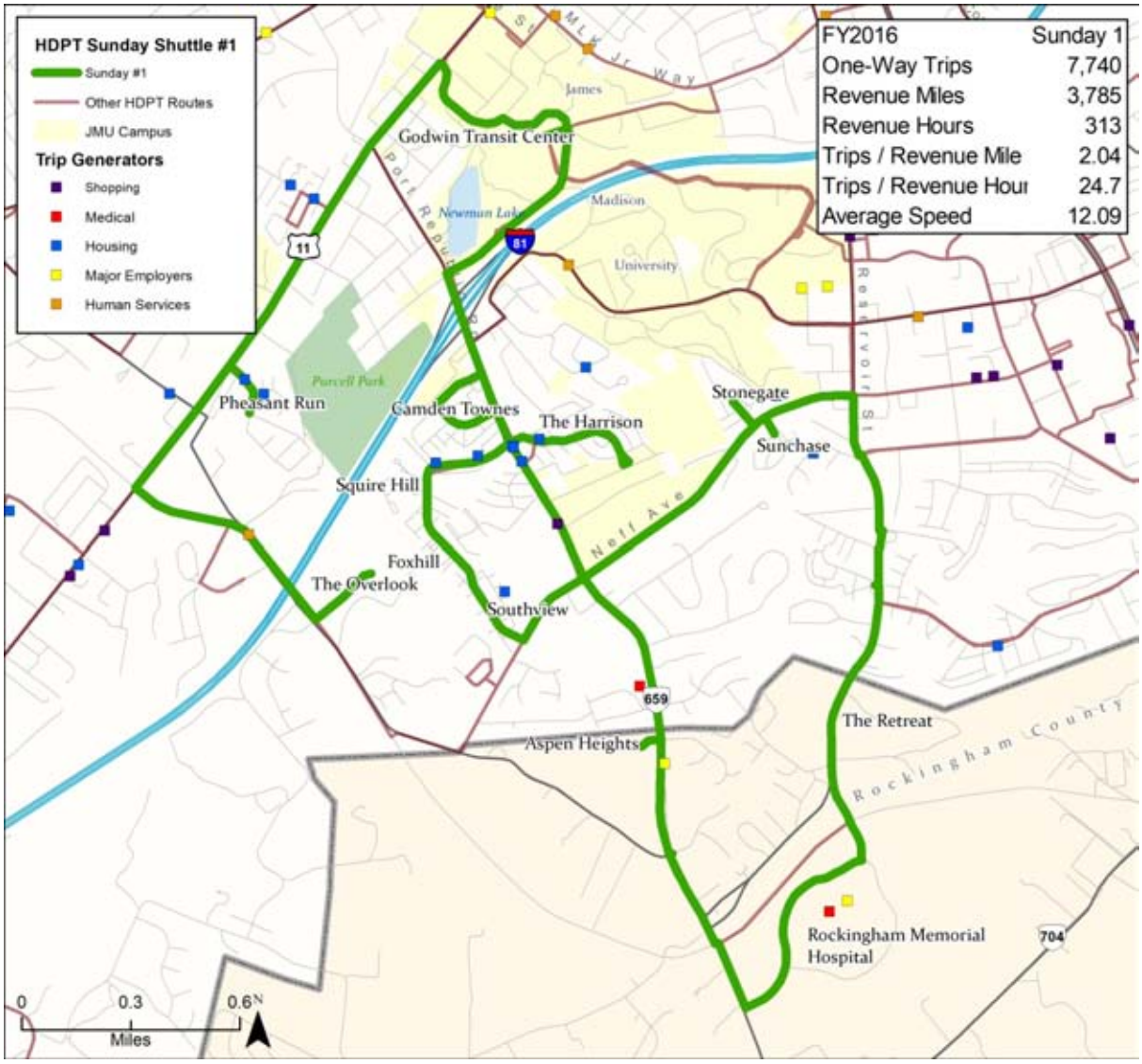
Figure 3-36: Route Profile – HDPT Shopper Shuttle Saturday



Sunday Shuttle #1

Sunday Shuttle #1 operates on Sundays from 1:00 p.m. until 11:44 p.m. Hourly service is provided on the route, which connects campus to several of the major student-oriented apartment complexes west of Reservoir Drive in Harrisonburg. Ridership in FY2016 on the route was down about 10 percent from FY2015. Figure 3-37 provides a profile of the route.

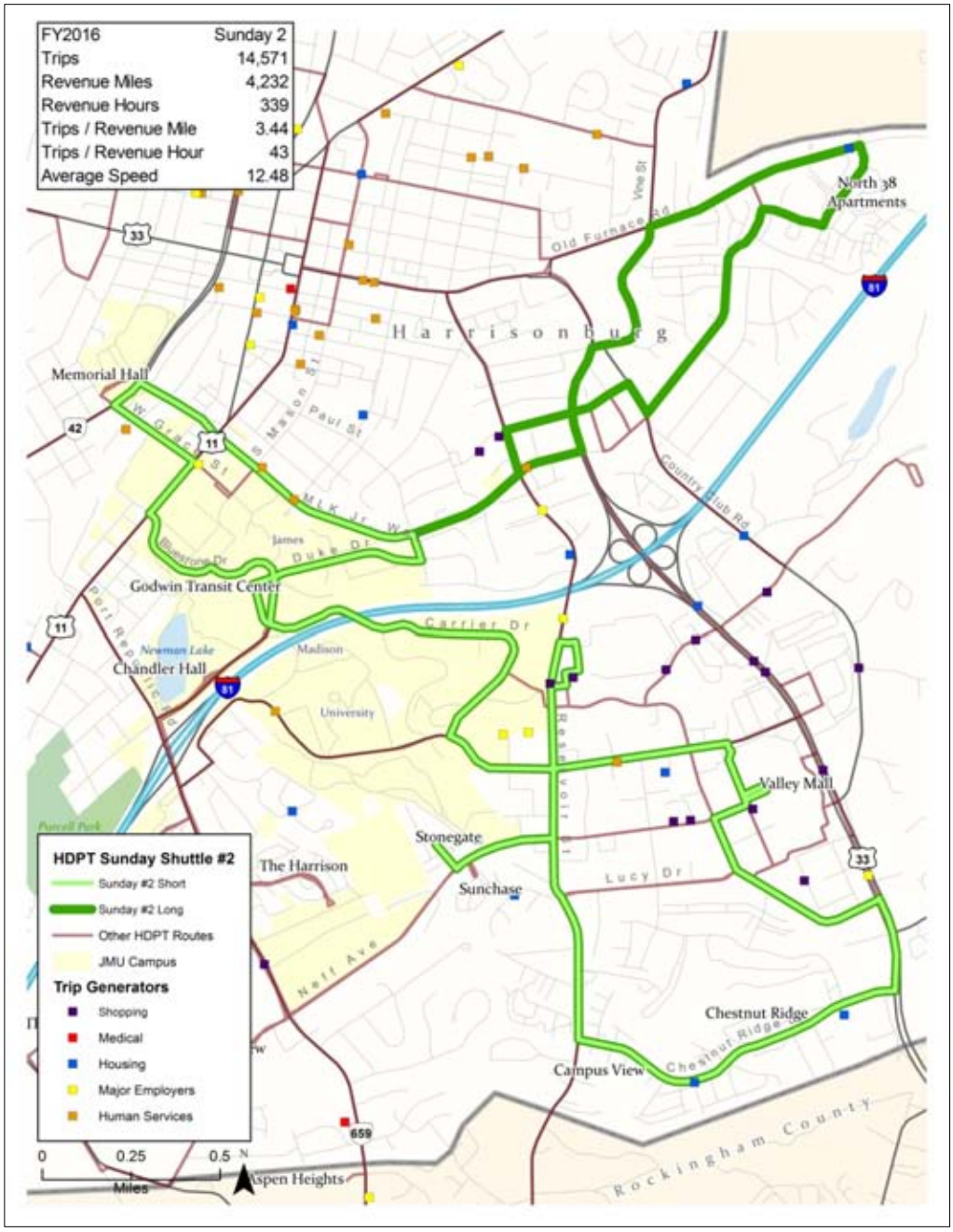
Figure 3-37: Route Profile – HDPT Sunday Shuttle #1



Sunday Shuttle #2

Sunday Shuttle #2 operates on Sundays from 11:00 a.m. until 11:05 p.m. and connects campus to several of the major student-oriented apartment complexes to east of Reservoir Drive (with the exception of Stonegate/Sunchase Apartments). Ridership on Sunday Shuttle #2 is higher than ridership on Sunday Shuttle #1, with 14,571 passenger trips provided in FY2016. As with several of the weekend and evening routes, ridership was down in FY2016 as compared to FY2015 (16%). Figure 3-38 provides a profile of the route.

Figure 3-38: Route Profile – HDPT Sunday Shuttle #2



Church Shuttle

The Church Shuttle is a scheduled service that operates Sundays, providing service from campus to houses of worship within Harrisonburg, as requested by riders. Three trips are provided on Sunday mornings at 8:35 a.m., 9:35 a.m., and 10:25 a.m. Passengers inform the driver of the time that they would like to be picked up, and they must return to campus by 1:00 p.m. In FY2016, the route provided 341 passenger trips, which was down 16% from FY2015 when the route provided 405 passenger trips. There is not a route map for the service, as it changes each week depending upon the riders.

Other Routes and Services

HDPT operates enhanced service that is open to the public and supplements the existing route network for football games and other events that attract large crowds. The operating statistics for these services for FY2015 and FY2016 are provided in Table 3-6.

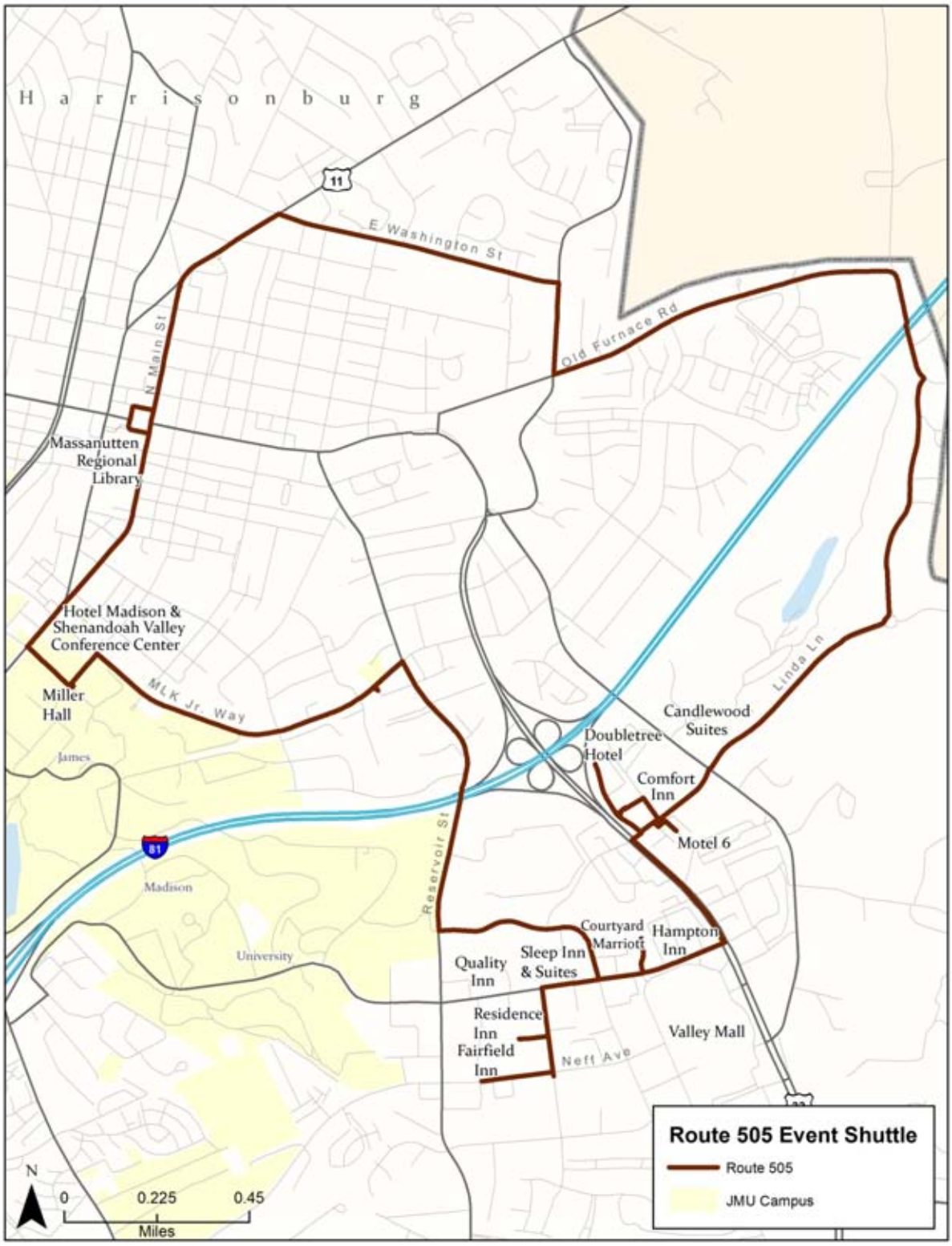
Route 505

HDPT has recently developed a route in response to the need to travel between local hotels, the JMU campus, and downtown during major event weekends. This route will be implemented for the first time in November, 2017. The route map is provided in Figure 3-39.

Table 3-6: HDPT – JMU Other Services- FY2015 and FY2016 Operating Statistics

Route	Passenger Trips		Ridership	Revenue Hours		Revenue Miles		Trips/Rev. Hour		Trips/Rev. Mile		Miles/Hour	
	FY2016	FY2015	Change	FY2016	FY2015	FY2016	FY2015	FY2016	FY2015	FY2016	FY2015	FY2016	FY2015
Special Services	64,204	49,616	29%	1,679	1,328	13,564	10,187	38.2	37.4	4.73	4.87	8.08	7.67
Orientation ICS	9,491	8,888	7%	185	168	1,070	1,166	51.3	52.9	8.87	7.62	5.78	6.94
Orientation Shopper	1,489	1,300	15%	34	22	281	213	43.8	59.1	5.30	6.10	8.26	9.68
Orientation Shopper 2	88	249	-65%	6	5	36	35	16.0	47.9	2.44	7.11	6.55	6.73
Subotal	**75,272**	**60,053**	**25%**	**1,904**	**1,523**	**14,951**	**11,601**	**39.5**	**39.4**	**5.03**	**5.18**	**7.85**	**7.62**

Figure 3-39: HDPT Route 505



FINANCIAL ANALYSIS

Operating Budget

HDPT's FY2017 operating budget is provided as Table 3-7. This budget is $527,738 higher than the actual FY2016 operating expenses. Operating costs for the program have risen incrementally since the 2011 TDP, as service hours have been added. The FY2018 operating budget is $ 4,899,021, which is about two percent higher than the FY2017 budget.

Table 3-7: HDPT FY2017 Operating Budget

Operating Cost	Fixed-route	Paratransit	Administration	Total
Salaries and Wages	$1,614,603	$289,861	$345,740	$2,250,204
Fringe Benefits	$375,771	$98,542	$112,655	$586,968
Purchased Services	$72,500	$8,400	$40,200	$121,100
Central Garage Parts, Labor, Other	$875,200	$85,000	$4,000	$964,200
Fuel	$450,000	$50,000	$2,000	$502,000
Vehicle Insurance	$185,000	$35,000	$436	$220,436
Other Insurance	$13,421	$2,388	$8,790	$24,599
Training and Travel	$10,000	$2,000	$10,000	$22,000
Telecommunications	$3,000	$1,100	$1,000	$5,100
Other Charges	$13,776	$1,245	$0	$15,021
Materials and Supplies	$19,000	$2,100	$28,600	$49,700
Utilities			$36,700	$36,700
Total Operating Expenses	**$3,632,271**	**$575,636**	**$590,121**	**$4,798,028**

Capital Budget

The capital budget for HDPT for FY2017 is provided in Table 3-8. The budget for the year includes some significant capital items, including eight replacement vehicles and a new ITS system. The FY2018 capital budget for HDPT is $1,440,000.

Table 3-8: HDPT FY17 Capital Budget

Capital Item	Amount
Expansion Bus < 30-ft.	$65,000
Passenger Shelters	$70,000
Intelligent Transportation System	$894,889
Radios for Buses	$15,000
Replacement Buses (8) 35-ft.	$2,952,000
Capital Outlay	**$3,996,889**

Funding Sources

Revenue to help offset HDPT's operating expenses is derived from fare and contract revenue as well as advertising revenue. Federal and state grant funds, and funds from the City of Harrisonburg comprise the rest of HDPT's revenue budget. Table 3-9 provides the FY2017 revenue budget for both operating and capital.

Table 3-9: FY2017 Revenue and Funding Sources for HDPT

Operating	
Revenue	**Amount**
JMU Contract	$1,527,000
Other Service contracts	$114,736
Bus Fares	$75,000
Paratransit Fares	$46,000
Transit Coupons	$30,000
Special Transit Services	$25,000
County Van Shuttle	$2,200
Title XX	$500
Advertising	$90,000
Subtotal- Operating Revenue	**$1,910,436**

Federal, State, Local Funds	Amount
Federal Operating	$1,437,610
State Operating	$1,200,000
Local Match	$250,000
Subtotal - Funding	$2,887,610
Total Operating Revenue and Funding	**$4,798,046**

PEER REVIEW AND ANALYSIS

In order to better understand how HDPT's operating and performance characteristics compare to peers within the transit industry, data on five peer systems were collected primarily from the FY2014 National Transit Database (NTD). Annual data collected for the peer review focused on the following basic operating statistics: unlinked passenger trips; revenue miles; revenue hours; and operating expenses. The peers chosen generally provide service in a similar manner, with the public agency serving the community at large as well as a major university. Table 3-10 provides the data for HDPT and the peer systems.

These data show that HDPT:

- Experiences the highest level of productivity, in terms of passenger trips per revenue hour (40.89 trips per revenue hour, versus the mean of 31.42 trips per revenue hour). This is likely due in part to the service area population density (3,118 people per square mile, as compared to the mean of 671 people per square mile).

- Operates more peak vehicles than the mean, second only to Blacksburg Transit, which operates 42 peak vehicles.

- Operates fewer vehicle revenue hours and miles than the mean.

- Experiences a cost per revenue hour that is lower than the mean ($56.94 versus $63.38) as well as a cost per trip that is lower than the mean ($1.39 versus $2.02), and the second lowest among the peers. The lowest cost per trip among the peer systems is $1.22 (Clemson), which does not include the provision of ADA complementary paratransit.

Table 3-10: Selected Peer Comparison

System	Service Area Population	Service Area Sq. Miles	Number of Peak Vehicles	University?	Annual Passenger Trips	Total Operating Expenses *	Vehicle Revenue Hours	Vehicle Revenue Miles
AppalCART (Boone, NC)	51,079	163	32	Yes	1,756,150	$3,406,167	63,900	866,391
Blacksburg Transit	63,661	28	42	Yes	3,685,000	$6,264,642	95,807	902,879
Charlottesville Area Transit**	85,755	38	25	Yes	2,275,515	$7,125,489	93,823	1,009,789
City of Clemson/Clemson Area Transit*** (SC)	27,883	17	19	Yes	1,594,421	$1,948,208	42,495	501,399
Mt. Line Transit (Morgantown, WV)	91,576	293	25	Yes	1,226,763	$4,258,385	59,978	1,120,133
HDPT	**53,013**	**17**	**39**	**Yes**	**2,800,525**	**$3,899,781**	**68,494**	**702,239**
Mean	**62,161**	**93**	**30**		**2,223,062**	**$4,483,779**	**70,750**	**850,472**

Sources: 2014 National Transit Database and AppalCART FY2014 Fact Sheet (http://appalcart.com/content/fact-sheet)

Notes:

Both fixed-route and demand-response services are included, except where noted.

*Operating expenses include administrative expenses; may exclude preventive maintenance expenses that were funded as a capital expense.

**Includes fixed-route service only; JAUNT, a 7-county system, provides the city's paratransit not included in city NTD reports

***Includes fixed-route service only

Table 3-10: Selected Peer Comparison (continued)

System	Density Pop/ Square Mile	Trips/ Revenue Hour	Trips/ Revenue Mile	Cost/ Trip	Cost/ Revenue Hour	Cost/ Revenue Mile
AppalCART (Boone, NC)	313	27.48	2.03	$ 1.94	$ 53.30	$ 3.93
Blacksburg Transit	2,274	38.46	4.08	$ 1.70	$ 65.39	$ 6.94
Charlottesville Area Transit**	2,257	24.25	2.25	$ 3.13	$ 75.95	$ 7.06
Clemson Area Transit ***	1,640	37.52	3.18	$ 1.22	$ 45.85	$ 3.89
Mt. Line Transit (Morgantown, WV)	313	20.45	1.10	$ 3.47	$ 71.00	$ 3.80
HDPT	3,118	**40.89**	**3.99**	**$ 1.39**	**$ 56.94**	**$ 5.55**
Mean	**671**	**31.42**	**2.61**	**$ 2.02**	**$ 63.38**	**$ 5.27**

ONBOARD RIDER SURVEYS

An important task for the Transit Development Plan (TDP) is to gather opinions concerning HDPT's current public transportation services, both fixed-route and paratransit. With input from HDPT stakeholders, onboard surveys were developed for this purpose. The surveys were administered onboard the HDPT vehicles between November 9 and November 11, 2016. Temporary workers, supervised by KFH Group staff, distributed and collected the surveys from riders. Surveys were available in both English and Spanish. Copies of both the fixed-route and paratransit survey instruments are provided in Appendix A.

Fixed-Route Survey Results

The fixed-route survey effort resulted in 616 completed surveys. Using standard statistical tables for determining sample size requirements for finite populations, this level of survey participation indicates that we can be 95% confident (+/- 4%) that the survey responses reflect the views of HDPT riders. This level of confidence required a sample size of at least 588. The finite population of HDPT riders was estimated to be 10,000.

Responses by Route

As shown in Table 3-11, completed surveys were received from all of the community routes, and most of the weekday JMU-oriented routes in the system. Given the congestion on the Inner Campus Shuttle (ICS) and the short ride time, surveyors did not attempt to survey ICS riders. It should be noted that a significant number of ICS riders also ride other HDPT routes.

Table 3 -11: Survey Responses by Route

Route	Number of Responses	Percent of Total
Route 1	26	4%
Route 2	11	2%
Route 3	67	11%
Route 4	5	1%
Route 5	37	6%
Route 6	19	3%
Route 7	12	2%
Route 8	51	8%
Route 9	35	6%
Route 10	66	11%
Route 11	14	2%
Route 12	28	5%
Route 13	33	5%
Route 14	28	5%
Route 15	18	3%
Route 17	34	6%
Route 18	52	9%
Inner Campus Shuttle	1	0%
Shopper	67	11%
Total Responses	**604**	**100%**

These data show that about 73% of the responses were received from routes that focus on serving the JMU community, while 27% of the responses were received from routes that serve primarily year-round Harrisonburg residents (Routes 1 through 6).

Boarding/Alighting Locations and Transfers

Survey respondents were asked to indicate the location where they boarded the bus, where they were going, and if they had to make a transfer to complete trip. The results of this question were organized into two categories: those locations that are on the JMU campus, and those locations that are not on the JMU campus. Tables 3-12 and 3-13 provide these data.

These data show that the boarding/alighting locations on the JMU campus are concentrated at the Godwin transfer location, as well as at a few other key stops. The off-campus data are much more dispersed and indicate that riders use the system to travel to and from many

different areas of the city. The Hills of Harrisonburg (all three complexes combined) was the most commonly listed off campus boarding/alighting location, followed by Walmart.

Table 3- 12: Top Boarding/Alighting Locations - JMU Campus

Boarding/Alighting Data - JMU Campus – 20 or more responses	Number of Responses
Godwin	164
Physics/Chemistry	50
Festival Conference and Student Center	45
ISAT	35
Showker	29
Hoffman Hall	24
Memorial Hall	24
Hanson Hall	21

Table 3 –13: Top Boarding/Alighting Locations – Not on the JMU Campus

Boarding/ Alighting Data - Off- Campus – 10 or more responses	Number of Responses
Walmart	42
Sunchase Apartments	38
The Harrison	38
Pheasant Run	36
Hills of Harrisonburg -Northview	33
Lois Lane/Devon Lane and Devon Lane	30
Hills of Harrisonburg –Stonegate Apartments	19
Valley Mall	19
East Market Street	17
Hills of Harrisonburg - Southview	17
Port Republic Road	17
Roses Transfer Hub	16
Bradley Drive	15
Garber's Church Road	14
Mill Apartments	14
Aspen Heights	12
Washington Street	11
Vine Street	10
Hunters Ridge	10
South Main Street	10

The transfer data indicate that most riders do not have to make a transfer to complete each passenger trip, with 75% reporting that they ride on just one bus to complete each trip. These data are shown in Table 3-14.

Table 3-14: Number of Buses to Complete a Trip

Number of Buses	Number of Responses	Percent of Total
1	455	75%
2	122	20%
3	20	3%
4 or more	9	1%
Total Responses	**606**	**100%**

Trip Purpose

The most commonly reported primary trip purpose among survey respondents was school, followed by shopping, work, and other purposes. These results are shown in Table 3-15.

Table 3-15: Trip Purpose

Trip Purpose	Number of Responses	Percent of Total
School	394	66%
Shopping	68	11%
Work	65	11%
Other	32	5%
Medical	22	4%
Social/Recreation	19	3%
Tourism	1	0%
Childcare	0	0%
Total Responses	**601**	**100%**

Access to HDPT

Respondents were asked to indicate how they get to the bus stop, as well as how they reach their final destination. The survey responses indicated that 90% of survey participants walk to the bus stop, followed by arriving via a different bus. These data are shown in Table 3-16.

Table 3-16: Mode of Accessing Bus Stop

Mode of Access	Number of Responses	Percent of Total
Walked	548	90%
Another Bus	39	6%
Drove Alone	8	1%
Carpool	2	0%
Bike	4	1%
Other	5	1%
Total Responses	**606**	

The survey asked additional information concerning the first and last mile for the participants' trips. These data indicate that most riders have a relatively short walk, both to and from the bus stop, with about 70% reporting a zero to two block walk for both the first mile and the last mile of their trips. These data are shown in Table 3-17 and suggest that HDPT provides good geographic coverage for the most significant origins and destinations in the city.

Table 3-17: Walk Distance to and from Bus Stop

First Mile Data- Walkers		Number of Walkers	Percent of Total
Walked		**548**	**90%**
Distance	0 blocks	46	8%
	1 block	261	48%
	2 blocks	74	14%
	3 blocks	28	5%
	4 blocks	6	1%
	5 blocks	7	1%
	6 blocks	6	1%
	7 blocks	1	0%
	9 blocks	1	0%
	10 blocks	3	1%
	more than 1 mile	1	0%
	3 miles	1	0%

Last Mile Data -Walkers		Number of Walkers	Percent of Total
Walked		**512**	**84%**
Distance	0 blocks	66	13%
	1 block	231	45%
	2 blocks	66	13%
	3 blocks	21	4%
	4 blocks	9	2%
	5 blocks	9	2%
	6 blocks	2	0%
	7 blocks	1	0%
	9 blocks	1	2%
	half mile	1	0%
	one mile	1	2%
	more than 1 mile	1	5%

Pedestrian Improvements

The survey asked the participants who indicated that they walk to/from the stop to indicate whether or not they see a need for pedestrian improvements, and what those improvements should be. As shown in Table 3-18, 75% of walkers indicated there is not a need for improvements. Fifteen percent (94 respondents) indicated there is a need for additional sidewalks. Additional crosswalks were listed by 44 respondents, followed by curb ramps (13 respondents).

Table 3-18: Pedestrian Improvements

Amenity	Number of Responses	Percent of Total
None	459	75%
Sidewalks	94	15%
Crosswalks	44	7%
Curb Ramps	13	2%

Survey respondents were also asked to indicate where these improvements are needed. As is shown in Table 3-19, significantly fewer survey respondents provided a specific location for improvements.

Table 3-19: Locations for Pedestrian Improvements

Location	Number of Responses
Port Republic Road	8
Lois/Devon Lane	5
On campus	4
Reservoir Street	4
Neff Ave	3
The Harrison	2
Country Club Road	2
E Market Street	2
MLK Way	2
S Main Street	2
Vine Street	2
Edgelawn Drive	1
Bradley Drive	1
Mill Apartments	1
Mt Clinton Pike	1
N Main Street	1
Rose's	1
N Liberty Street	1

Passenger Satisfaction in Various Topic Areas

Question 9 of the survey asked respondents to indicate their satisfaction with a number of service characteristics. These data are provided in Table 3-20.

These data show that a strong majority of passengers are either strongly satisfied or satisfied (84% combined) when analyzing the sum of the service characteristics. The most highly rated areas are vehicle safety, cleanliness, and driver courtesy. The areas that show the highest level of dissatisfaction are: hours, on-time performance, frequency, and areas served.

When asked if HDPT is a good value for the services received, respondents overwhelmingly said yes, with 527 of 528 responses to this question indicating "yes".

Table 3-20: Passenger Satisfaction

	Ratings						
Area	Strongly Satisfied	Satisfied	Neutral	Dissatisfied	Strongly Dissatisfied	No Opinion	Sum
Frequency	165	318	61	45	3	3	595
Area Served	158	335	65	24	3	3	588
On Time Performance	140	253	146	48	6	2	595
Hours	128	249	106	74	26	3	586
Info Availability	252	261	49	16	3	3	584
Fare Cost	380	134	42	5	1	28	590
Vehicle Safety	319	235	20	13	0	4	591
Stop Safety	281	234	51	15	2	3	586
Cleanliness	289	258	28	10	3	3	591
Driver Courtesy	302	223	48	12	3	4	592
Overall	244	302	39	3	1	3	592
Sum of Scores	**2658**	**2802**	**655**	**265**	**51**	**59**	**6490**
Percent of Total	**41%**	**43%**	**10%**	**4%**	**1%**	**1%**	

Availability of Information

Question 10 of the survey asked participants to indicate if they find the HDPT available and easy to use. As shown in Table 3-21, a large majority (97%) indicated yes to this question.

Table 3 –21: Do you find the HDPT public information helpful and easy to use?

Do you find HDPT public information helpful and easy to use?	Number of Responses	Percent of Total
Yes	544	97%
No	17	3%
Total Responses	**561**	**100%**

Participants were also asked to provide feedback concerning what HDPT can do to improve public information. These suggestions are provided in Table 3-22.

Table 3-22: Suggested Public Information Improvements

Suggested Improvement	Number of Responses
Mobile App	31
Signage/Info at stops, on buses	11
Schedules	8
Real-Time Arrivals	8
Advertising/Outreach	7
Translation	3
Website	2
Other	3

Best and Least

Questions 11 and 12 asked survey participants to indicate what they like best and least about HDPT. These were open-ended questions, with the results summarized in Tables 3-23 and 3-24. As the tables indicate, 460 responses were provided for the "best" question and 375 responses were provided for the "least" question. These results indicate that passengers are most satisfied with the convenience of the service, the drivers, the customer service, reliability, cost, and frequency/availability. Riders are least satisfied with the hours of service (summing all of the hours-related responses), the frequency of service, on-time performance, and crowded conditions.

Table 3-23: What do you like Best about HDPT?

What do you like best about HDPT?	Number of Responses	Percent of Total Surveys	Percent of Responses to the Question
Convenient/Easy to use	88	14%	19%
Drivers/Customer service	77	13%	17%
Reliability / "Gets me where I need to go"	73	12%	16%
Cost	62	10%	13%
Frequency/Availability	56	9%	12%
On-time Performance	32	5%	7%
Routes/Service area	25	4%	5%
Clean/Comfortable	24	4%	5%
Information/Technology	12	2%	3%
Fast/Efficient	9	1%	2%
Hours	2	0%	0%
Total Responses	**460**		

Table 3-24: What do you like Least about HDPT?

What do you like least about HDPT?	Number of Responses	Percent of Total Surveys	Percent of Responses to the Question
Frequency	72	45%	19%
Not On Time	67	11%	18%
Uncomfortable/Crowded	66	11%	18%
Hours	52	8%	14%
Drivers	26	4%	7%
Areas served/not enough stops	17	3%	5%
Night service	13	2%	3%
Sunday/Weekend Service	12	2%	3%
Schedules/Info	12	2%	3%
Travel Time/Transfers	10	2%	3%
Passenger Behavior	7	1%	2%
Stop Amenities/Shelters/Sidewalk Connections	5	1%	1%
Dirty	3	0%	1%
Fare	3	0%	1%
Bunching	2	0%	1%
Other	8	1%	2%
Total Responses	**375**		

Geographic Expansion

Riders were also specifically asked if there are places in the region that they need to go, that are not served by HDPT. While the majority of respondents indicated there are not places they need to go outside of the HDPT service area, there were 68 people (13%) who said yes. These data are shown in Table 3-25, with the specific locations provided in Table 3-26.

Table 3-25: Geographic Expansion

Are there places in the region that you need to go that HDPT does not serve?	Number of Responses	Percent of Total
Yes	68	13%
No	454	87%
Total Responses	**522**	

Table 3-26: Locations Requested

Location Requested	Number of Responses
Additional Destinations in Harrisonburg	15
Rockingham County	13
Additional Destinations on JMU Campus	5
Charlottesville	4
Staunton-Waynesboro	2
Richmond	1
Other	1

Improvements

Question 15 of the survey asked, "If HDPT were to make one service improvement, what would you request?" The results to this question are summarized in Table 3-27. As these responses indicate, the single most requested improvement is for more frequency and capacity, although if all of the hours-related requests are summed, they would total a higher number than the frequency requests (i.e., extended hours, more night service, and more weekend service combined). Service to additional stops and locations and better on-time performance also garnered at least 20 requests.

Table 3-27: Improvement Requests

Improvement Request	Number of Responses	Percent of Total Survey Responses	Percent of Those Listing Improvements
More Frequency/Capacity	72	12%	26%
Extend Hours	46	7%	16%
Additional Stops/Destinations	31	5%	11%
More Night Service	24	4%	9%
Improve On-Time Performance	20	3%	7%
More Weekend Service	13	2%	5%
Improve/Maintain Stops (signage, shelters, lighting, cleanliness)	12	2%	4%
Improve Bus Comfort/Amenities	11	2%	4%
Better Drivers/Driving	10	2%	4%
Create/Improve Real Time Arrival Application	10	2%	4%
Better Customer Service	6	1%	2%
Increase Service During School Breaks	4	1%	1%
Improve Schedules/Public Info (incl. translations)	4	1%	1%

Improvement Request	Number of Responses	Percent of Total Survey Responses	Percent of Those Listing Improvements
Shorten Travel Times	4	1%	1%
Improve System Accessibility	3	0%	1%
Free Transfers	1	0%	0%
Other	8	1%	3%
Total Responses	**279**		

Given the recent Inter-regional Public Transportation Study for the I-81/I-64 corridor, participants were asked to indicate if they would use a bus service that provided service between Harrisonburg and Charlottesville via Staunton and Waynesboro. Sixty-seven percent indicated that they would.

Open Ended Comments

Fifty-one survey respondents gave comments. Comments were open-ended text responses. There were 57 discrete comments in total, as some respondents addressed multiple topics.

Comments expressing general approval for the HDPT system, including praise for specific routes, drivers, and situations, were most common. Thirteen respondents expressed general approval. The next two most common comments identify possible areas where HDPT could improve. Twelve respondents gave comments indicating a desire for extended hours of operation. Eleven respondents indicated locations where service could be improved or added, either as general suggestions (i.e. "connect apartment complexes") or as specific recommendations (i.e. "need a stop closer to Rte. 42 Walmart").

The remaining comments include customer service suggestions or complaints, other system performance suggestions such as frequency, areas where system accessibility could be improved, and system amenity improvements. The comments are summarized in Table 3-28 with the full text included as Appendix B.

Table 3-28: Summary of Comments

Topic	Number of Comments
General Approval	13
Hours of Operation	12
Locations Served	11
Customer Service Concerns	5
Concerns about Other Customers	3
Frequency	3
On-Time Performance	3

Topic	Number of Comments
System Accessibility	2
Amenities on Bus	2
Amenities at Stop	2
Information Technology	1

Passenger Profile

There were a number of questions on the survey that asked riders to provide information about themselves. These responses are summarized below to form the HDPT passenger profile.

Frequency of Use

HDPT riders indicated that they use the system frequently, with 79% reporting they take five or more trips per week. These responses are shown in Table 3-29.

Table 3-29: Frequency of Use

Number of Trips per Week	Number of Responses	Percent of Total
1	17	3%
2	20	4%
3	36	7%
4	38	7%
5 or more	426	79%
Total Responses	**537**	

College Affiliation

The survey asked riders to indicate if they are affiliated with James Madison University (JMU), Eastern Mennonite University (EMU), or Blue Ridge Community College (BRCC). These data indicate that 71 percent of survey respondents are affiliated with JMU; two percent are affiliated with BRCC, and one percent is affiliated with EMU. These responses are summarized in Table 3-30.

Table 3-30: College Affiliation

Institution	Number of Responses	Percent of Total
James Madison University (JMU)	438	71%
Eastern Mennonite University (EMU)	7	1%
Blue Ridge Community College (BRCC)	13	2%
Total Responses	**616**	

Driver's License and Car Availability

The majority of survey respondents indicated they do have a driver's license (80%) and 78 percent reported there is at least one car in their household. When asked if a car was available for the trip they took via HDPT, 34 percent indicated yes and 66 percent indicated no. These responses are summarized in Table 3-31.

Table 3-31: Driver's License and Car Availability

Do you have a valid driver's license?	Number of Responses	Percent of Total
Yes	427	80%
No	107	20%
Total Responses	**534**	

How many cars are in your household?		
Number of Cars	**Number of Responses**	**Percent of Total**
0	117	22%
1	118	22%
2	91	17%
3+	213	40%
Total Responses	**539**	

Was a car available to you for this trip?	Number of Responses	Percent of Total
Yes	182	34%
No	357	66%
Total Responses	**539**	

Cell Phone/Communication Device

Ninety-six percent of survey participants indicated they have a cell phone or other portable device capable of communicating with the Internet.

Age

The age distribution of HDPT riders is provided in Table 3-32. These data show the significant use of HDPT by college-age riders, with 80% of the survey participants indicating they are between the ages of 18 and 24. Working-age adults comprise the second largest age group (ages 25 through 64, combined 16%).

Table 3-32: Age Distribution

Age Group	Number of Responses	Percent of Total
12 or younger	0	0
13 – 17	18	3%
18 – 24	435	80%
25 – 34	25	5%
35 – 49	31	6%
50 – 64	28	5%
65 or older	4	1%
Total Responses	**541**	

Employment Status

The majority of HDPT riders reported they are students (65%), followed by part-time employees (21%). Just nine percent of survey participants reported they are employed full-time. These results are provided in Table 3-33. Respondents could check more than one status to describe their employment situation.

Table 3-33: Employment Status

Employment Status	Number of Responses	Percent of Total
Employed Full-Time	56	9%
Employed Part-Time	132	21%
Student	398	65%
Retired	7	1%
Not Employed	44	7%
Total Responses	**616**	

Race

The survey asked respondents to indicate their race, using the Census-designated race categories. The majority of respondents indicated they are Caucasian (65%), followed by African-American (14%), other (11%), and Asian (9%). As shown in Table 3-34, HDPT riders are more racially diverse than the population at-large.

Table 3-34: Race Data

Race Classification	Number of Responses	Percent of Total	City of Harrisonburg[1]
African American/Black	73	14%	6.4%
Asian or Pacific Islander	47	9%	3.5%
Caucasian/White	339	65%	78.4%
Native American	5	1%	0.3%
Total Other	56	11%	8.2%
Other: 2 or More	18		3.1%
Other: Hispanic/Latino	24		
Other: Middle Eastern	2		
Other: Unspecified	12		
Total Responses	**520**		

(1) 2010 Census

Hispanic/Latino Origin

Survey participants were asked to indicate if they were of Hispanic or Latino origin. Eighty-eight percent reported they are not of Hispanic or Latino origin and 12 percent indicated that they are. These results were lower than Census data (ACS 2011-2015), which show that 17.7 percent of the residents of the city identify as being Hispanic or Latino in origin.

Language

When asked if they speak a language other than English at home, twenty-one percent indicated that they do, with Spanish the most commonly listed a primary language, followed by Chinese. Of the survey respondents who reported that they speak another language at home, most indicated that they speak English "very well" or "well", with just 11 respondents reporting that they speak English either "not well," or "not at all." The full results of the language questions are listed in Table 3-35.

Table 3-35: Language Questions

Do you speak a language other than English at home?	Number of Responses	Percent of Total
Yes	110	21%
No	420	79%
Total Responses	**530**	

If yes, what is this language?		
Language	**Number of Responses**	**Percent of Total**
Spanish	41	43%
Chinese	10	11%
Vietnamese	9	9%
Korean	5	5%
French	5	5%
Arabic	3	3%
Twi	2	2%
Bengali	2	2%
Hindi	2	2%
Amharic	2	2%
Italian	2	2%
Tagalog	2	2%
Russian	2	2%
Other (one response each)	8	8%
Total Responses	**95**	

If yes, how well do you speak English?		
Speak English	**Number of Responses**	**Percent of Total**
Very Well	63	66%
Well	21	22%
Not Well	8	8%
Not at All	3	3%
Total Responses	**95**	

Household Income

The income question for the HDPT riders is likely somewhat skewed, given the large number of student riders, some of whom likely indicated their own personal income while others reported their family income, and many reported "don't know." The results of the income question showed that 42% of survey participants reported their household income is lower than $20,000; 33% "don't know," and ten percent reported household incomes of $80,000 or higher.

For reference, the Census-designated poverty threshold in 2014 for a family of four (with two children) was $24,018.[1] The full results with regard to income are provided in Table 3-36.

Table 3-36: Household Income

Household Income	Number of Responses	Percent of Total
Under $20,000	211	42%
$20,000 - $39,999	42	8%
$40,000 - $59,999	16	3%
$60,000 - $79,999	21	4%
Over $80,000	51	10%
Don't Know	166	33%
Total Responses	**507**	

Paratransit Survey

The paratransit survey was completed by 37 passengers, some of whom required assistance to complete the survey. While this seems like a small sample size, the average daily weekday paratransit ridership (2015 National Transit Database) is 94 passenger trips, which presumably represents about 47 people. The following section presents these results.

Fixed-Route Usage

The first question on the paratransit survey asked riders to indicate if they sometimes use fixed-route buses. Responses indicated that 29 of the 37 respondents (78.4%) sometimes use the fixed-route buses.

[1] US Census Bureau Website, "Poverty Thresholds by Size of Family and Number of Children," 2014.

Trip Purpose

The trip purposes indicated by the paratransit survey respondents are provided in Table 3-37. Similar to the fixed-route survey, respondents could check more than one response. These data show that almost half of the paratransit riders use HDPT to get to work, followed by medical/dental, shopping/errands, and school.

Table 3-37: Paratransit Trip Purposes

Trip Purpose	Number of Responses	Percent of Total
Work	18	48.6%
Social/Recreation	3	8.1%
School	5	13.5%
Medical/Dental	9	24.3%
Shopping/Errands	6	16.2%
Child Care	0	0.0%
Tourism	0	0.0%
Other	3	8.1%

Other Modes

Question 3 on the paratransit survey asked respondents to indicate how they would make their trips if they were not using HDPT paratransit. Of the 35 survey participants who answered this question, 13 indicated they would not make the trip, and 12 indicated that a family member or friend would drive them. The full responses are provided in Table 3-38.

Table 3-38: Other Modes of Travel – Paratransit Riders

Mode of Travel	Number of Responses	Percent of Total
Friend or family member would drive me	12	34.3%
I would take a taxi	2	5.7%
I would drive myself	6	17.1%
I would not make the trip	13	37.1%
Other (fixed-route bus)	2	5.7%
Total Responses	**35**	**100%**

Pedestrian Amenities

Paratransit riders were asked to indicate whether or not they see a need for improvements to pedestrian amenities, and if so, to indicate which ones. These results show that a higher percentage of paratransit riders see a need for improvements, as compared to fixed-route riders. These results are provided in Table 3-39.

Table 3-39 – Pedestrian Amenities – Paratransit Rider Opinion

Pedestrian Amenity	Number of Responses	Percent of Total
None	18	62%
Sidewalks	9	31%
Crosswalks	7	24%
Curb Ramps	5	17%

When asked to indicate specific locations, survey respondents only indicated four, none of which were specific. These were: JMU Campus; downtown; Harrisonburg Health and Rehabilitation Center; and everywhere.

Origins and Destinations

Paratransit riders predominantly started and ended their trips at locations that are not located on the JMU Campus. These locations were dispersed throughout the city, with Friendship Industries listed the most frequently as a destination (4 responses). Several medical centers were listed, both as origins and destinations.

The full results regarding the origins reported by paratransit riders for the sample day are provided in Table 3-40 and the destinations reported for the sample day are provided in Table 3-41.

Table 3-40: Paratransit Origins- Sample Day

Off-Campus Origin	Number of Responses
N Main Street	3
VMRC Wellness Center	3
Old Furnace Road	2
Maryland Avenue	2
Harrisonburg Health and Rehabilitation Center	2
Weaver Avenue	1
Park Road	1

Off-Campus Origin	Number of Responses
Baxter Road	1
Vine Street	1
351 North Massanutten	1
South Avenue	1
Hope Street	1
Dogwood Drive and Water Street	1
Franklin Street	1
Goodwill	1
L&S Diner	1
Lineviller	1
Ohio	1
Rockingham Drive	1
Total Responses - Off Campus	**26**
JMU Campus Origin	
Ashby Hall	1
Converse Hall	1
Hanson Hall	1
R7 lot	1
Shenandoah Hall	1
Total Responses - On Campus	**5**

Table 3-41: Paratransit Destinations- Sample Day

Off-Campus Destination	Number of Responses
Friendship Industries	4
Summit House	3
HHRC	2
Walmart	2
Anthony Seeger Hall	1
ARC	1
Davita	1
Dawn Drive	1
Dukes Plaza	1
Harrisonburg Medical Associates	1
HRCSB	1
Reservoir and University	1

Off-Campus Destination	Number of Responses
RMH	1
S Main St	1
Spotswood Square	1
Valley Mall	1
VFW Post 632	1
W Market St	1
Total Responses	**25**
JMU Campus Destination	
31D Vale Circle	1
Carrier Library	1
Festival Hall	1
Godwin Hall	1
Showker Hall	1
UREC	1
Weaver Hall	1
Total Responses	**7**

Paratransit Rider Satisfaction

Paratransit survey participants were asked to rate HDPT in a number of topic areas. These results show that a majority of paratransit riders are satisfied with the service, with only 2.4% indicating dis-satisfaction. The drivers scored the highest ratings among the topic areas, with 33 of the 35 who responded to the question indicating they are strongly satisfied with the courtesy and friendliness of drivers. There were only four areas where two respondents each indicated that they were dis-satisfied. These were: telephone customer service; phone wait time; on-time performance; and cost of the fare. The full results are provided in Table 3-42.

Table 3-42: Paratransit Rider Satisfaction

	Rating						
Service Characteristic	Strongly Satisfied	Satisfied	Neutral	Dis-satisfied	Strongly Dis-satisfied	No Opinion	Sum
ADA Certification Process	22	4	1	-	-	2	29
Trip Scheduling	26	7	2	1	-	-	36
Telephone Customer Service	26	6	2	2	-	-	36
Phone Wait Time	26	7	1	2	-	-	36
On-time Performance	23	8	3	2	-	-	36
Availability of Transit Information	22	5	3	1	-	2	33
Cost of Fare	28	3	1	2	-	1	35

	Rating						
Service Characteristic	**Strongly Satisfied**	**Satisfied**	**Neutral**	**Dis-satisfied**	**Strongly Dis-satisfied**	**No Opinion**	**Sum**
Sense of Safety/Security on Vehicles	29	3	1	-	-	-	33
Sense of Safety/Security Waiting	28	5	2	-	-	-	35
Cleanliness of Vehicles	32	5	-	-	-	-	37
Courtesy/Friendliness of Bus Drivers	33	2	-	-	-	-	35
Overall Service	30	5	-	-	-	-	35
Sum of Scores	**325**	**60**	**16**	**10**	**0**	**5**	**416**
Percent of Total	**78.1%**	**14.4%**	**3.8%**	**2.4%**	**0.0%**	**1.2%**	**100%**

When asked if HDPT is a good value for the services received, respondents overwhelmingly said yes, with 100% of the paratransit responses to this question indicating "yes".

Best and Least

Questions 11 and 12 asked survey participants to indicate what they like best and least about HDPT. These were open-ended questions, with the results summarized in Tables 3-43 and 3-44. As the tables indicate, riders appreciate the convenience of service, drivers, cleanliness, comfort, and on-time performance.

The least liked features listed were: scheduling; the wait; the cost of the fare; on-time performance. It is interesting to note that on-time performance for some riders was a positive feature and for other riders it was a negative feature. The variance in on-time performance is likely a by-product of the significant traffic congestion that is experienced during certain times of the day near and on the JMU campus.

Table 3-43: What Paratransit Riders Like Best about HDPT

Feature Liked the Best	Number of Responses
Convenience/"Gets me where I need to go"	15
Drivers/Customer Service	13
Clean/Comfortable	3
On time	3
Other	1

Table 3-44: What Paratransit Riders Like Least about HDPT

Feature Liked the Least	Number of Responses
Scheduling	5
Wait	4
Fare cost	2
On-time Performance	2
Drivers	1
Need more assistance when riding	1
Hours- When JMU Not in Session	1
Access to Mall/Downtown	1

Improvements

Question 13 of the survey asked, "If HDPT were to make one service improvement, what would you request?" The results to this question are summarized in Table 3 -45. The most requested improvement is for improved scheduling speed and accuracy, followed by weekend service and an expansion of the service area.

Table 3-45: Requested Improvements – Paratransit Riders

Requested Improvement	Number of Responses
Improve Scheduling Speed/Accuracy	6
Weekend Service	3
Expand Service Area	2
Clean Vehicles	1
Consolidate Trips (more than 1 passenger)	1
More Drivers	1
Cheaper Fare	1
Allow Longer Wait During Pickups	1

There were three open-ended comments received via the paratransit survey. All three commended the service and the drivers. One of the three also included a complaint about difficulties experienced when trying to schedule trips.

Geographic Expansion

Riders were asked if there are places in the region that they need to go, that are not served by HDPT. While the majority of respondents indicated there are not places that they need to go outside of the HDPT service area, there were ten paratransit riders who indicated "yes."

The desired unserved destinations are: Massanetta Springs; other areas on Rockingham County; Elkton; and Singers Glen.

I-81/I-64 Inter-Regional Bus

Paratransit riders were asked to indicate whether they would use a bus service that provided connections between Harrisonburg, Staunton, Waynesboro, and Charlottesville. Of the 30 respondents who answered the question, 17 respondents (57%) said yes.

Public Information

Twenty-four of the 25 paratransit survey respondents who answered the question regarding the availability of public information indicated that HDPT public information is helpful and easy to use. Suggestions for improvements included: improving the readability and availability of schedules; communicating with passengers via email/regular mail; and improving the fare information.

Passenger Profile

There were a number of questions on the survey that asked riders to provide information about themselves. The responses are summarized below and form the HDPT passenger profile for paratransit riders. Given the reduced anonymity of the paratransit rider survey administration, some of the demographic questions are not addressed.

Frequency of Use

HDPT paratransit riders indicated they use the system frequently, with 44% reporting that they use the service five days per week or more and 44% indicating they use the service 1-4 days per week. These responses are shown in Table 3-46

Table 3-46: Frequency of Use – Paratransit Respondents

Frequency of Use	Number of Responses	Percent of Total
5 Days/Week or More	16	44%
1-4 Days/Week	16	44%
Less Than 1 Day/Week	4	11%
Total Responses	**36**	**100%**

Duration of Use

Paratransit riders were asked to indicate how long they have been using the service. These results are shown in Table 3-47 and show that the majority of paratransit customers have been using the service for over a year.

Table 3–47: Duration of Use- Paratransit Riders

Duration of Use	Number of Responses	Percent of Total
0-6 Months	6	19%
6-12 Months	1	3%
1-2 Years	9	29%
More Than 2 Years	15	48%
Total Responses	**31**	

College Affiliation

Of the paratransit respondents, three reported an affiliation with JMU. No other college affiliations were listed.

Driver's License and Car Availability

Forty-five percent of paratransit survey respondents indicated they have a driver's license. This is significantly lower than the 80% reported on the fixed-route surveys. As shown in Table 3-48, the car availability reported by the paratransit riders was also lower, with 58% reporting that there are no cars in their household.

Table 3–48: Number of Cars in Household- Paratransit

Number of Cars in Household	Number of Responses	Percent of Total
0	11	58%
1	4	21%
2	1	5%
3 or More	3	16%

Just three of the paratransit survey participants indicated that a car was available for the trip that they were taking on the day of the survey.

Cell Phone/Communication Device

In contrast to the fixed-route survey where 96% of the survey participants indicated that they have a cell phone or other portable Internet device, only 50% of paratransit respondents indicated that they have such a device.

Employment Status

In contrast to the responses received via the fixed-route survey, only one paratransit rider reported that they are a student, with the remaining riders reporting full-time employment, part-time employment, and retirement. These results are provided in Table 3-49. Respondents could check more than one status to describe their employment situation.

Table 3-49: Employment Status – Paratransit

Employment Status	Number of Responses	Percent of Total
Employed Full-Time	7	36.8%
Employed Part-Time	4	21.1%
Student	1	5.3%
Retired	6	31.6%
Not Employed	1	5.3%

Additional Demographics

The lack of anonymity that was involved with administering the paratransit survey hindered the completion of more sensitive demographic questions, such as race, income, and language.

Summary of Rider Surveys

The results of rider surveys indicate that riders are generally very satisfied with HDPT services. Topic areas that triggered requests for improvement were largely a factor of success – riders would like more frequency and less crowded buses. Survey respondents also requested additional hours of service, including additional night service and Sunday service. Some riders indicated that the on-time performance is an area that needs improvement, while others noted this as a positive attribute. It is likely that traffic congestion on and near the JMU campus plays a role for this system attribute, both for the fixed-route buses and for the paratransit vehicles. Paratransit riders also requested scheduling improvements.

Responses regarding the walk distance for transit riders indicated that HDPT provides good geographic coverage of the most significant origins and destinations in the city, with 75% indicating they do not have to transfer to complete their trips.

There were requests for service to additional locations in Harrisonburg, as well as to locations in Rockingham County, although the majority of riders did not request service to additional areas.

Among all the survey respondents, only one indicated that HDPT is not a good value for the service received.

PUBLIC SURVEY

In addition to the passenger surveys, a public survey was also conducted as part of the public outreach effort. The survey was administered in electronic format (Survey Monkey), with paper copies posted at HDPT, City Hall, and the Harrisonburg-Rockingham Social Service District. The electronic survey was open for respondents from the end of December 2016, through January 31, 2017. A copy of the public survey instrument, formatted for printing, is provided in Appendix C.

The public survey effort resulted in 136 total responses. A tally of the responses to each question, as well as a summary and analysis, are provided below. The analysis groups survey questions into two primary categories: those related to transportation practices, and those related to demographic characteristics.

Transportation Practices

Onboard Survey Participation

The first question asked if the respondent had completed a survey onboard the bus within the previous month. As shown in Table 3-50, the vast majority (95%) of the 131 respondents had not completed an onboard survey, indicating that there is a small degree of overlap of respondents across the public and transit rider surveys.

Table 3-50: Prior Completion of Onboard Survey

1. Have you completed a survey onboard the bus within the last month?	Number of Responses	Percent of Total
Yes	6	5%
No	125	95%
Total Responses	**131**	**100%**

Usual Mode of Transportation

Respondents were asked how they usually get to where they need to go within the community for work, school, shopping, errands, or medical appointments. Six possible responses were listed, and respondents were asked to rank the top three modes they use, using a scale of one

to three. Responses were summarized by determining the mean rank for each of the six modes (Table 3-51). Some respondents ranked all six modes, which resulted in scores of over 3 from some modes.

Table3-51: Usual Mode of Transportation

2. How do you usually get to where you need to go within the community?	Rank							
	1	2	3	4	5	6	Total	Mean
I drive	83	8	9	2	2	3	107	1.51
Friends/family drive me	5	44	17	6	5	1	78	2.55
I use public transportation	25	14	16	1	6	3	65	2.35
I ride a bicycle	8	7	11	6	8	5	45	3.31
I walk	12	39	36	6	2	1	96	2.48
I take a taxi/Uber/Lyft	1	2	14	6	3	13	39	3.9

Current Use of Transportation Services

The next question asked respondents if they currently use specific transportation services, and how often they typically ride. A total of 115 responses were submitted. Table 3-52 presents a tabulation of the responses by service and typical frequency of use by number of users. Table 3-53 illustrates the responses as percentages of total responses.

Table 3-52: Current Use of Public Transportation – Number of Users

3. Do you currently use any of the following transportation services?	Frequency of Use - Number			Total Who Indicated Use
	5 days/ week or more	1-4 days/ week	Less than 1 day/week	
HDPT Fixed-routes	13	25	23	61
HDPT Paratransit	2	8	7	17
BRITE Bus - BRCC Shuttle	1	1	4	6
BRITE Bus - other routes	0	0	3	3
Valley Program for Aging Services	0	1	2	3
Home Ride or Green Shuttle (JMU)	1	1	6	8
Taxi/Uber/Lyft	1	4	37	42
Vanpools or Carpools	1	7	15	23
Other	0	0	0	0

Table 3-53: Current Use of Public Transportation – Percent of Users

3. Do you currently use any of the following transportation services?	Frequency of Use - Percent			Total Who Indicated Use
	5 days/ week or more	1-4 days/ week	Less than 1 day/week	
HDPT Fixed-routes	11.3%	21.7%	20.0%	53.0%
HDPT Paratransit	1.7%	7.0%	6.1%	14.8%
BRITE Bus - BRCC Shuttle	0.9%	0.9%	3.5%	5.2%
BRITE Bus - other routes	0.0%	0.0%	2.6%	2.6%
Valley Program for Aging Services	0.0%	0.9%	1.7%	2.6%
Home Ride or Green Shuttle (JMU)	0.9%	0.9%	5.2%	7.0%
Taxi/Uber/Lyft	0.9%	3.5%	32.2%	36.5%
Vanpools or Carpools	0.9%	6.1%	13.0%	20.0%
Other	0.0%	0.0%	0.0%	0.0%

More than half (53%) of the responses to this question indicated that they use HDPT fixed-routes at least occasionally, with more than 11 percent typically riding five or more days a week and nearly 22% riding between one and four days a week. Respondents are also periodic users of taxi, Uber or Lyft (36.5%). However, most of taxi/Uber/Lyft riders use these services less than one day per week (32.2%); 3.5% ride one to four days per week and less than one percent ride at least five days a week. Vanpools and carpools were the next most popular service (20%), although riders of these services tend to be only occasional users: less than one percent ride at least five days a week, about 6% ride one to four days per week, and 13% ride less than once a week. Nearly 15% of respondents use HDPT paratransit, with almost half of these individuals (7%) riding one to four days a week and about 6% riding less than one day a week. Users of other modes (Home Ride or Green Shuttle, BRITE Bus - BRCC Shuttle, BRITE Bus - Other Routes, and Valley Program for Aging Services) tend to be only occasional riders. No other transportation services were indicated as being used.

Reasons for Public Transportation Usage

Respondents were asked to indicate their primary reasons for choosing public transportation, by checking all applicable reasons (list of eight, including "other"). The 73 responses to this question are summarized in Table 3-54. Figure 3-38 displays the percentages of responses.

The most frequent (43.8%) reason indicated for using public transportation is lack of access to a vehicle. Environmental reasons (39.7%) and money-savings (37%) were the next most popular reasons, followed by convenience (24.7%), lack of a driver's license (23.3%), time-savings (16.4%), inability due to drive due to age or disability (9.6%), and other (6.8%). Parking was mentioned in two of the "other" responses. Responses for "choice" reasons (environmental, convenience, time-savings) were almost as frequent as responses indicative of transit dependency. (Cost-savings could be a either a choice or a dependency reason.)

Table 3-54: Reasons for Using Public Transportation

4. If you do use public transportation, what are the primary reasons why you choose public transportation?	Number of Responses	Percent of Total
I do not have access to a vehicle	32	43.8%
I am unable to drive due to age or disability	7	9.6%
I do not have a driver's license	17	23.3%
It saves me time	12	16.4%
It saves me money	27	37.0%
For environmental reasons	29	39.7%
The bus is more convenient than other modes	18	24.7%
Other*	5	6.8%
Total Responses	**73**	**100%**

*Other responses include:

- Parking
- Vehicle is broke or in the shop
- This mostly does not apply to me. I generally carpool
- Use paratransit

Improvements Needed to Increase Public Transportation Usage

Respondents were asked what transit service improvements would be needed for them to choose to ride public transportation more frequently by checking all applicable reasons. A total of 121 responses were submitted. The responses are summarized in Table 3-55.

Table 3-55: Improvements Needed to Increase Public Transportation Usage

5. If you DO NOT use public transportation currently, OR ARE ONLY ABLE TO USE IT FOR SOME TRIPS, what transit service improvements would be needed for you to choose to ride public transportation more frequently??	Number of Responses	Percent of Total
More frequent buses	55	45.5%
Service later in the evening	53	43.8%
Shorter travel time	50	41.3%
Improved access to transit information	36	29.8%
Improved regional connectivity	36	29.8%
Service earlier in the morning	28	23.1%
Better service availability near my home/work/school	25	20.7%
I would not ride, I prefer to drive	20	16.5%
Improved reliability	16	13.2%
Greater bicycle capacity	13	10.7%
Less crowded vehicles	11	9.1%
Guaranteed ride home for emergencies/overtime	11	9.1%
Better security on board vehicles	6	5.0%
Total Responses	**121**	**100%**

The most commonly cited improvements needed were more frequent buses (45.5%), service later in the evening (43.8%), and shorter travel time (41.3%). Improved regional connectivity and improved access to transit information tied the next most common response (29.8%), followed by better service availability near home/work school (20.7%).

Those who checked "Better service availability near my home/work/school" were asked to specify the location where better service availability is needed. The following open-responses were submitted:

- North valley Pike
- Toms Brook/Maurertown
- Anywhere in Rockingham County
- It is useful that buses run every 15 minutes instead of every hour
- North end of town, Mt Clinton Pike
- Need transportation to work in the county-Marshall's, Cargill, Pilgrim's Pride
- More access for the elderly in our community. A bus stop in front of Sentara RMH so you could drop off people instead of them having to sit on the bench at the top of the hill.
- Reservoir Street / Chestnut Ridge Drive
- Downtown to JMU campus (especially east campus).
- BRCC shuttle: takes me just as long to drive to the pick- up spot as it does to drive to the school
- Downtown to JMU
- Russell Drive intersection with Pear Street
- Pleasant Valley Road, just a mile outside of Harrisonburg border in Rockingham County
- I have had to solely rely on HDPT for school and work and the buses are almost always significantly late and most (not all) bus drivers are extremely rude, rushed, and unprofessional. This service has significant need for improvement. Bus driver for ICS just about ran me down rushing around today.
- Greendale Road
- High school shouldn't pay if they don't have an ID because not everybody has one
- North Virginia Avenue
- Sunset Heights neighborhood (Route 42) to Downtown, more direct route desired. Also, I couldn't find a map on-line that had all the routes overlaid on the same map.
- West Wolfe Street and North Liberty Street
- Virginia Avenue
- A stop in the Greendale Subdivision or along Greendale Road before the intersection with Ramblewood is desperately needed. The stop(s) over on Pleasant Valley Road were not suitable for children/teenagers to access for going to places in the community such as parks and recreation facilities, library, the mall etc. There are many teenagers living in this neighborhood of the city and need a way to get around.

- Can we get a shuttle to Massanutten?
- Carriage Drive. A bus stop (even if just on demand) is needed in the subdivision or along Greendale Road. The on demand stop(s) on Pleasant Valley Road are not convenient for children to get to use bus service for rec center, etc.
- Belmont to Hospital as I work halfway and most of my trips are at the hospital.

Demographic Characteristics

Zip Code

Respondents were asked to identify their zip code. Table 3-56 presents the 123 responses to this open-ended question. The vast majority of respondents (89.4%) live in the Harrisonburg zip code areas. A handful of responses were scattered across Rockingham County.

Table 3-56: Zip Codes of Respondents

6. What is your zip code?	Number of Responses	Percent of Total	City or Town with This Zip Code	County in Which Zip Code is Located
22644	1	0.8%	Maurertown	Shenandoah
22801	61	49.6%	Harrisonburg	Rockingham
22802	48	39.0%	Harrisonburg	Rockingham
22807	1	0.8%	Harrisonburg (JMU)	Rockingham
22815	2	1.6%	Broadway	Rockingham
22821	1	0.8%	Dayton	Rockingham
22840	3	2.4%	Massanutten	Rockingham
22841	1	0.8%	Mount Crawford	Rockingham
22846	2	1.6%	Penn Laird	Rockingham
22853	1	0.8%	Timberville	Rockingham
22982	1	0.8%	Not a valid zip code	
23850	1	0.8%	Ford	Dinwiddie
Total Responses	**123**	**100%**		

Internet Access

Two questions were related to use of the Internet. Respondents were asked if they have Internet access. As shown in Table 3-57, more than 95% of the 128 responses, responded positively.

Table 3-57: Internet Access

7. Do you have Internet access?	Number of Responses	Percent of Total
Yes	122	95.3%
No	6	4.7%
Total Responses	**128**	**100%**

Respondents were also asked if they had visited the HDPT website in the last twelve months. There were 127 responses to this question (Table 3-58), of which 77 (60.6%) responded positively.

Table 3-58: Internet Access

8. Have you visited the HDPT website in the last 12 months?	Number of Responses	Percent of Total
Yes	77	60.6%
No	50	39.4%
Total Responses	**127**	**100%**

College/University Affiliation

Respondents were asked to indicate if they are students, faculty or staff at any of four area colleges/universities, by checking any that applied. Table 3-59 presents these responses.

Table 3-59: College/University Affiliation

9. Are you a student, faculty, or staff member of any of the following area colleges/universities?	Number of Responses	Percent of Total
James Madison University (JMU)	36	76.6%
Blue Ridge Community College (BRCC)	7	14.9%
Eastern Mennonite University (EMU)	5	10.6%
Bridgewater College	0	0.0%
Total Responses	**47**	**100%**

Forty-seven respondents indicated they are students or employees of one or more of these colleges and universities. James Madison University was the most frequent response (76.6%). Respondents also indicated Blue Ridge Community College (14.9%) and Eastern Mennonite University (10.6%).

Race and Hispanic Origin

Respondents were asked to identify their race (Table 3-60) and Hispanic origin (Table 3-61).

Table 3-60: Racial Identity

10. How would you classify your race?	Number of Responses	Percent of Total
Caucasian/White	109	86.5%
African American/Black	3	2.4%
Native American	0	0.0%
Bi-racial/multi-racial	2	1.6%
Asian/Pacific Islander	1	0.8%
Other	2	1.6%
Prefer not to say	10	7.9%
Total Responses	**126**	**100%**

Table 3-61: Hispanic Origin

11. Are you of Hispanic origin?	Number of Responses	Percent of Responses
Yes	3	2.4%
No	122	97.6%
Total Responses	**125**	**100%**

Language

The next set of questions focused on language. Respondents were asked if they speak a language other than English at home, and if so, to indicate the language. As shown in Table 3-62, four respondents (3.2%) indicated they speak a language other than English at home, with three of these respondents indicating Spanish.

Table 3-62: Language Spoken at Home

12. Do you speak a language other than English at home?	Number of Responses	Percent of Total
Yes*	4	3.2%
No	122	96.8%
Total Responses	**126**	**100%**

*3 of these responses indicated Spanish

Respondents were asked how well they speak English. Table 3-63 presents the responses to this question.

Table 3-63: English Proficiency

13. How well do you speak English?	Number of Responses	Percent of Total
Very Well	119	94.4%
Well	7	5.6%
Not Well	0	0.0%
Not at All	0	0.0%
Total Responses	**126**	**100%**

Of the four respondents who indicated they spoke a language other than English at home, two indicated that they speak English very well, and the other two speak English well.

Gender

Almost 60 percent of respondents indicated they are female (Table 3-64).

Table 3-64: Gender

14. What is your gender?	Number of Responses	Percent of Total
Male	51	40.5%
Female	75	59.5%
Total Responses	**126**	**100%**

Ability to Drive

Eight-four percent of respondents indicate they have a driver's license (Table 3-65), and nearly 83 percent have access to a vehicle (Table 3-66).

Table 3-65: Possession of a Driver's License

15. Do you have a driver's license?	Number of Responses	Percent of Total
Yes	105	84.0%
No	20	16.0%
Total Responses	**125**	**100%**

Table 3-66: Access to a Vehicle

16. Do you have access to a vehicle?	Number of Responses	Percent of Total
Yes	104	82.5%
No	22	17.5%
Total Responses	**126**	**100%**

Age

Respondent age groups are indicated in Table 3-67.

Table 3-67: Age Group

17. Please indicate your age group.	Number of Responses	Percent of Total
Under 12 years old	0	0.0%
12 - 17 years old	20	15.7%
18 - 24 years old	19	15.0%
25 - 34 years old	31	24.4%
35 - 49 years old	46	36.2%
50 - 64 years old	24	18.9%
65 years or older	5	3.9%
Total Responses	**127**	**100%**

Employment Status

Respondents were asked to indicate their employment and student status, and were allowed to check more than one status. The majority (62.5%) of respondents are employed full-time, and nearly 17 percent are employed part time. Eleven percent are students (full- or part-time). The complete set of responses is presented in Table 3-68.

Table 3-68: Employment Status

18. Which of the following best describes your current employment status?	Number of Responses	Percent of Total
Employed, Full-Time	79	62.2%
Employed, Part-Time	21	16.5%
Student, Full-Time	8	6.3%
Student, Part-Time	6	4.7%
Retired	9	7.1%
Homemaker	5	3.9%
Unemployed	5	3.9%
Other	7	5.5%
Total Responses	**127**	**100%**

Income

The final demographic question asked respondents to indicate their household income (Table 3-69).

Table 3-69: Household Income

19. What is your annual household income?	Number of Responses	Percent of Total
$19,999 or less	18	14.6%
$20,000 - $39,999	25	20.3%
$40,000 - $59,999	13	10.6%
$60,000 - $79,999	19	15.4%
$80,000 or higher	33	26.8%
Don't know	15	12.2%
Total Responses	**123**	**100%**

Comments

Respondents were asked to provide comments they have concerning public transportation in the City of Harrisonburg. Sixty comments were submitted. The responses can be grouped into the categories as shown in Table 3-70.

Table 3-70: Comments

20. Please provide any comments you may have concerning public transportation in the city.	Number of Responses	Percent of Responses
Origin and destination suggestions	16	26.7%
Extend hours (earlier and later)	12	20.0%
Cater more to non-JMU community	7	11.7%
General approval	7	11.7%
Increase frequency	4	6.7%
Improve real time information application	3	5.0%
System accessibility concerns	3	5.0%
Reduce travel times	2	3.3%
Disapproval of drivers	2	3.3%
Improve on-time performance	1	1.7%
Regional coordination (e.g., with Rockingham County)	1	1.7%
Improve information resources (maps and schedules)	1	1.7%
Miscellaneous	11	18.3%
Total Responses	**60**	**100%**

The complete set of response to this open-ended question is provided in Appendix D.

STAKEHOLDER OPINIONS

Initial Meeting

An important purpose of the first TDP meeting was to learn from the stakeholders what community transportation issues are the most important to explore within this planning project. The following stakeholders attended the meeting and provided input:

Nancy Gourley, Central Shenandoah Planning District Commission
Patrice Strachan, Department of Rail and Public Transportation (via telephone)
Adam Fletcher, Harrisonburg Community Development
Thanh Dang, Harrisonburg Community Development
Ted Byrd, Harrisonburg City Council
Erin Yancey, Harrisonburg Public Works
Tom Hartman, Harrisonburg Public Works
Avery Daugherty, HDPT
Cheryl Spain, HDPT
Gerald Gatobu, HDPT
Reggie Smith, HDPT
Lee Eshelman, James Madison University
Lib Rood, KFH Group
Patrick Hayes, KFH Group
Rhonda Cooper, Rockingham County
John Olmstead, Sentara Rockingham Memorial Hospital
Katie Robinson, Sentara Rockingham Memorial Hospital
Susannah Lepley, Sentara Rockingham Memorial Hospital
Diane Haldane, Valley Associates for Independent Living

Participants articulated the following issues, which are not necessarily presented in priority order. Some issues are beyond the scope of study for the TDP, but are included here in order to capture the full discussion.

Specific Service Gaps and Issues

- There may be a need to expand the hours of service for employment transportation, particularly for the six core city routes. Earlier morning hours for hospital employees, was specifically mentioned.

- On-time performance is difficult to maintain due to traffic congestion on and near the JMU campus. Technological solutions, such as signal priority, may be able to help, but these solutions can have unintended consequences for the entire road network.

- Traffic congestion on and near the JMU campus is a concern. Projects aimed at encouraging students and others to use transit rather than drive are a priority. JMU has opened a new parking garage, which has exacerbated the traffic problem. It was reported that some students drive from class to class rather than walking or taking the bus. This congestion is also a safety issue, as cyclists and pedestrians weave through slow moving vehicular traffic. The North campus and Main Street were specifically cited.

- While the TDP is a plan for HDPT, which is the city's transit system, there has been an increasing need for public transportation to be implemented in the urban development area of Rockingham County. This area, near the Sentara Rockingham Memorial Hospital, is rapidly developing, with three student housing projects under development.

- The representative from Sentara Rockingham Memorial Hospital indicated that a recent community health assessment project found that the lack of transportation posed the most significant barrier to accessing medical and pharmacy services for vulnerable populations. This was most acute for patients who live in Rockingham County.

- An advocate for people with disabilities echoed the need for public transportation in the county, particularly within the urban development area.

- The Route 11 North area was mentioned as potentially needing transit services.

- As a city system, some feel the focus of the planning effort should be on the needs of city residents only.

Infrastructure

- First/last mile connectivity needs improvement. There are examples in the city where it is difficult for people to access bus stops due to deficiencies in pedestrian infrastructure. It is important to maximize public accessibility of the transit network.

- An advocate for people with disabilities indicated a need to ensure that all bus stops are accessible.

- JMU would like to see an optimization of the routes and schedules, perhaps using a computer modeling program. This analysis should consider JMU class schedules. Automatic passenger count (APC) data will be available within the year and these data could be used for a comprehensive analysis of ridership patterns. A more streamlined bus schedule is desired by JMU.

- The city's Public Works Department indicated that its street improvement plans take into consideration all modes of transportation, including pedestrians, bikes, cars, trucks and transit buses.

Coordination

- There is an opportunity for coordination and increased efficiency with BRITE Route BRCC North, which provides service between Blue Ridge Community College (Weyers Cave) and JMU.

- Additional coordinated planning between the city and the county would be helpful from a transit perspective, as the development of new housing in the county have repercussions for the city street network and public transportation.

- There will be a need to further develop a relationship between the county and the city with regard to public transportation, as pressure to serve these areas is increasing.

Vulnerable Populations (Transit-Dependent, Low-Income, Disabled)

- Stakeholders anticipate growing paratransit demand.

- Community health needs are often aggravated by lack of transportation. Transportation is a major barrier for health care, especially for county residents.

- HDPT base ridership is highly transit-dependent. With every new parking deck, the system loses appeal for choice riders, making driving easier.
    - Some advocated that the system should focus on the needs of the core ridership and try not to create new problems while addressing others (such as attracting choice riders at the expense of transit-dependent riders)

- The study process should investigate the transit needs of people going to and from the Harrisonburg Community Health Center.

Growth and Development

- Eastern and southeastern Rockingham County is rapidly growing. There are three new student housing developments, and the county is targeting the area for commercial development. There may be increasing demand for service there.

- Traffic congestion is increasing and it is affecting on-time performance

- The off-campus student population is increasing.

- The city wants to focus on transit-oriented development (TOD) and mixed-use.

Other Issues

- It was mentioned that some people find the HDPT printed maps and schedules confusing to read.

- HDPT is in a good position to expand service if needed. There are federal operating funds available to the system.

- A preliminary staff-level meeting with HDPT outlined the following areas of interest for the TDP period:
    - HDPT needs a new transfer center for city routes. A dedicated facility is desired. The system has outgrown the current center, which is located in a shopping center parking lot.
    - There is a need to develop a contractual relationship with the county so that service can be extended to newly developing areas of the county.
    - A park and ride lot is needed in the city.
    - HDPT will be upgrading its real-time information technology and additional ridership data will be available to HDPT staff once implemented.

Additional Stakeholder Outreach

In order to gather the full breadth of community input for the TDP, the study team contacted a number of community stakeholders, as well as following up with key stakeholders, via email. The following questions were asked:

1) Are you aware of any unmet public transportation needs within the City of Harrisonburg? These needs could potentially fall into a number of categories, including:
    a. Geographic
    b. Time of day
    c. Frequency
    d. Specific needs for particular user groups
    e. Other

    If yes, please describe.

2) Are there areas outside of the City of Harrisonburg that should be considered for service?
    a. Describe
    b. Do you think that service to these areas should be provided by HDPT?

3) Are there particular projects that you think HDPT should focus on over the next six to ten years?

4) What is your vision for public transportation in the City of Harrisonburg for the next six to ten years? What is your long-term vision for public transportation?

The opinions received from stakeholders who responded are summarized below.

Harrisonburg Department of Planning and Community Development

Unmet Transportation Needs within the City

- It is difficult to find a map of the entire city with all of the routes shown on one map, which makes it difficult to learn the transit coverage of the city.
- The loop nature of the routes makes one leg of the trip very long. For example, it may take 15 minutes to get to a destination and 45 minutes to get home.
- City routes should run later in the evening.
- More frequent service is desired.
- Additional sidewalks are needed to get safely to and from bus stops. The example noted was South Main Street at the intersection of Mosby Road going northbound.

Areas Outside of the City That Should Be Considered for Service

- Service to industries within a certain distance of the city limits; for example, to Bridgewater.
- The Urban Development Area in Rockingham County, east of the city limits.
- HDPT should be the provider of these services.

Projects to Consider for the Next Six to Ten Years

- Increased hours outside of business hours for the non-student demographic. This would help people who have shift work and people who are seeking educational opportunities in the evenings.

- A closer look at the way transit service is funded for developments in Rockingham County. Individual contracts for service with property owners may not be a sustainable model.

Vision for Public Transportation

- The City of Harrisonburg is the economic hub and engine for the Central Shenandoah Valley. From a land use perspective, offering public transportation to and from the towns within Rockingham County could contribute toward better utilization of under-developed and farmed properties and create a more positive and trusting utilization of the public transportation system by the non-student population.

Harrisonburg Downtown Renaissance

The director of Harrisonburg Downtown Renaissance (HDR) offered the following insight.

Unmet Needs within the City

- Extending Route 2 to Liberty Street could give easy access to residents in that area as well as businesses along Liberty Street and the many non-profits that line High Street.

- Later hours of service are needed. Ending some routes shortly after 6:00 p.m. limits ridership among people who are looking to get home from work as well as customers of restaurants and entertainment venues. Public transit can and should be a way to reduce drunk driving and would help to manage responsible hospitality in downtown as well as other commercial areas. Immigrants and refugees comprise another constituent group that do not have money for vehicles and are employed at poultry processing plants. These workers are forced to take taxis home, which is expensive. Given the region's deep history in poultry processing and the many people who are employed by these facilities at all hours, it may make sense to accommodate this need.

- An effort with JMU to restrict on–campus parking could encourage less driving and more usage of public transportation services. There are many students who live off-campus and drive to campus, adding additional cars on the road.

- Improved and additional crosswalks and lighting would help reduce jaywalking in and around downtown. Pedestrian safety amenities are a part of the transit users' needs. This includes making it a higher priority to fill in missing sidewalks in certain communities. Also, direct routes are only available from the hub. Transferring is difficult for people with intellectual disabilities and youth. Producing a citywide map that shows where all lines intersect or come near each other would be helpful.

- There may be an opportunity for ramping up public transportation to special event areas to ease the burden on public parking (downtown parking often gets full during large events, which drives away customers who want to dine or shop downtown, but do not want to deal with the hassle of limited parking). The International Festival has severely limited parking, which causes a great strain on city departments. Shuttles or enhanced service during large events could be a win-win. [*HDPT is addressing this with the new Route 505]*

- Limited service during the summer and during JMU breaks makes it hard for people to commute to work during these time periods.

Areas Outside the City That Should Be Considered for Service

- There could be improved collaborative service with Rockingham County. Customers do not note geographic borders. Opportunities could include Elkton, with stops at Massanutten to/from Harrisonburg; and Timberville/Broadway to/from Harrisonburg. Service to the train station in Staunton would also be helpful.

- HDPT should partner and collaborate with any new services provided in the region.

Projects to Consider for the Next Six to Ten Years

- Service between JMU's campus and the planned hotel and conference center, providing service through downtown and to the large shopping centers within a few miles of downtown would be good for customer sharing and economic development.

- To ease the burden on limited parking resources during big events, a partnership for shared parking with area corporations/universities that have large and mostly empty parking lots on the weekends/evenings could be beneficial. These lots would be served by shuttles to the event locations.

Vision for Public Transportation

- HDPT leadership has grown public transit in the city over a relatively short amount of time. HDR is most interested in seeing complete streets and shared roads. Increased public transit ridership, dedicated lanes for biking, as well as enhanced pedestrian amenities that are all connected and would be of great benefit to the city. Increasing transit ridership was mentioned as a difficult task, as people who do not need public transit are typically hard to convert to being users. Public transit is a necessary service for those without other modes of transportation.

Harrisonburg-Rockingham Community Services Board

The director of the Harrisonburg Rockingham Community Services Board (CSB) indicated that many CSB clients rely on public transportation and are grateful for the service that is provided. Case managers provided the following comments:

- Bus rides can take too long, as there are not enough direct routes. It can sometimes take 45 minutes to go somewhere in the city.
- There are sometimes long waits for paratransit to arrive.

Healthy Community Council

The Healthy Community Council (HCC) is a community coalition composed of stakeholders representing community agencies, universities and non-profit organizations in Harrisonburg and Rockingham County, Virginia. Established in 1996, an overarching goal of the HCC has been to conduct a community needs assessments in Harrisonburg and Rockingham County.

The council recently met and discussed the stakeholder questions, providing the following responses.

Unmet Needs within the City

- For people who work at a business that is on the city/county line, it can be challenging to get there when there is no transit service in the county.
- Transit service is not provided late enough or early enough for those working 1st and 3rd shifts, and/or those trying to get to/from medical appointments.
- Weekend services are limited.
- The frequency of service is limited during JMU breaks and during the summer.
- Drop-off locations are challenging for older adults and people with disabilities that have trouble getting to the front door of their destinations.

Areas Outside the City that Should be Considered for Service

- Mobile home parks that are close to the city limits
- High density areas that are low-income
- The retail center where Bluestone Pediatrics is housed (near Massanetta Springs Road)

- Services to these areas should be provided by HDPT, in partnership with Rockingham County.

Projects to Consider for the Next Six to Ten Years

- More covered stops; for example, the stop on Lucy Drive in front of Shenandoah Women's Healthcare is not covered, but the stop down the street in front of the Charleston Towns apartments is covered.

- More stops that are friendly to the elderly and the disabled.

Vision for Public Transportation

The long-term vision is that:

- Public transportation would be the preferred mode of transportation for all residents.

- Public transportation would be seen as a way to promote growth and foster the spirit of the community.

- There is access to a shuttle service to and from the Charlottesville Airport and train station, as well as Dulles Airport.

James Madison University

The Transportation Demand Manager for JMU indicated that from a JMU perspective, the current system provides the needed transit service coverage, although they are looking toward optimizing the schedules. JMU is also looking at the possibility of adding late night service from downtown to campus, possibly for the fall of 2017.

There continues to be an unmet need for intercity service to Dulles Airport and Charlottesville Airport on non-break weekends. This need was also articulated within the 2011 TDP, and will likely be addressed to a certain extent by the proposed intercity bus service along the I-81 corridor. This service is planned for implementation as soon as DRPT completes the procurement process to select a carrier.

For the next six to ten years, HDPT should focus on optimizing the routes and schedules and additional marketing efforts. The long term vision for public transportation in the city includes a mix of transit, Uber/Lyft, taxis, SoberRides, Saferides, and other alternatives that may come along.

Rockingham County Department of Community Development

The focus of comments provided by the Rockingham County Department of Community Development was on the areas outside of the city that may be considered for public transportation service, specifically the county's Urban Development Area (UDA). The Planning Director indicated that as the UDA continues to develop, the county and the city together will need to evaluate the need for an expanded transit system. The UDA is planned to include compact, mixed-use development. Potentially transit-dependent populations are already emerging in the UDA, including residents of Aspen Heights, the Retreat at Harrisonburg, and the Altitude (all of which are student housing); Robinson Park I and II, which is workforce housing; and Sentara Rockingham Memorial Hospital (for eight hour work shifts and medical appointments). The current bus schedule is not compatible with the longer work shifts that are associated with the hospital (such as 7:00 a.m. to 7:00 p.m.).

In order to meet this demand, it is likely that the county and the city will need to consider a metropolitan-area approach, such as coordinating an expanded service. Serving the UDA should be a project to address during the next six to ten years.

Valley Associates for Independent Living (VAIL)

The executive director for VAIL provided the following input:

- Limited times and frequency of trips makes usage by the general community a barrier. There is an understanding that JMU is a driving force for the transit program and routes cater to that population.

- For areas outside of the city, the whole MPO should be included for transit service. Some kind of transit services are needed in the county, but what type and how it is structured is a larger conversation. If additional service were to be provided, HDPT should provide those that are within the MPO area.

DEMOGRAPHICS AND LAND USE

This section provides an analysis of current and future population trends in the City of Harrisonburg, as well as an analysis of the demographics of population groups that often depend on transportation options beyond an automobile. Data sources for this analysis include the 2010 U.S. Census, American Community Survey (ACS) 5-year estimates, and Weldon-Cooper Center for Public Service, University of Virginia.

Population Trends

Table 3-71 shows the U.S. Census population counts for the Commonwealth of Virginia and the City of Harrisonburg from 1990 to 2010. As these data show, the city's population in 2010 was 59% higher than it was in 1990. This growth rate was 30% higher than the average for the commonwealth.

Table 3-71: Historical Populations

Population						
Place	1990	2000	2010	1990-2000 % Change	2000-2010 % Change	1990-2010 % Change
Virginia	6,187,358	7,078,515	8,001,024	14%	13%	29%
City of Harrisonburg	30,707	40,468	48,914	32%	21%	59%

Source: U.S. Census, American Factfinder

Recent population estimates show that the city continues to grow at a faster pace than the commonwealth, as shown in Table 3-72.

Table 3-72 Recent Population Trends

	Population Estimates				
Place	2010 Census	2014	2015	2016	2010-2016 % Change
Virginia	8,001,024	8,185,131	8,382,993	8,411,808	5.1%
City of Harrisonburg	48,914	52,612	53,875	54,224	10.9%

Source: U.S. Census, American Factfinder and the Weldon-Cooper Center for Public Service, University of Virginia

Population Forecast

Table 3-73 provides population projections for the years 2020-2040. These projections show that the city is expected to experience about a 20% growth rate from 2010 to 2020 and a 15% growth rate from 2020 to 2030. These rates are projected to continue to be higher than the commonwealth.

Table 3-73: Population Forecast

	Population Estimates		
	2020	2030	2040
Virginia	8,811,513	9,645,281	10,530,227
City of Harrisonburg	58,587	67,154	74,521

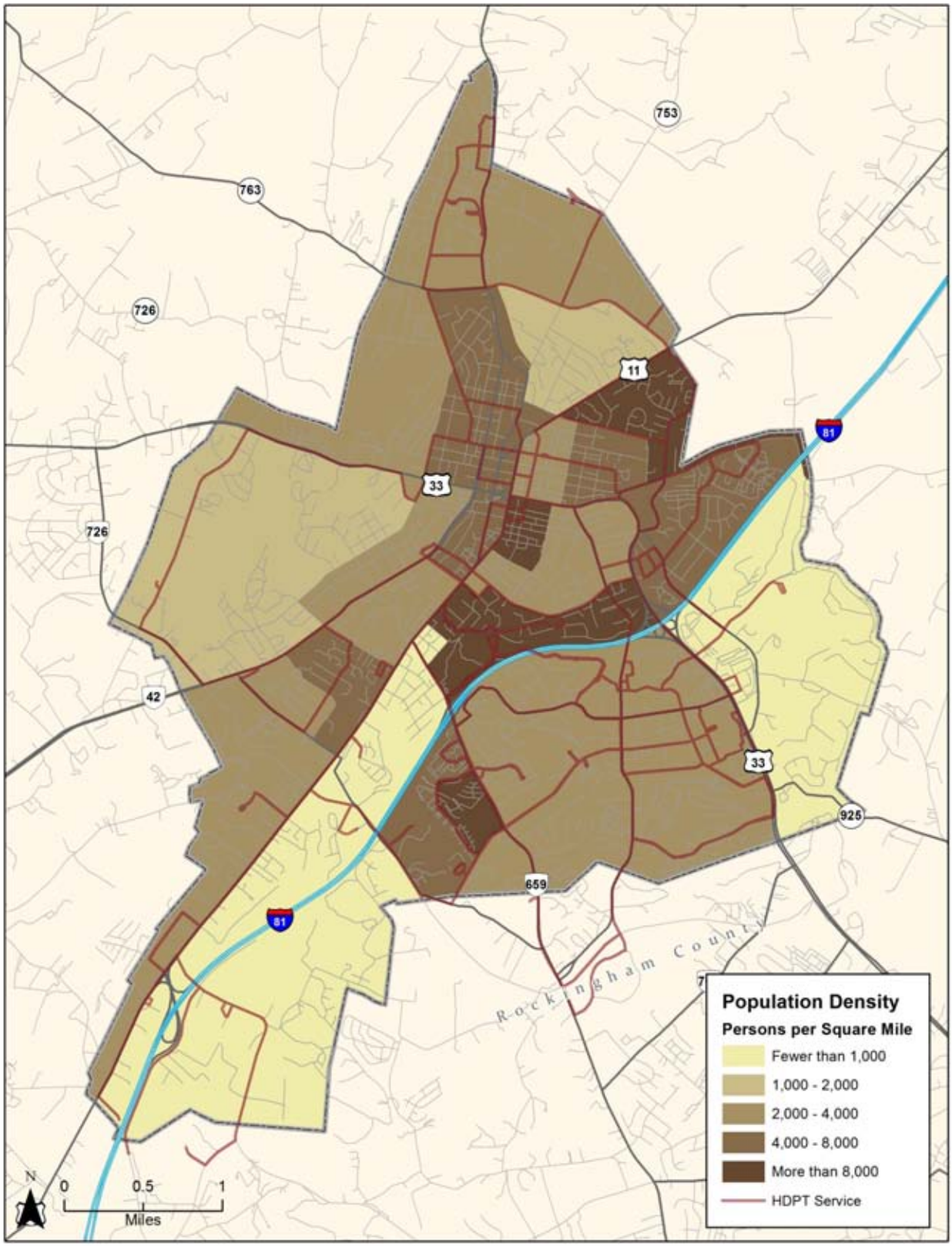
Source: Weldon Cooper Center for Public Service,

Population Density

Population density is a key factor in determining how rural or urban an area is, which in turn affects the type of public transportation that may be most viable. For instance, while exceptions will always exist, an area with a density above 2,000 persons per square mile will generally be able to sustain a frequent, daily fixed-route bus service. Conversely, an area with a population density below 2,000 persons per square mile may be better suited for a deviated fixed-route, flex schedule or dial-a-ride service. As noted within the peer review, the service area covered by HDPT has a population density that is well over 2,000 people per square mile. Figure 3- 40 provides a map of the City of Harrisonburg that shows the population density by Census block group, overlaid with the HDPT route network.

As the map indicates, the highest population density areas of the city include sections of JMU campus and surrounding areas that are north of I-81; central Harrisonburg on the west side of Route 11; a section of northeastern Harrisonburg, south of Route 11; and the housing areas along Lois Lane, off of Port Republic Road. All of these areas are served by HDPT fixed-routes.

Figure 3-40: City of Harrisonburg Census Block Groups by Population Density



Transit Dependent Populations

Public transportation needs are defined in part by identifying the relative size and location of those segments within the general population that are most likely to depend on transit services. These transit dependent populations include individuals who may not have access to a personal vehicle or are unable to drive themselves due to age or income status. Determining the locations of transit dependent populations helps to focus planning efforts for public transportation services. Our approach often includes the development of a transportation dependence index (TDI), but compiling these individual characteristics can sometimes skew the overall picture. For this project, we have presented each transit dependent characteristic individually.

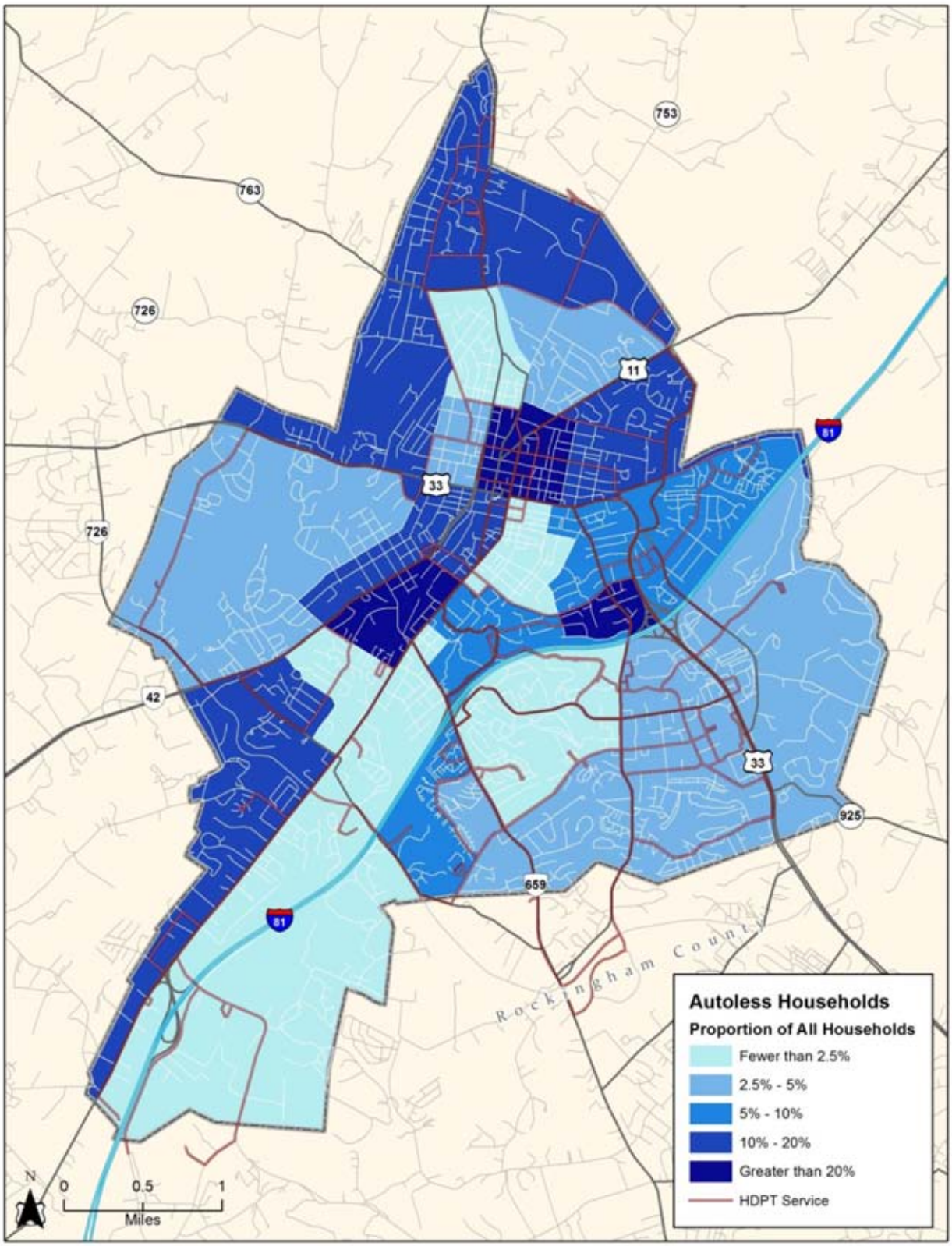
Autoless Households

Households without at least one personal vehicle are more likely to depend upon the mobility offered by public transit than those households with access to a car. Learning where concentrations of people without access to personal vehicles is important, as this segment of the community typically rides public transit at a higher rate than others. Figure 3-41 provides a map of the Census block groups in the City of Harrisonburg, shaded according to the percentage of the population that live in households without a vehicle available. This map indicates that there are three block groups within the city where 20% or more households do not have a car. These areas are:

- Central Harrisonburg, north of East and West Market, east of Virginia Avenue, west of Myrtle Street and south of East Washington Street.
- The area west of South Main Street and East of South High Street, bordered to the north by West Grace Street and bordered to the south by South Avenue.
- An area east of the JMU campus, bordered by East Market Street to the east, I-81 to the south, Paul Street to the west, and MLK Jr. Way to the north.

Each of these areas is served by HDPT routes.

Figure 3-41: Autoless Households in the City of Harrisonburg



Below Poverty

People with lower incomes also tend to rely on public transportation services, as they may not be able to afford the expenses associated with vehicle ownership. The analysis of poverty is based on the Title VI criteria of above and below the study area average for poverty. For the City of Harrisonburg, the average poverty rate recorded by the U.S. Census is 30.9% (2010 Census). This rate is likely skewed by JMU students who have relatively low incomes, but may not need the services that families with low incomes generally need. Figure 3-42 presents a map of the Census block groups in the city shaded according to whether the block group exhibits a poverty level of more than 30.9% or less than 30.9%. This map shows that the area of the city that is south of I-81 and the location of many of the student-oriented housing complexes exhibits a higher than average poverty level, as does an area of downtown, and an area bordered to the west by S. High Street, the south by South Avenue, to the west by South Main Street, and to the north by East and West Market Streets. There is also an area of above average poverty northwest of downtown, bordered by Chicago Avenue on the west, Mt. Clinton Pike to the north, the rail line to the east, and 4th Street to the south. HDPT provides service through each of these areas.

Senior Adult Population

Individuals ages 65 years and older may scale back their use of personal vehicles as they age, leading to a greater reliance on public transportation compared to those in other age brackets. Within the City of Harrisonburg, there is a large concentration of people over the age of 65 in the northern portion of the city, north of Mt. Clinton Pike. The Virginia Mennonite Retirement Community is located in this part of the city and is served by HDPT. There are also two additional pockets of the city where greater than 15% of the population is over age 65. These areas are in central Harrisonburg, and an area to the east of downtown, bordered by South Main Street to the east, South Avenue to the south, South High Street to the west and West Grace Street to the north. Figure 3-43 provides a map of these areas, all of which are served by HDPT.

Young Adult Population

An important market for public transportation in the City of Harrisonburg is young adults between the ages of 18 and 24. As would be expected, there are some areas of the city where this percentage is over 75%. These areas include the JMU campus, as well as the areas to the south of campus where there are concentrations of student-oriented apartment complexes, which are served by HDPT. Figure 3-44 provides a map of the city Census block groups shaded according to the percentage of the population that is between the ages of 18 and 24.

Figure 3-42: Poverty Concentrations in the City of Harrisonburg

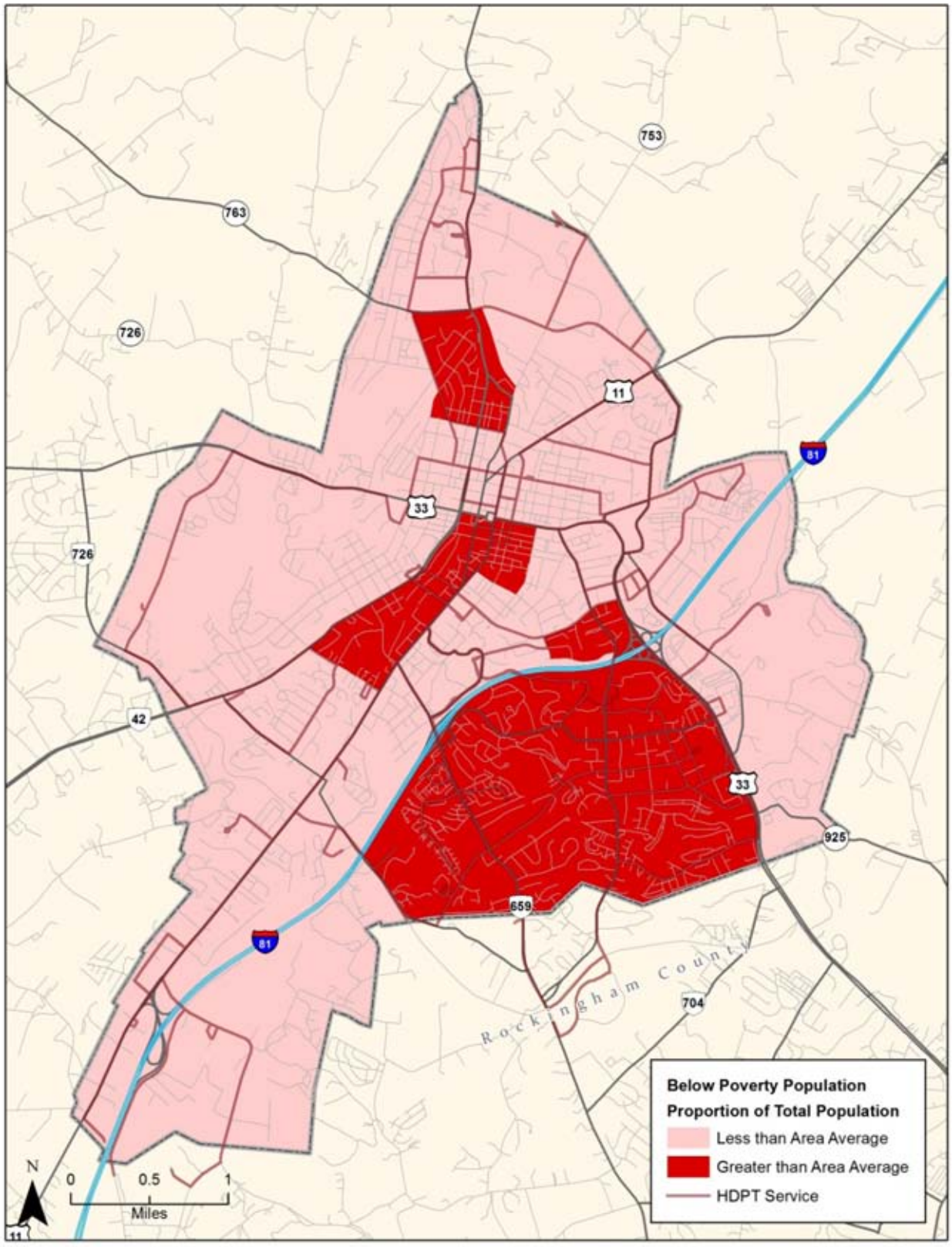


Figure 3-43: Concentrations of Senior Adults in the City of Harrisonburg

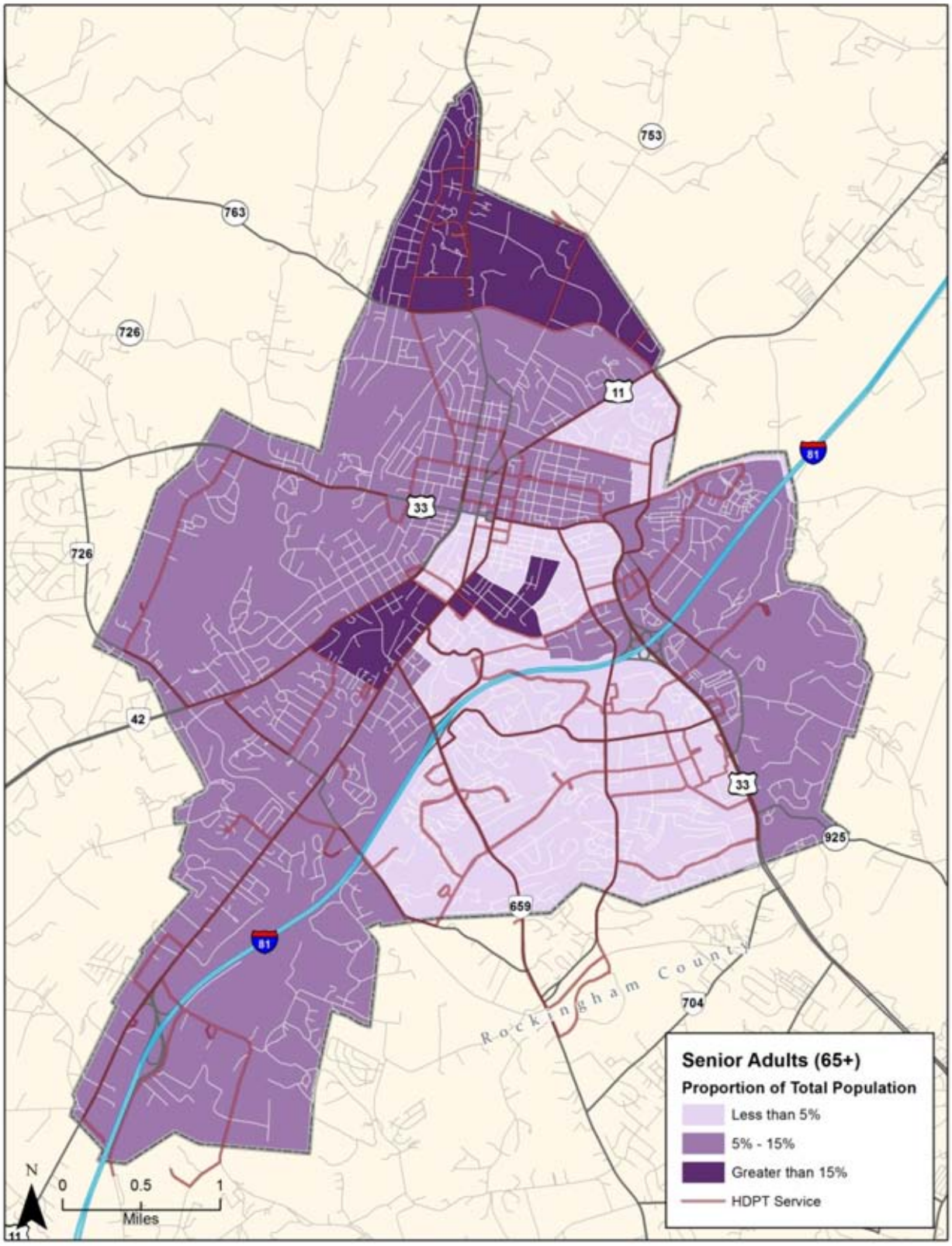
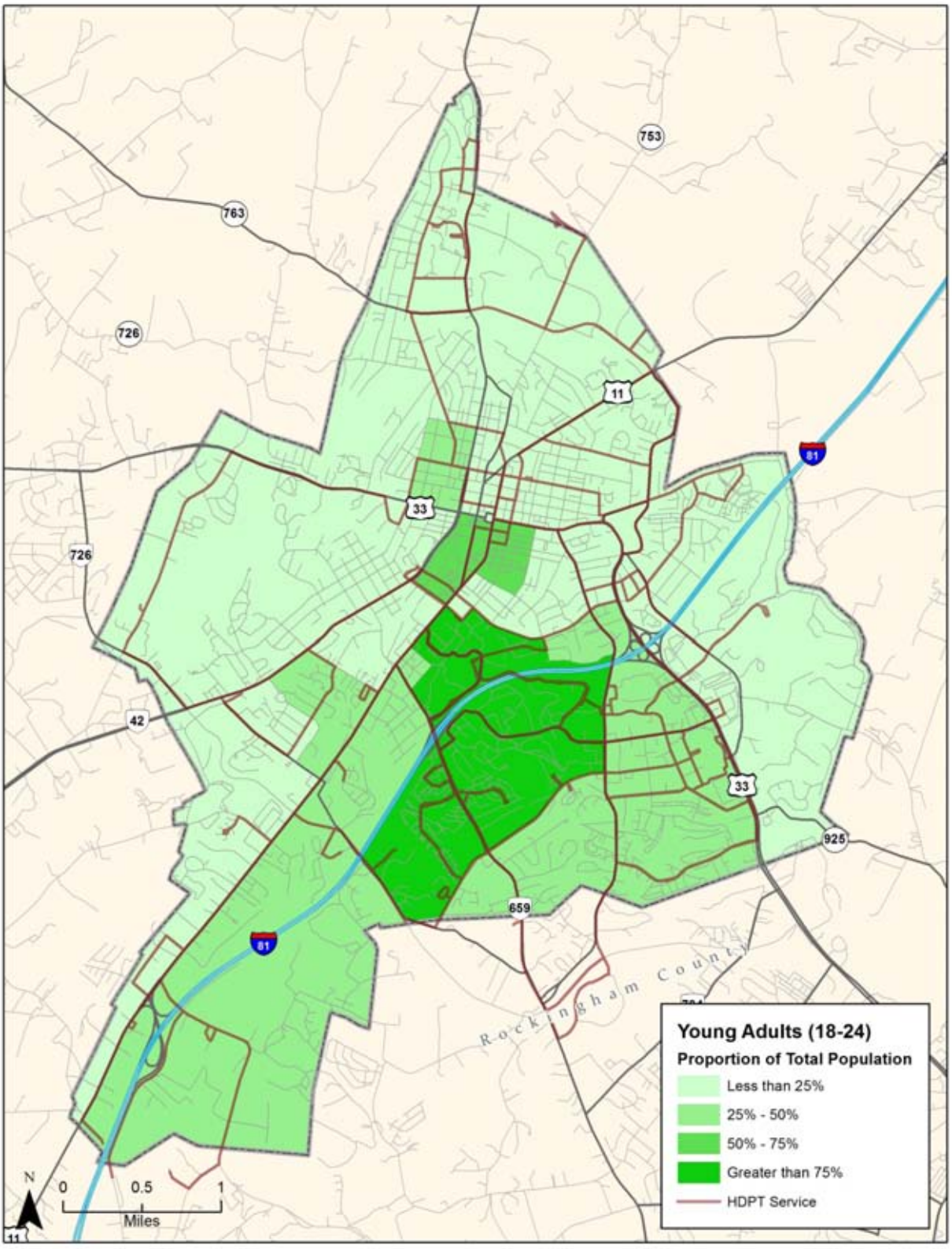


Figure 3-44: Concentrations of Young Adults in the City of Harrisonburg



Title VI Analysis

As part of the Civil Rights Act of 1964, Title VI prohibits discrimination on the basis of race, color or national origin in programs and activities receiving federal subsidies. This includes agencies providing federally funding public transportation. In accordance with Title VI, the following section examines the minority and below poverty populations in the service area. This section also summarizes the prevalence of residents with Limited-English Proficiency (LEP) in the service area.

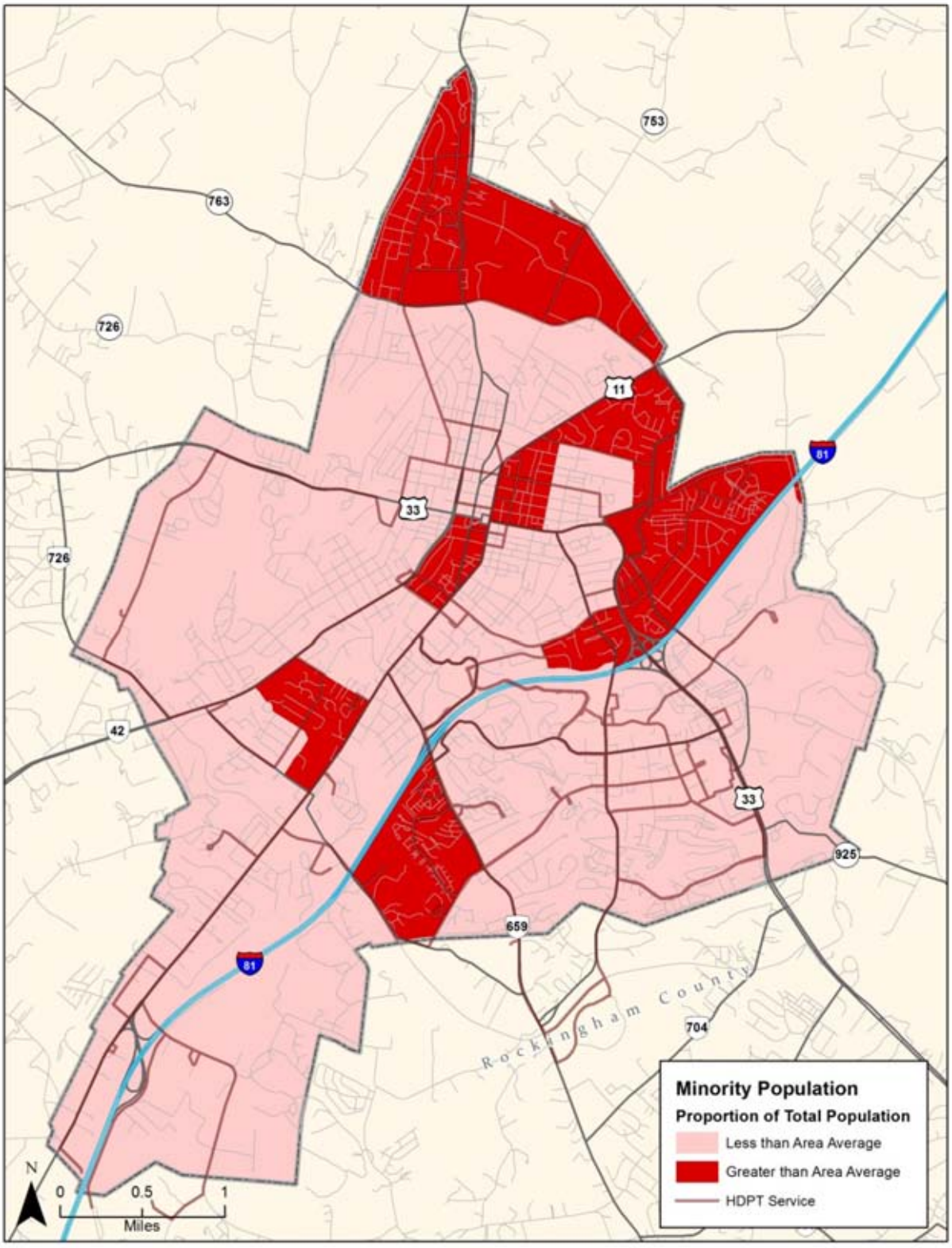
Minority Population

In accordance with Title VI of the Civil Rights Act of 1964, it is important to ensure that areas within the service area with a higher than average concentration of racial and/or ethnic minorities are not negatively impacted by proposed alterations to existing public transportation services. To determine whether an alteration would have an adverse impact upon the city's minority populations, it is necessary to first understand where concentrations of individuals reside. Figure 3-45 provides a map of the city showing the Census block groups shaded according to whether they have minority populations of above or below the service area average (16.4%). For the purposes of the Title VI analysis, a minority is defined all race and ethnicity origins that are not white alone.

Low-Income Population

This socioeconomic group represents those individuals who earn less than the federal poverty level. These individuals face financial hardships that make the ownership and maintenance of a personal vehicle difficult, and thus they may be more inclined to depend upon public transportation. This analysis was included previously, as part of the analysis of transit dependent riders.

Figure 3-45: Census Block Groups Above and Below the City Average for Minority Populations



Limited-English Proficiency (LEP)

In addition to equitably providing public transportation to individuals of diverse socioeconomic backgrounds, it is also important to realize the variety of languages spoken by area residents so that public information can be provided in other languages, if needed. The City is home to the Harrisonburg Immigrant and Refugee Office, operated by the Church World Service. This center provides a number of essential services for new immigrants and refugees to the U.S. The presence of the CWS Center has resulted in a great diversity of languages spoken by city residents, with Harrisonburg City Public Schools (HCPS) reporting that 33% of its students are identified as English Learners, with HCPS students speaking 55 languages in addition to English.[2]

According to the American Community Survey's five-year estimates for 2011-2015, English is the most predominately spoken language among 76.2% of the city's population ages five or older. As seen in Table 3-74, Spanish is spoken by 14.9% of residents, followed by Indo-European languages (4%). Spanish speakers that reported they speak English either "not well" or "not at all" comprised 4.8% of the city population, which is just below the Safe Harbor threshold of 5% for requiring the translation of written documents. HDPT currently translates its documents into Spanish.

Table 3-74: Limited-English Proficiency

	Number	Percent	Speak English Very Well	Speak English Well	Speak English Not Well	Speak English Not at All	% of Total Not Well and Well Combined
5 years and up	48,890						
Languages Spoken	**Number**	**Percent**					
English	37,275	76.2%					
Non-English	11,615	23.8%					
Spanish	7,278	14.9%	3,465	1,448	1,770	595	4.8%
Indo- European Languages	1,932	4.0%	1,125	391	312	104	1%
Asian/Pacific Island Languages	1,306	2.7%	812	236	244	14	1%
Other	1,099	2.2%	385	316	240	158	1%

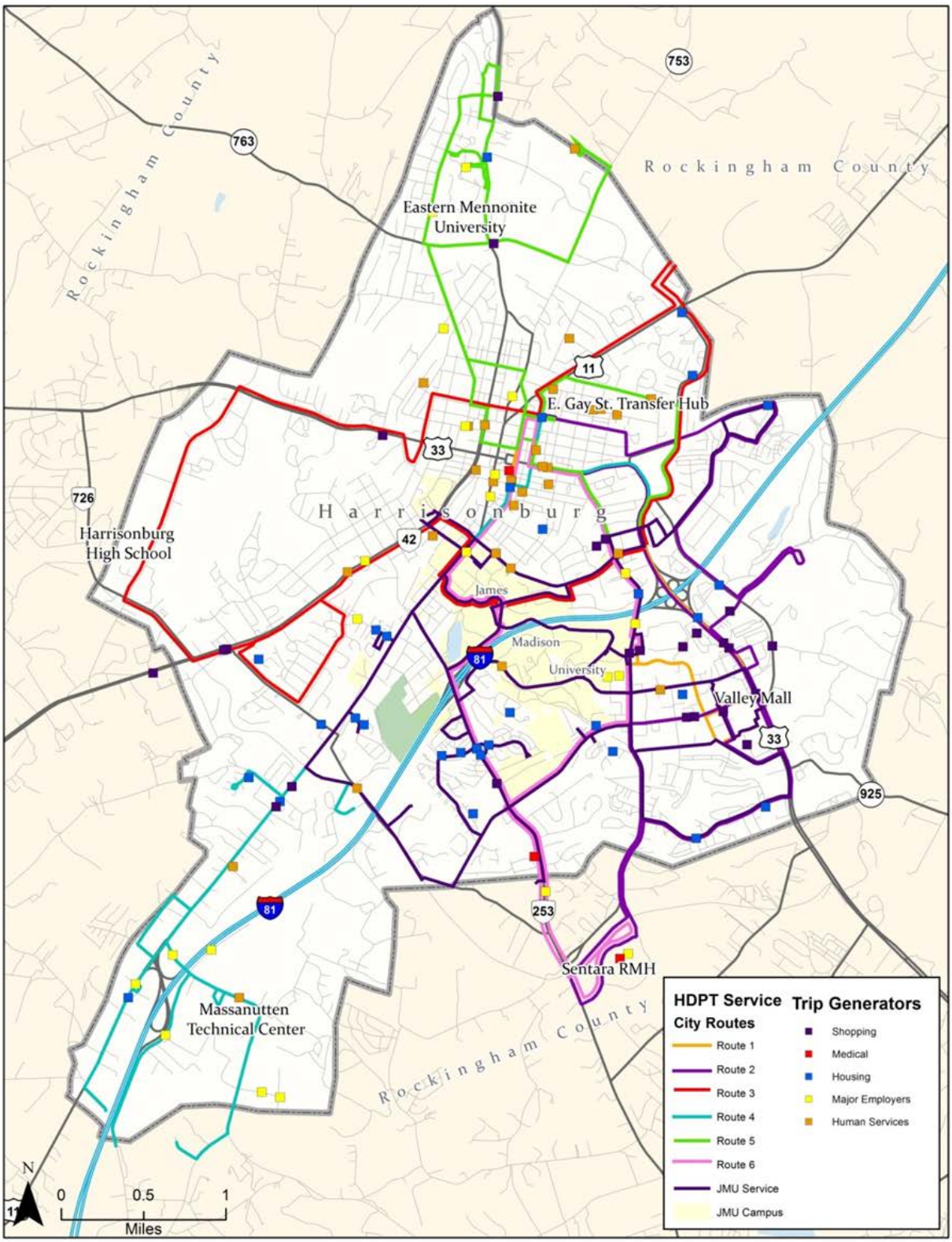
Source: American Community Survey, Five-Year Estimates (2011-2015), Table B16004.

[2] Harrisonburg City Public Schools Website, Support of English Learners, viewed April, 2017.

Land Use Profile- Major Trip Generators

Identifying land uses and major trip generators in the study area complemented the above demographic analysis by indicating where transit services may be most needed. Trip generators attract transit demand and include common origins and destinations, like multi-unit housing, major employers, medical facilities, educational facilities, non- profit and governmental agencies, and shopping centers. As shown in Figure 3-46, HDPT serves the majority of major trip generators in the city.

Figure 3-46: Major Trip Generators and HDPT Service



Commuting Characteristics

Location

In addition to considering the locations of major employers, it is also important to account for commuting patterns of residents working inside and outside of the service area. Data from the American Community Survey (ACS), 5-year county-to-county Commuting Flows (2009-2013) were used to examine where Harrisonburg city residents travel for work. These data show that the majority of the population works within the City of Harrisburg (64%), followed by Rockingham County (29%). The number of residents commuting farther than this dropped significantly, with Augusta County shown as the workplace for 491 people, or 2% of the city's workforce. Data for locations with greater than 100 workers are shown in Table 3-75.

Table 3-75: Employment Locations for Harrisonburg Residents

Work Location	Number of Responses	Percent of Total
Harrisonburg City	13,681	64%
Rockingham County	6,209	29%
Augusta County	491	2%
Shenandoah County	198	1%
Staunton City	108	1%

Source: 2009-2013 5 Year ACS Commuting Flows

Additional Commute Characteristics

Data from the 2011-2015 ACS was available for a number of other commuting characteristics, including means of transportation to work, time leaving home to go to work, and travel time to work. These data are shown in Table 3-76. As these data show, most commuters drove alone to work (72%), followed by carpooling (10.7%), and walking (8.4%). The public transportation mode showed a 2.9% mode share.

Commuters reported relatively short travel times to work, with 76.1% of commuters reporting travel times of less than 20 minutes. There were also a significant percentage of commuters who leave for work after 9:00 a.m.

Table 3-76: Commute Characteristics

Means of Transportation to Work	Percent of Workers
Car, Truck, or Van	83%
Drove Alone	72%
Carpooled	11%
Public Transportation	3%
Walked	6%
Bicycle	2%
Taxicab/Motorcycle/Other	1%
Worked at Home	4%

Time Leaving Home to Go to Work	Percent of Workers
12:00 a.m. to 4:59 a.m.	2.8%
5:00 a.m. to 5:29 a.m.	3.7%
5:30 a.m. to 5:59 a.m.	2.6%
6:00 a.m. to 6:29 a.m.	4.1%
6:30 a.m. to 6:59 a.m.	7.0%
7:00 a.m. to 7:29 a.m.	10.8%
7:30 a.m. to 7:59 a.m.	13.0%
8:00 a.m. to 8:29 a.m.	12.5%
8:30 a.m. to 8:59 a.m.	6.7%
9:00 a.m. to 11:59 p.m.	36.9%

Travel Time to Work	Percent of Workers
Less than 10 Minutes	29.4%
10 to 14 Minutes	29.7%
15 to 19 Minutes	17.0%
20 to 24 Minutes	10.1%
25 to 29 Minutes	1.6%
30 to 34 Minutes	6.1%
35 to 44 Minutes	1.8%
45 to 59 Minutes	1.7%
60 Minutes or More	2.6%
Mean Travel Time to Work (Minutes)	15.3

REVIEW OF PREVIOUS PLANS AND STUDIES

Central Shenandoah Coordinated Human Service Mobility Plan (September 2013)

Moving Ahead for Progress in the 21st Century (MAP-21) was signed into law on July 6, 2012. In addition to program changes such as the repeal of Section 5316 (Job Access and Reverse Commute-JARC Program), Section 5317 (New Freedom Program), and enhancing Section 5310; MAP-21 continued the required coordination planning requirements established in previous laws. MAP-21 requires that projects funded through Section 5310 must be "included in a locally developed, coordinated public transit-human services transportation plan".

The Virginia Department of Rail and Public Transportation (DRPT),

in collaboration with rural and small urban areas around the Commonwealth of Virginia, developed Coordinated Human Service Mobility (CHSM) Plans in 2008. The enactment of MAP-21 stated the process of updating the CHSM Plans. The updated plan for the Central Shenandoah Coordinated Human Service Mobility plan was completed in 2013 by KFH Group, Inc. under subcontract to Cambridge Systematics, Inc.

Participants in the planning process identified a variety of unmet needs. Among others, these concerned access to evening employment and GED/college classes, options for non-Medicaid health care trips, transportation on weekends and from the more rural areas of the PDC, and the need for increased marketing, outreach, and travel training. Participants also identified the following strategies to address the issues/needs:

- Continue to support and maintain capital needs of coordinated human service/public transportation providers.
- Build coordination among existing public, private, and human service transportation providers.
- Expand outreach and information on available transportation options in each area of the region, including establishment of a central/single point of access.
- Provide flexible transportation options and more specialized transportation services or one-to-one services through expanded use of volunteers.
- Expand availability of demand-response services and specialized transportation services to provide additional trips for older adults, people with disabilities, veterans, and people with lower incomes.

- Implement new public transportation services or operate existing public transit services on a more frequent basis.

- Establish or expand programs that train customers, human service agency staff, medical facility personnel, and others in the use and availability of transportation services.

- Bring new funding partners to public transit/human service transportation.

- Provide targeted shuttle services to access employment opportunities

City of Harrisonburg Bicycle and Pedestrian Plan

The City of Harrisonburg recently completed a draft update to its Bicycle and Pedestrian Plan (February 2017). The plan builds on previous versions, that last of which was completed in 2010.

The purpose of the plan is to "provide a vision and framework for developing an interconnected bicycle and pedestrian network throughout the community."[3] The vision statement included within the plan is, "The City of Harrisonburg will be a place where pedestrians and cyclists can access a connected network of bicycle and pedestrian infrastructure to safely and conveniently reach all areas of the city for school, work, play, and other daily needs."

The following two primary goals are included in the plan:

Goal 1 – To develop and maintain a network of streets and paths that are designated and operated to enable safe access for all users, including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities.

Goal 2 – To use education and encouragement to promote safe walking and bicycling as a form of transportation and recreation.

Specific objectives and strategies were developed under each of these two major goals.

Recommendations are then made with regard to facilities and infrastructure in the following categories: bicycle segments; pedestrian segments; pedestrian intersections; shared use paths; and other facilities. In addition to discussing the general design recommendations for a number of bicycle and pedestrian infrastructure features, the plan includes a prioritized list of specific projects under each of the major categories. The project lists were developed and

[3] Harrisonburg Bicycle and Pedestrian Plan, 2017, page 1.

ranked through the use of the ActiveTrans Priority Tool, which scored the projects based on the following criteria, each with a weight of between one and ten:

- Stakeholder Input (weight of 3)
- Constraints (weight of 10)
- Existing Conditions (weight of 10)
- Connectivity (weight of 6)
- Equity (weight of 6)

Each of the four project categories has at least 38 identified projects.

City of Harrisonburg Comprehensive Plan

The city is currently going through the process of updating its Comprehensive Plan, which was last updated in 2011. The process is ongoing, and is scheduled to be completed in FY2018. The 2011 Plan included the following transportation goal, which supports a multi-modal network in the city:

"To develop and maintain a safe and convenient transportation system serving all modes, such as automobile, pedestrian, bicycle, and transit."

Chapter 11 of the plan focused on transportation and included a detailed discussion of public transportation projects that should be priorities for the city. These projects were:

- Expanded transit operating hours to better meet employment transportation needs. This continues to be a need in the city.

- Operational upgrades at JMU to improve the flow of transit vehicles. These were:
    - On/near campus transit center (this has been implemented)
    - Dedicated transit bus way (this has not been implemented)
    - Bus pull-offs on JMU campus (some have been implemented)
    - Bus arrival time system (this has been implemented)

- Service expansion to Rockingham Memorial Hospital (this has been implemented)

- New downtown transit center to replace Hardesty-Higgins. This was implemented using a short-term solution and continues to be a need.

- Construction of new transit facility (this has been implemented).

- Bus stop evaluation, monitoring, and improvement program – HDPT has improved a number of bus stops, including the installation of several new shelters.

- Work with the MPO member localities to find ways to seamlessly offer transportation across existing boundaries. This project will likely be addressed as a TDP alternative.

- Investigate methods of electronic fare collection. HDPT has not implemented electronic fare collection, but will increase its data automation regarding fare types with its new ITS system that is in the process of being implemented.

- Computer-aided dispatching and automatic vehicle location for paratransit. This has been implemented.

City of Harrisonburg Transit Development Plan, 2011

Recommendations included in the City of Harrisonburg's 2011 Transit Development Plan (TDP) included significant infrastructure improvements, as well as modest service expansions for the city routes, as well as for the seasonal routes. The following projects were included:

City Routes

- Provide a second route to Sentara Rockingham Memorial Hospital (this has been accomplished).

- Implement a taxi voucher program, in cooperation with the Department of Social Services, to provide limited later hours of operation, as well as access to daycare and work. This project appears not to have been funded.

Seasonal Routes

- Implement a campus connector
- Provide additional service to accommodate growth

While a specific campus connector was not implemented, service hours for seasonal routes have increased by about 4,500 hours annually.

Regional Routes

- Implement a route in the Route 42 Corridor
- Advocate for intercity bus services

There continues to be modest service in the Route 42 corridor, provided by the BRITE bus. Additional northbound service is still desired, as the BRITE bus uses I-81 to travel north from Weyers Cave to Harrisonburg. Intercity bus service is scheduled to be implemented in FY2018, through the S.5311 Intercity Bus Program administered through DRPT.

Infrastructure

- Move the downtown transfer center from Hardesty Higgins to Roses. This has been accomplished and HDPT is now looking to move to a more permanent location that can offer additional amenities.

- Real-time transit information. This was implemented in FY2012, and is currently being upgraded.

- Computer-Aided dispatching. This was implemented in FY2013.

- Administrative, operations, and maintenance facility. The new facility opened in 2014.

- Passenger shelters. HDPT has added 24 passenger shelters since the 2011 TDP.

I-81/I-64 Inter-Regional Public Transportation Feasibility Study

With support from DRPT and consultant assistance, the three metropolitan planning organizations (MPOs) in the region (Charlottesville/Albemarle; Harrisonburg/Rockingham; and Staunton/Augusta/Waynesboro) have undertaken a full feasibility and implementation study of the potential for regional public transit services in the corridor between Harrisonburg and Charlottesville. The study was initiated in February 2016, and is nearing completion.

The preliminary study results indicate that service in the corridor is likely feasible by combining the commuter, intercity, and day-trip/medical markets. The draft service plan includes the following features:

- A public transportation connection between two major state universities – James Madison University and the University of Virginia.

- Commuter bus service for residents of the Shenandoah Valley who work in Charlottesville, including those who work hospital shifts at UVA Hospital (7:00 a.m. to 3:00 p.m. and 7:00 a.m. to 7:00 p.m.) and those who work a more traditional office schedule.

- Commuter bus service between Staunton and JMU.

- A connection between Augusta Health, UVA Hospital, and Martha Jefferson Hospital.

- A public transportation option for area residents who do not drive to access medical appointments in Charlottesville.

- A meaningful connection to both Greyhound and Amtrak. These connections would allow Shenandoah Valley residents to connect to Richmond and the northeast corridor. A meaningful connection (within two hours) to Greyhound is important, as it could allow for 100% federal funding for the trips that provide this connection.

The proposed service includes 5,865 annual service hours and will require three vehicles to provide the number of vehicle trips necessary, given the likely demand and the distance. The study is currently being finalized with regard to cost and organizational details.

James Madison University Campus Master Plan

The James Madison University Campus Master Plan was completed and approved in 2009. The conceptual plan addresses transportation and traffic, potential building sites aligned with space needs by program, and campus signage. The Master Plan identifies:

- Building locations to support education and general programs,
- Locations for auxiliary student support programs,
- New auxiliary athletic facilities,
- Strategies to modernize the Village Residence Halls and meet the university's housing targets, and
- Parking opportunities to maintain the current parking ratio.

The Master Plan also improves the pedestrian orientation of the campus by creating a contiguous campus with:

- Improved transportation routes,
- Campus connections and identity,
- Specialized program-driven facilities,
- The establishment of gathering spaces,
- Well-defined green space for formal and informal use, and
- Enhanced way-finding with vehicular signage.

James Madison University Campus Bicycle and Pedestrian Plan (2014)

James Madison University's Bicycle and Pedestrian Plan, completed in 2014, was developed "to promote multimodal transportation through the implementation of a variety of facility improvement and program development recommendations."[4] The Plan included prioritized

[4] James Madison University, Campus Bicycle and Pedestrian Plan, prepared by VHB, 2014, page iii.

short-term, mid-term, and long-term specific projects. The Plan expanded upon the university's recent facility improvements, and addresses the "5E's" of engineering, education, encouragement, enforcement, and evaluation to help enhance JMU's status as a Bicycle Friendly University, as designated by the League of American Bicyclists.

The plan's vision is to:

- "Promote sustainable campus mobility for on and off campus transportation,
- **Enable connectivity with supporting transit services,**
- Promote accessibility and ensure compliance with the Americans with Disabilities Act (ADA) for campus paths and streets, and
- Improve safety, quality of life, and promote health and well-being of the campus population."

The planning process included outreach via surveys and meetings; field research; data collection and analysis; and project recommendations. Development of the plan was overseen by the Bicycle and Pedestrian Advisory Committee (BPAC) which was made up of faculty, staff, and representatives of various on/off campus organizations (Facilities Management, UREC, Business Operations, Public Safety, Student Life, and Systems Administration), as well as the City of Harrisonburg staff and representatives from a local bicycle shop.

The recommendations detailed 28 specific JMU campus projects and 27 specific city projects, with the overall intent to create an integrated multimodal network. The final list of recommended JMU campus projects included four intersections (estimated cost $290,000) and one corridor improvement project (estimated cost $350,000), as well as 1.04 miles of sidewalk (estimated cost $496,000), 0.54 miles of bicycle lanes (estimated cost $240,000), 0.74 miles of shared lane markings (estimated cost $30,000), and 1.61 miles of shared use path (estimated cost $2.03 million). The plan also included a phasing schedule for improvements, and programmatic recommendations.

Rockingham County Urban Development Area Plan[5]

Rockingham County has received a technical assistance grant from the Virginia Office of Intermodal Planning and Investment to develop a vision for future growth within Rockingham County's Urban Development Area (UDA). This area is contiguous with the southeastern border of the City of Harrisonburg and has been identified by stakeholders as an area that needs additional transit services.

[5] Michael Baker International and Renaissance Planning, Rockingham County, Virginia, Urban Development Area Grant, Introductory Presentation, November 9, 2016.

The UDA planning effort will result in the development of a subsection to the county's Comprehensive Plan. The Plan will address land use, streetscape, design, access management, and connectivity throughout the UDA. Additional objectives are to assist the county in building on previous work done when the UDA was designated and promoting economic development and more effectively coordinating transportation and land use planning. The plan is scheduled to be completed by the end of FY2017.

Virginia Statewide Intercity Bus Study (September 2013)

The Virginia Statewide Intercity Bus Study inventoried existing intercity services and prioritized potential routes based on demand, financial efficiency, and current service availability. The study was completed for DRPT by the KFH Group in 2013.

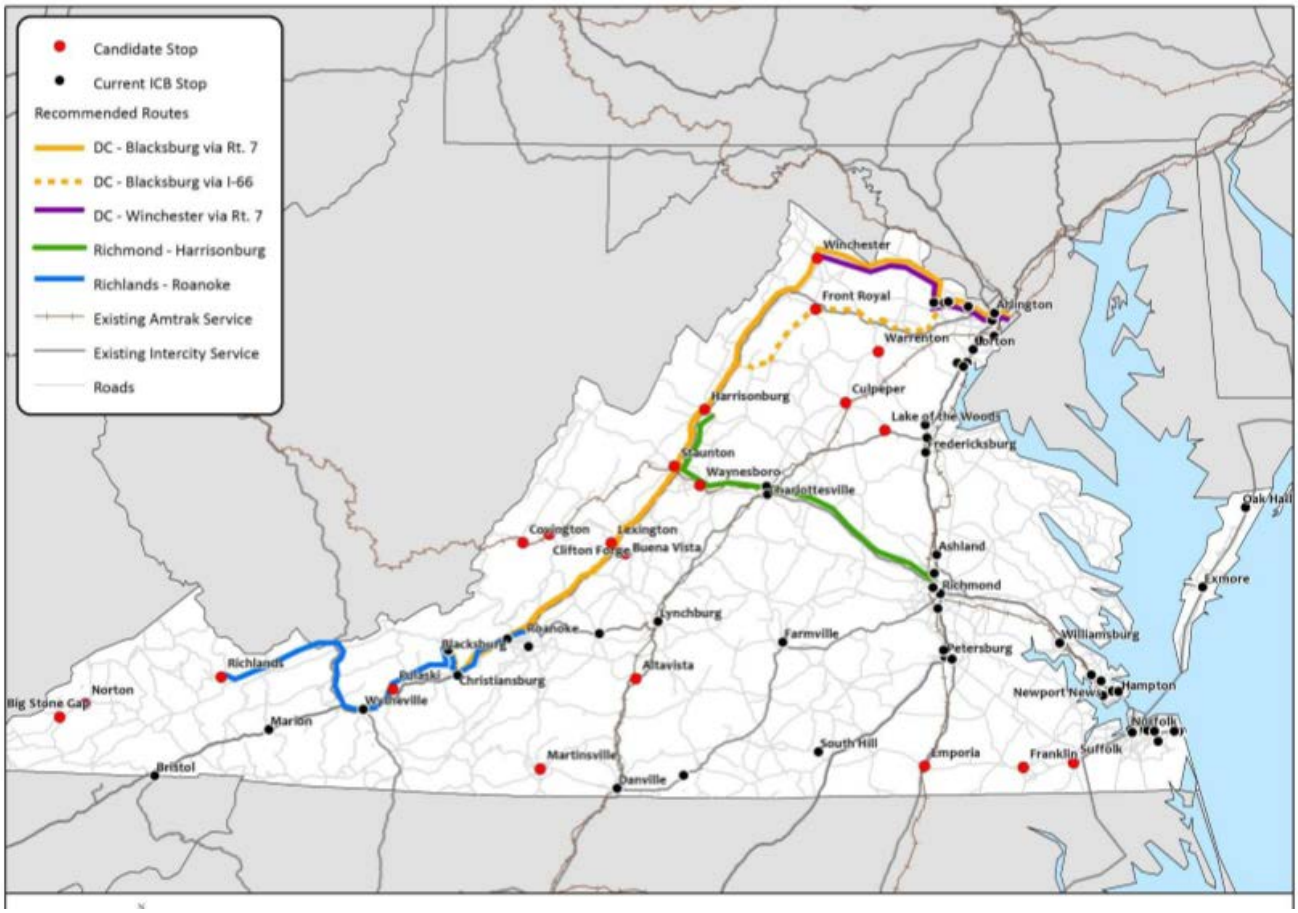
As described within the inventory, Greyhound operates daily service throughout Virginia, including two daily round trips between Baltimore and Charlottesville and three daily round trips between Richmond and Nashville via Charlottesville. Other carriers include Megabus, which operates on I-81 between Washington, D.C. and Knoxville via Christiansburg, and the NYCShuttle, which operates between Charlottesville and New York City.

Despite these services, the study noted that major intercity service gaps occur within the state. Greyhound reduced its service significantly over the past decade by cutting stops in Harrisonburg, Staunton, and Waynesboro. Intercity providers, public transit systems, and regional planning agencies surveyed for the study also requested service to the northwestern Shenandoah region (Winchester, Front Royal, Harrisonburg, and Staunton).

As depicted in Exhibit 3-1, the study prioritized four routes for implementation: two of these routes covered the Central Shenandoah region: 1) Washington, D.C. to Blacksburg via Harrisonburg and Staunton, and 2) Richmond to Harrisonburg via Charlottesville, Waynesboro, and Staunton.

DRPT has begun implementation of the plan, with the route between Blacksburg and Washington, D.C., via Harrisonburg scheduled to begin service in FY2018.

Exhibit 3-1: Virginia Intercity Bus Study Recommendations



CHAPTER CONCLUSIONS AND FOCUS FOR ALTERNATIVES

Chapter Conclusions

From the comprehensive review of: system data; peer data; customer opinion; public opinion; stakeholder opinion; demographic review; and the review of previous plans and studies; the following conclusions are offered:

- HDPT's ridership has grown, and productivity has increased, since the 2011 TDP, with much of the growth occurring in FY2012 and FY2013.

- Current ridership trends (FY2015-FY2016) indicate that ridership on the city routes grew between FY15 and FY16, and ridership on JMU off-campus routes was lower in FY2016 than it was in FY2015, particularly on the evening and night routes. Ridership for the on-campus day route (the ICS) was up significantly. For FY2016, productivity measures for Routes 35, 36, and 39 were all higher than the night route off-campus mean productivity of 37.5 passenger trips per revenue hour, while productivity measures for Routes 37, 38, and 40 were below the mean. The lowest productivity among late the night routes was found on Route 40, which averaged 17.6 passenger trips per revenue hour in FY2016.

- Ridership on the late night routes has dropped considerably since the 2011 TDP, when the night routes each averaged over 100 passenger trips per revenue hour, with two averaging over 200 passenger trips per revenue hour. A similar number of service hours per route was provided in FY2010 and FY2016, and one late night route has been added (Route 40).

- Ridership on the Bridgewater/Dayton shuttle has declined since the 2011 TDP, as has productivity. In FY2010 the route provided 1,427 annual passenger trips, with a productivity of 4.5 passenger trips per revenue hour. The FY2016 ridership was 1,057 passenger trips, with a productivity of 3.2 passenger trips per revenue hour. In FY2017 the ridership improved somewhat on the route to 1,102 passenger trips and 3.7 passenger trips per revenue hour.

- Route 4 - Conversations with the drivers for this route suggested that the schedule is very tight when diversions occur. Productivity on this route has almost doubled since the 2011 TDP, from 5.7 passenger trips per revenue hour to 11 passenger trips per revenue hour (FY2016).

- HDPT's operating budget has grown incrementally over the six-year period, as service hours have been added, but is still lower than the mean for peer systems that provide both public and university-oriented transit programs.

- HDPT compares favorably to peer systems in most measures of productivity and cost-efficiency. The only measure where HDPT has higher per-unit costs than the mean for peer systems is for cost per revenue mile. This is due to the relatively low revenue miles that are operated as compared to peers that generally have larger service areas (in terms of square miles).

- A majority of riders are either strongly satisfied or satisfied with HDPT services.

- Areas where improvements are desired by riders include:
    - Hours of service
    - On-time performance
    - Frequency
    - Areas served

- When asked to make one improvement, riders listed the following:
    - More frequency/capacity
    - Extended hours
    - Additional stops and destinations

- All but one of the respondents indicated that HDPT is a good value for the services received.

- Areas desired for expansion primarily included specific locations in Harrisonburg and areas in Rockingham County.

- The public survey indicated that about 53% of respondents have used the system.

- Public survey respondents who do not generally use public transportation indicated that the following top three improvements would be needed for them to ride:
    - More frequent service
    - Service later in the evening
    - Shorter travel time

- Stakeholders offered significant insight that will be used for the development of alternatives. The following opinions were provided most frequently:
    - There is a need for extended hours of service (earlier, later, weekends) for city routes.
    - There is a need for more transit service within Rockingham County's UDA.
    - Traffic congestion is an issue that affects system performance and reliability.
    - Improvements are needed for the pedestrian network in the city.
    - A system map that depicts all routes together is needed.
    - More direct routes, rather than loops, would help travel time.

- The demographic and land use analysis shows that HDPT provides coverage for the areas of the city with the highest population densities and concentrations of people who are likely to be transit dependent.

- The review of previous plans and studies reveals that the City of Harrisonburg and James Madison University support the continued development of public transportation, pedestrian and bicycle infrastructure in the city and on-campus.

Focus for Alternatives

The data supplied and analyzed, coupled with the opinions of riders, stakeholders, and the public, provided focus for the development of alternatives and the eventual plan (Chapter 4). The preliminary alternatives included:

- A project to start the city routes earlier in the day and extend them later in the evening, and on Sundays. The purpose of this project will be to provide additional opportunities for riders to use HDPT to access work opportunities that start earlier and end later than the current HDPT city route hours, as well as to offer mobility on Sundays.

- The development of more frequent service for the highest performing routes.

- Additional service to Rockingham County's UDA, with some options for funding participation by Rockingham County.

- An exploration of the development of additional service for other areas within the MPO area, such as Bridgewater and the Route 42 corridor, in cooperation with BRITE.

- A look at each city route with regard to tweaks to address rider, driver, and stakeholder input, as well as the loop/linear issue. Each of the specific rider/public comments offered via the survey efforts will be explored for potential feasibility.

- The development of a late night route between JMU and downtown. Given the drop in late night ridership, a diversion of service hours may be a reasonable way to accomplish this route. A change to Route 40 could accomplish this, as the areas it serves south of campus are served by other routes. Route 40 is currently the lowest performing route among the late-night routes.

- An exploration of a downtown circulator.

- Adding capacity on the ICS to accomplish headways that do not require publishing a schedule.

- The development of a printed and web-based route map for reference so that all routes can be viewed as a system.

- The continued addition of shelters and bus stop improvements, including sidewalk connections, where needed.

- A project to provide a more permanent transfer center that could offer driver amenities and additional passenger amenities, including a park and ride lot.

- A more intensive analysis of JMU routes when APC data is available to gather stop level data. This level of detailed analysis for 18 routes is beyond the scope of the TDP.

Chapter 4 provides the Service and Capital Improvement Plan, which provides more detail concerning each of these alternatives that were chosen for implementation.

Chapter 4
Service and Capital Improvement Plan

INTRODUCTION

This fourth chapter prepared for the HDPT TDP provides a service and capital plan for the ten- year TDP horizon. This chapter has been revised from the earlier version that presented the various projects as options for consideration. HDPT staff and stakeholders reviewed the projects and provided feedback and opinions with regard to the prioritization of the recommended transit improvements. The priorities expressed by staff and stakeholders were used to develop the service and capital improvement plan.

This plan will feed into the City of Harrisonburg's Capital Improvement Plan, as well as the Virginia Department of Rail and Public Transportation's (DRPT) Six-Year Improvement Program (SYIP), Statewide Transportation Improvement Plan (STIP), Transportation Improvement Program (TIP), and Constrained Long Range Plan (CLRP).

The service plan is presented first, followed by the capital plan.

SERVICE PLAN

The service plan was developed by reviewing the analysis of specific route performance data and examining the gaps in current services identified through input from riders, residents, drivers, and other stakeholders. The proposed plan draws on the information gathered in the previous three chapters and focuses on the following:

- Schedule Improvements
- Specific Route Improvements and Additional Routes

Each service improvement project is detailed in this section, including:

- A summary of the service improvement
- An estimate of operating and capital costs
- Ridership estimates (if applicable)
- Implementation schedule

The cost information for these improvements is expressed as the fully allocated costs, which means all of the program's costs on a per unit basis were considered when contemplating expansions. This overstates the incremental cost of minor service expansion, as there are likely to be some administrative expenses that would not be increased with the addition of a few service hours. These cost estimates are based on HDPT's estimated FY2017 cost per hour

of $59.00 per revenue hour and are revised to reflect inflation in Chapter 6 – Financial Plan, based upon the planned implementation year.

Schedule Improvements

The projects outlined in this section focus on a number of scheduling projects that apply to more than one route or service. The origin for most of these proposed improvements was either the customer survey or the stakeholder input.

Scheduling Improvement #1- Add Service Later in the Evening for City Routes (Monday- Friday)

Currently the HDPT city routes end service for the day between 6:16 p.m. and 6:56 p.m., Monday through Friday. The focus of this improvement is to add two to three hours of service for each of the city routes so that riders have increased opportunities to access jobs that end later than 6:00 p.m., as well as to make evening shopping/social/personal errand trips. Of the four scheduling options described within this section, the consensus of the stakeholders was that service later in the day during the week for the city routes is the most important of the four potential scheduling improvements. Additional ADA paratransit coverage will also be needed for these added hours for the summer when no other routes are operating.

Costs

- If three revenue hours per weekday are added for the six city routes, the total additional annual revenue hours will be about 4,600 at an annual operating cost of about $271,000 (based on the fully allocated cost per hour).
- Additional ADA paratransit coverage is estimated to cost about $23,000, based on the need for one service vehicle during the two-hour period, when James Madison University (JMU) is not in session.
- Additional capital is not required.

Ridership Impact

- Assuming a productivity of ten passenger trips per revenue hour, this service expansion is likely to generate about 31,200 annual passenger trips.

Implementation

- This improvement was ranked the highest among the potential service improvements and is scheduled for implementation in FY2019, which is year two of the plan.

- This implementation schedule is dependent upon further study and funding from federal, state, and local entities.

Schedule Improvement #2- Operate Full Schedule on Saturdays for City Routes

Feedback from drivers indicated that the city routes need to operate on the same schedule on Saturdays that they do during the week, particularly to access work opportunities. Currently, the city routes do not start operating until between 8:30 a.m. and 9:09 a.m., depending upon the route. Each route currently ends service between 5:16 p.m. and 5:56 p.m. depending upon the route. This improvement will add two additional revenue hours in the morning for each route and one additional revenue hour in the afternoon, for a total of three additional revenue hours per route per Saturday. The total additional annual revenue hours estimated for this improvement is 936. Additional ADA paratransit coverage will also be needed.

Costs

- Adding three operating hours per city route is estimated to cost about $55,000 annually (fully allocated costs). Additional ADA paratransit coverage is estimated to cost about $9,200 annually.

- Additional capital is not required.

Ridership

- Assuming a productivity of eight passenger trips per revenue hour, this service expansion is likely to generate about 7,500 annual passenger trips.

Implementation

- A longer service day on Saturdays was ranked second among the proposed schedule improvements and is scheduled for implementation in FY2019, which is year two of the plan.

- This implementation schedule is dependent upon further study and funding from federal, state, and local entities.

Schedule Improvement #3 – Start the City Routes Earlier in the Morning (Monday-Friday)

The rider surveys and stakeholder input suggested that the city routes do not start early enough for people who have a work report time of 7:00 a.m. Starting the city routes one hour

earlier would provide this option for most riders. Adding one revenue service hour per route will add six revenue hours per weekday, for a total of about 1,530 annual revenue hours. Some minimal additional ADA paratransit service may also be needed, though paratransit riders can typically already reach a 7:00 a.m. destination.

Costs

- These revenue service hours are estimated to cost about $90,000.
- No capital costs will be required.

Ridership Impact

- Assuming a productivity of eight passenger trips per revenue hour, this service expansion is likely to generate about 12,200 annual passenger trips.

Implementation

- This improvement is scheduled for FY2020, which is year three of the plan.
- This implementation schedule is dependent upon further study and funding from federal, state, and local entities.

Schedule Improvement #4- Add Service on Sundays for City Routes - Shorter Schedule

Feedback from riders and stakeholders indicated that service is needed on Sundays for the city routes. Driver input suggested that all of the city routes should be operated, but that a shorter service day would likely be sufficient to meet the demand for service on Sundays. A suggested schedule was 8:30 a.m. to 4:30 p.m. This level of service would allow riders access to church, shopping, and other activities on Sundays, but would likely only be helpful for limited work schedules. The total number of revenue hours per Sunday (all six routes, eight hours each) is 48 hours per Sunday. Additional ADA paratransit coverage would also be needed for the summer months when no other services are operating, as well as to cover areas of the city that are not served by the JMU Sunday routes.

Costs

- Operating all six city routes on Sundays is estimated to cost about $147,000 annually.
- ADA paratransit to support this service (summer only, already covered during JMU service periods) is estimated to cost about $ 12,300 annually.
- Additional capital is not required.

Ridership

- Assuming a productivity of ten passenger trips per revenue hour, this service expansion is likely to generate about 25,000 annual passenger trips.

Implementation

- This schedule improvement was seen as important, but was not ranked as high as the previous three schedule improvements. It has been assigned to year four of the plan, which is FY2021.

- This implementation schedule is dependent upon further study and funding from federal, state, and local entities.

Specific Route Improvements and Additional Routes

The improvements set out in this section represent changes to routes, route extensions, and/or new routes. These are intended to enhance service, efficiency, and the passenger experience. They were developed and refined based on discussions with HDPT staff, suggestions provided by customers via the rider survey, and input from other stakeholders.

Route Improvement #1 –
Downtown/JMU Circulator – Event Shuttle: Routes 210/Route 505

Feedback from JMU stakeholders and Harrisonburg Downtown Renaissance (HDR), requested the exploration of circulator service through downtown, with a connection to JMU. The purpose of this route is to provide a direct connection between JMU and downtown, as well as connecting downtown locations with parking opportunities. This type of route was viewed as especially helpful for event days at JMU. Event days could include those where there is a significant increase in visitors and a high demand for parking, such as JMU home football games, JMU graduation, and the city's holiday parade.

HDPT is implementing these concepts using two routes – the Route 210, which operates Friday and Saturday evenings from 10:00 a.m. to 2:17 a.m. during the JMU academic year; and the Route 505, which will operate for event days.

The Route 210 will replace one of the previous late night routes (the Route 35) and will provide a connection from several campus locations to downtown Harrisonburg via the Grace Street Apartments. The Route 505 will provide service from area hotels to the JMU campus and the downtown, operating on days where there are special events planned in Harrisonburg.

Costs

- Operating costs are estimated to be about $38,000 annually, which includes the Friday-Saturday late night service and about 30 additional days of service. These expenses are already included in HDPT's budget, as the Route 210 supplanted HDPT's previous Route 35.

Ridership Impact

- The current combined evening and late night services average 43 trips per revenue hour and the special services average 38 trips per revenue hour. For planning purposes, we will estimate that these services together will average about 40 passenger trips per revenue hour, for an annual total of just fewer than 26,000 passenger trips.

Implementation

- HDPT has implemented the late night concept for this route with the fall 2017 schedule changes (FY2018). A map of Route 210 is provided as Figure 4-1. The event circulator component of the route has been numbered the Route 505 and is scheduled to be implemented during the November 18, 2017 Resolute weekend. Figure 4-2 provides a map of the Route 505.

Figure 4-1: HDPT New Route 210

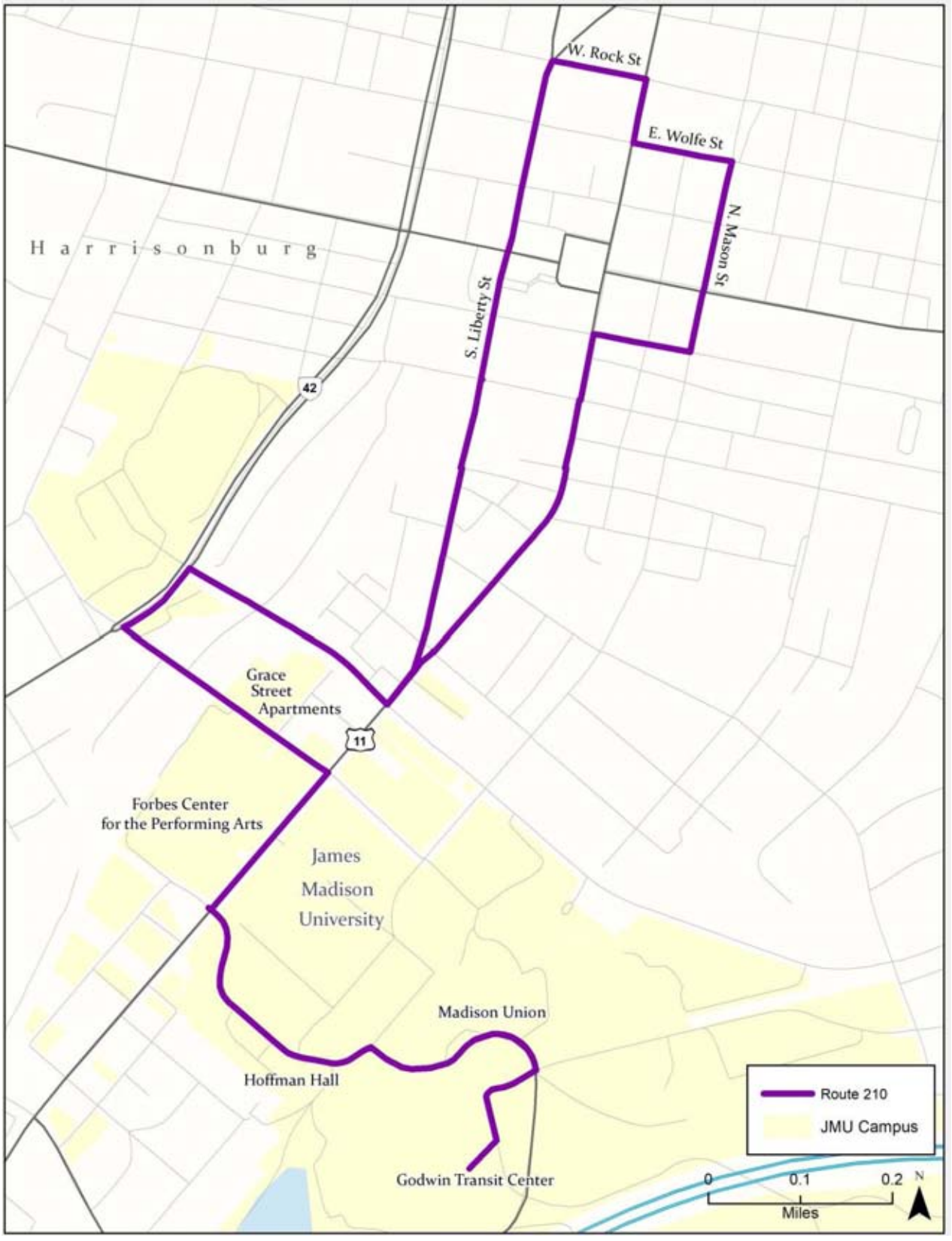
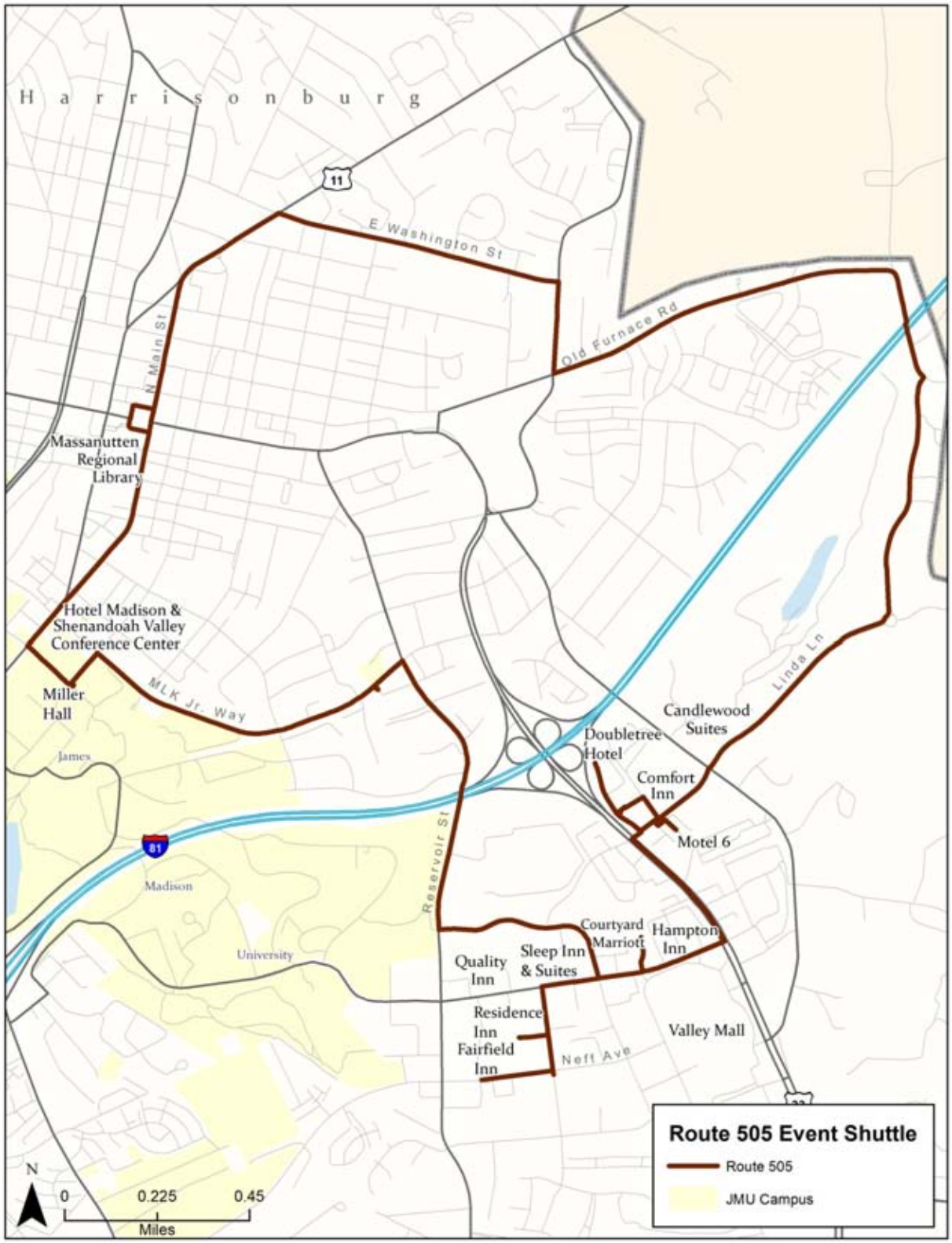


Figure 4-2: HDPT New Route 505 Event Shuttle



Route Improvement #2 – Adjust Route 4 to Remove it from the Cloverleaf Shopping Center

Feedback from drivers indicates that Route 4 does not have enough time built into the schedule to complete the route when there are deviations. HDPT sends out a tripper bus to help the route maintain its schedule if too many people call to request deviations. One possible solution is to remove the part of the route that travels to the Cloverleaf Shopping Center (a 2.2 mile segment) to reduce the mileage traveled and the associated time. The Cloverleaf Shopping Center serves as a secondary hub for HDPT, and is also served by Routes 1, 2, 3, and 5.

Removing this segment would simplify the route, keeping it on the South Main Street corridor. A map of this proposed change is provided as Figure 4-3.

Costs

- Eliminating the Cloverleaf Shopping Center from the Route 4 will reduce costs by eliminating the need for a tripper bus.

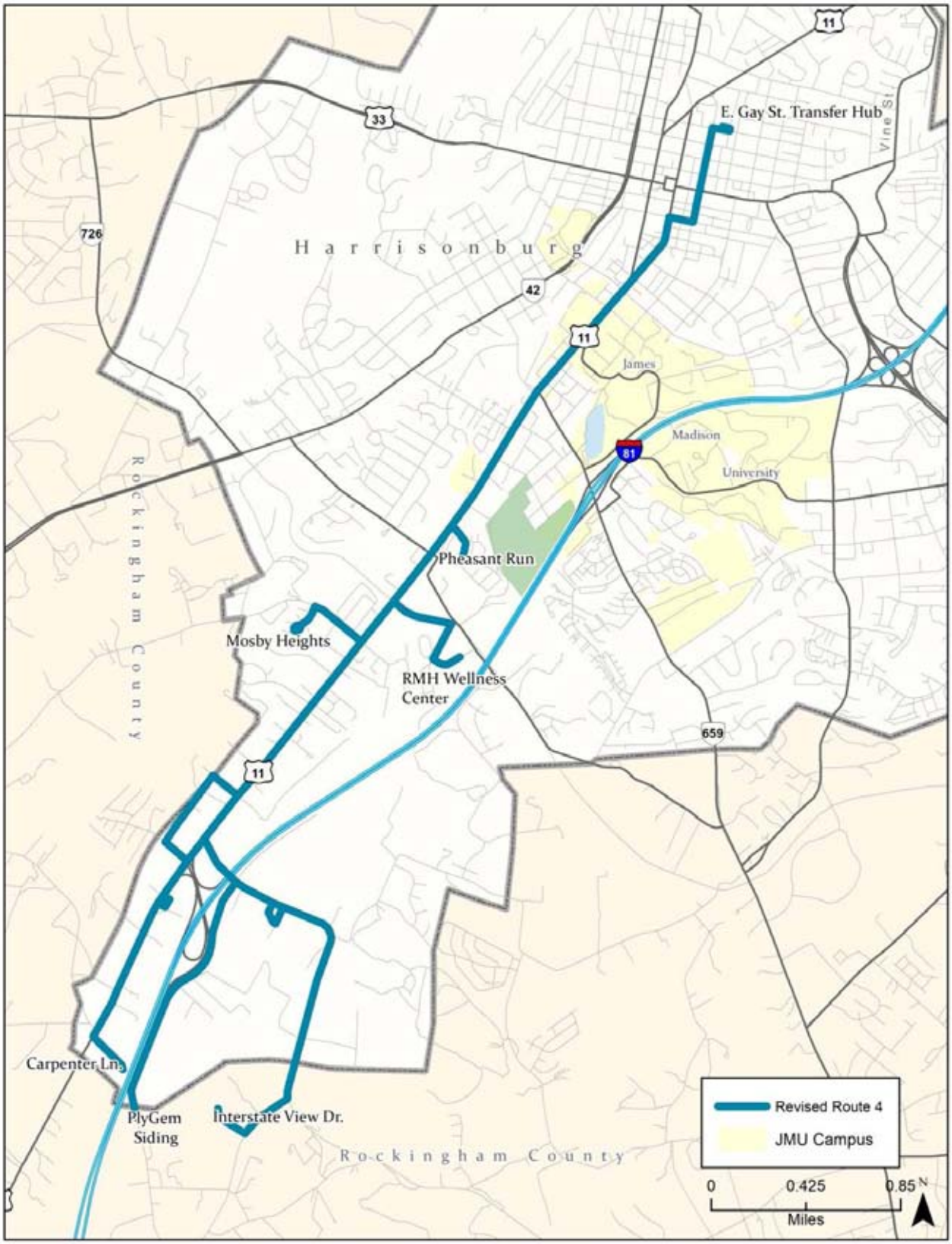
Ridership Impact

- This change is likely to be ridership neutral overall, as Route 4 will lose some riders from the Cloverleaf Shopping Center, but these riders will likely travel via other HDPT routes. The route may gain some ridership along the portion of South Main Street, heading south, that is currently not traversed.

Implementation

- This change is scheduled to be implemented in FY2019, pending further study.

Figure 4-3: Revised Route 4



Route Improvement #3 – Provide a Daily (Monday-Friday) Route to Bridgewater and Dayton and possibly Mt. Crawford

HDPT currently offers limited service to Bridgewater and Dayton (Tuesdays and Thursdays, two to three vehicle round trips). In addition, BRITE's BRCC North service links Harrisonburg, Dayton, and Bridgewater as it travels south to BRCC. The unmet need, according to area stakeholders, is for bi-directional service between Bridgewater, Dayton, and Harrisonburg that would allow residents of Harrisonburg to access job opportunities at the major employers in the Route 42 South Corridor, as well as allowing Bridgewater and Dayton residents to access job opportunities and services in Harrisonburg. There have also been requests for service to and from Mt. Crawford and this option could be included. Dayton, Bridgewater, and part of Mt. Crawford are located within the Harrisonburg Urbanized Area. This route would also provide a northbound connection between Bridgewater College and JMU.

It is proposed that this route operate as a deviated fixed route once outside the City of Harrisonburg, in recognition of the more dispersed origins and destinations, and to provide service for people with disabilities.

As shown in Figure 4-4, the route without deviations and without Mt. Crawford is about 9.3 miles each way. Given this route length, each round trip would likely take about one hour and 15 minutes, assuming modest deviations. If the route were to extend to Mt. Crawford, each round trip would likely take about 1.5 hours. The total one-way mileage of the route with the Mt. Crawford option is 12.6 miles. The current operating speed for the Dayton-Bridgewater Shuttle is 16.7 miles per hour.

When this route is implemented, it is recommended that HDPT work closely with BRITE to ensure that service is complementary, rather than duplicative from Harrisonburg south to Bridgewater. The current BRCC North schedule leaves JMU southbound at 7:07 a.m. and again at 17 minutes after the hour, on hourly headways from 8:17 a.m. to 10:17 p.m.

Outreach will be needed to the Towns of Bridgewater, Dayton and Mt. Crawford; major employers in the corridor; Bridgewater College; and Rockingham County to gauge interest in contributing to the necessary local match to fund the route.

Costs

- If service were to be provided Monday through Friday for a twelve hour span, the annual operating hours would be 3,060, which will result in a fully allocated cost of about $180,500 annually.

- A vehicle will be required, at a cost of about $410,000.

Ridership Impact

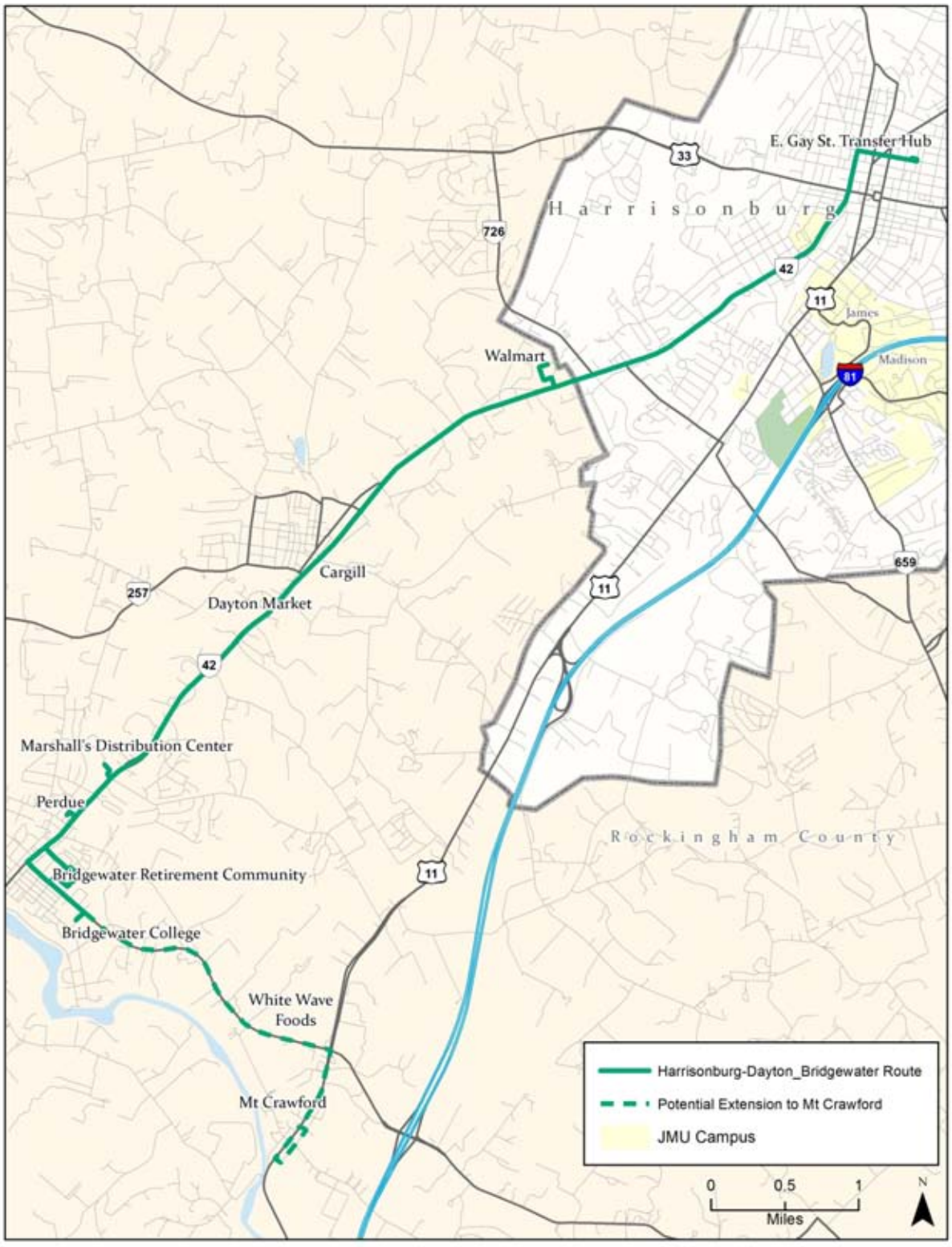
- If a productivity of eight passenger trips per revenue hour is achieved, total annual ridership will be about 24,500 passenger trips per year. This estimate is based on the BRCC North productivity of 8.9 passenger trips per revenue hour (FY2014).

Implementation

- HDPT plans to further study this project for future implementation. The current Tuesday- Thursday service has low ridership, which causes some concern with regard to expansion, though it should be noted that the current schedule does not allow for work trips. Public and stakeholder input suggest there is demand, with an orientation to the major employers in the corridor. Local match from the towns served and perhaps also the county will be needed for implementation, assuming federal and state funds are available. Given the need for further study and outreach, this improvement is planned for implementation in FY2022, with further study and outreach occurring in FY2020 and FY2021.

- This implementation schedule is also dependent upon funding from federal, state, and local entities.

Figure 4-4: Proposed Harrisonburg-Dayton-Bridgewater- Mt. Crawford Connector



Route Improvement #4 – Add a Reverse Loop Vehicle for Route 1 and Route 3

Riders and stakeholders indicated that shorter travel times via HDPT are desired. Improved frequency was also highly desired. One option that could help with travel time would be to add a vehicle in the reverse direction for HDPT's most productive, loop-style, city routes. These routes are Route 1 and Route 3. In FY2016, these routes each provided about 80,000 passenger trips with productivities of about 23 passenger trips per revenue hour. A reverse direction vehicle would be particularly helpful with Route 1's path of travel through the Valley Mall and Walmart areas, as it is currently circuitous to allow for bi-directional service to these major trip destinations.

Costs

- Each of the two routes operated about 3,500 revenue hours in FY2016. Using HDPT's fully allocated costs, each route would cost about $206,500 to operate, for a total additional operating cost of $413,000.

- Two vehicles will be needed, at a cost of about $410,000 each, for a total of $820,000.

Ridership Impact

- Implementing these two reverse routes will take some riders from Routes 1 and 3, as the reverse routings will be more convenient for one leg of their bus trips. Implementing bi-directional service will likely attract more riders by offering a faster travel time, but will not likely double ridership for the routes served.

Implementation

- Given the high cost and relatively unknown ridership, HDPT stakeholders have indicated that this improvement should be considered for the long term rather than the short term. This improvement has been assigned to FY2025, which is year eight of the plan.

- This implementation schedule is dependent upon further study and funding from federal, state, and local entities.

Route Improvement #5 – Continue to Partner with JMU on Service Needs

While there is not a specific additional project to be described to help meet the mobility needs of the JMU community, the campus is dynamic and the locations where students choose to live change with relative frequency. This improvement is a place-holder to ensure

that HDPT continues to partner with JMU to help minimize the need for students, faculty and staff to drive to campus. There will likely be transit projects associated with JMU that arise during the ten-year planning period that are not articulated within this plan. HDPT can adjust the plan accordingly as the need arises.

MARKETING AND PLANNING PROJECTS

Marketing Projects

Marketing Improvement #1 – Develop Full System Map

Comments received from the passenger and public surveys, and from stakeholders, indicated that it is difficult to understand how the bus route network works as a system, as a full system map is not available. Maps for individual city routes are posted on HDPT's website in PDF form, but there is no map of all the routes together.

This improvement includes developing the system map so it can be viewed via computer or mobile device, as well as downloaded and printed. As part of the route analysis for the TDP, KFH Group has updated all route maps using ArcGIS. These files have been sent to HDPT so that the full system map can be developed. The city's Community Development staff members have some expertise with GIS and will be able to complete this task.

Costs

- Existing staff resources will be used to generate the system map without incurring additional outside labor expenses.

Implementation

- This improvement will be implemented in FY2018.

Marketing Improvement #2 – Education for JMU Students

One of the initial concepts discussed for JMU service was an increase in Inner Campus Shuttles (ICS) service, as these vehicles often operate at capacity. Comments from the survey discussed a desire for less crowding. Subsequent discussions with operating staff revealed there may not be road capacity for additional ICS buses on campus during peak times, and that the way in which the off-campus routes are designed serves to provide significant additional cross-campus service. The problem is that students do not necessarily know that

many of the HDPT routes also travel from one side of campus to the other, as the head signs indicate other destinations.
The focus of this improvement is to develop an educational piece, perhaps a YouTube video, that explains how the routes work together to help provide additional on-campus mobility. Another facet could include adding additional staff or volunteers at each on-campus bus stop at the beginning of each semester to provide specific information about how to use the system. HDPT already provides some outreach to students during orientation, but until the students use the system, the nuances may not seem relevant.

Costs

- For planning purposes, we have assigned a budget of $5,000 for this project.

Implementation

- This project is currently being implemented. Feedback from stakeholders indicates that re-education of student riders needs to be emphasized each year. It may be that this project should be implemented on an annual basis to reflect any system updates and stay fresh and relevant.

Planning Projects

Planning Project #1 – JMU Route Optimization

Including the weekday, evening, late-night, and weekend transit services, HDPT operates about 30 routes that are oriented to the needs of the JMU community. These routes provide service from local student apartment complexes to campus, provide campus mobility, and allow on-campus students to access a number of destinations in Harrisonburg. Together, these routes provide over 2.4 million passenger trips each year.

The route network has grown incrementally over the years as apartment developers have continued to add new student-oriented housing throughout Harrisonburg and into Rockingham County. As the network has grown, HDPT has worked to develop synergies among the routes so that they work together to maximize mobility, both on and off-campus.

Given the size and complexity of this route network, JMU would like an in-depth study of how they operate in order to optimize the service provided. While the TDP does address some routing initiatives, an in-depth study of the JMU network was beyond the scope of the TDP. This type of analysis will be significantly easier to conduct once HDPT fully integrates the new automatic passenger counters (APCs) for fixed routes, the implementation of which is currently in process.

The following issues should be addressed within the route optimization study:

- Should the routes continue to operate on different schedules based on the Monday-Wednesday-Friday and Tuesday-Thursday class schedules?
- Do the "long" and "short" versions of the routes make sense? Is this the best way to maximize service hours?
- Should there be a consideration of "clock-face" scheduling, where routes are scheduled to leave at a particular time past the hour, each hour?
- Are there ways to increase capacity and reduce travel time?

Costs

- If a contractor were to be hired for this project, it would likely cost between $75,000 and $100,000, depending upon the quality of the data available through the APC system.

Implementation

- Stakeholders indicated that this project is a high priority; however HDPT and JMU staff recognize that the project should not be undertaken until the Grace Street road project is completed. This project is scheduled for FY2020.
- This implementation schedule is dependent upon further study and funding from federal, state, and local entities.

Planning Project #2 – Work with Rockingham County to Develop UDA Service

Rockingham County has a designated urban development area (UDA), located adjacent to the City of Harrisonburg, along the southeastern border of the city. The county received an Urban Development Area Grant in 2016 to help develop a vision for future growth within the UDA.

UDAs are designated areas that are appropriate for higher density development due to:

- Proximity to transportation facilities
- Availability of water and sewer
- Proximity to a developed area[1]

[1] Michael Baker International and Renaissance Planning, "Rockingham County, Virginia, Urban Development Area Grant, Introductory Presentation, November 9, 2016," page 6.

Typically, development patterns within UDAs will incorporate "traditional neighborhood design" characteristics, including:

- Pedestrian-friendly road design
- Street interconnections
- Connectivity of road and pedestrian networks
- Natural area preservation
- Mixed-use neighborhoods and housing types
- Reduced building setbacks
- Reduced subdivision street width/turning radii[2]

These principles are compatible with the development of public transportation services, which can function well within these parameters that typically allow for greater density of development and pedestrian infrastructure.

A presentation concerning the UDA planning process indicated that the Draft UDA Plan will provide a "Complete Streets" approach that will include a variety of travel options (vehicular, transit, pedestrian, and bicycle.)[3] It will be important for HDPT to stay involved with this process to ensure that transit services planned for the UDA can be integrated with the existing HDPT fixed route network.

HDPT currently provides service to Sentara Rockingham Memorial Hospital, as the hospital is an important destination for city residents. In addition, HDPT provides service to the Aspen Heights apartment complex during the JMU academic year (through a contractual arrangement with the developer), and will be providing service to a second development within the UDA (the Retreat, on Reservoir Street) that is currently under construction. The UDA overlaid with the current transit services is provided as Figure 4-5.

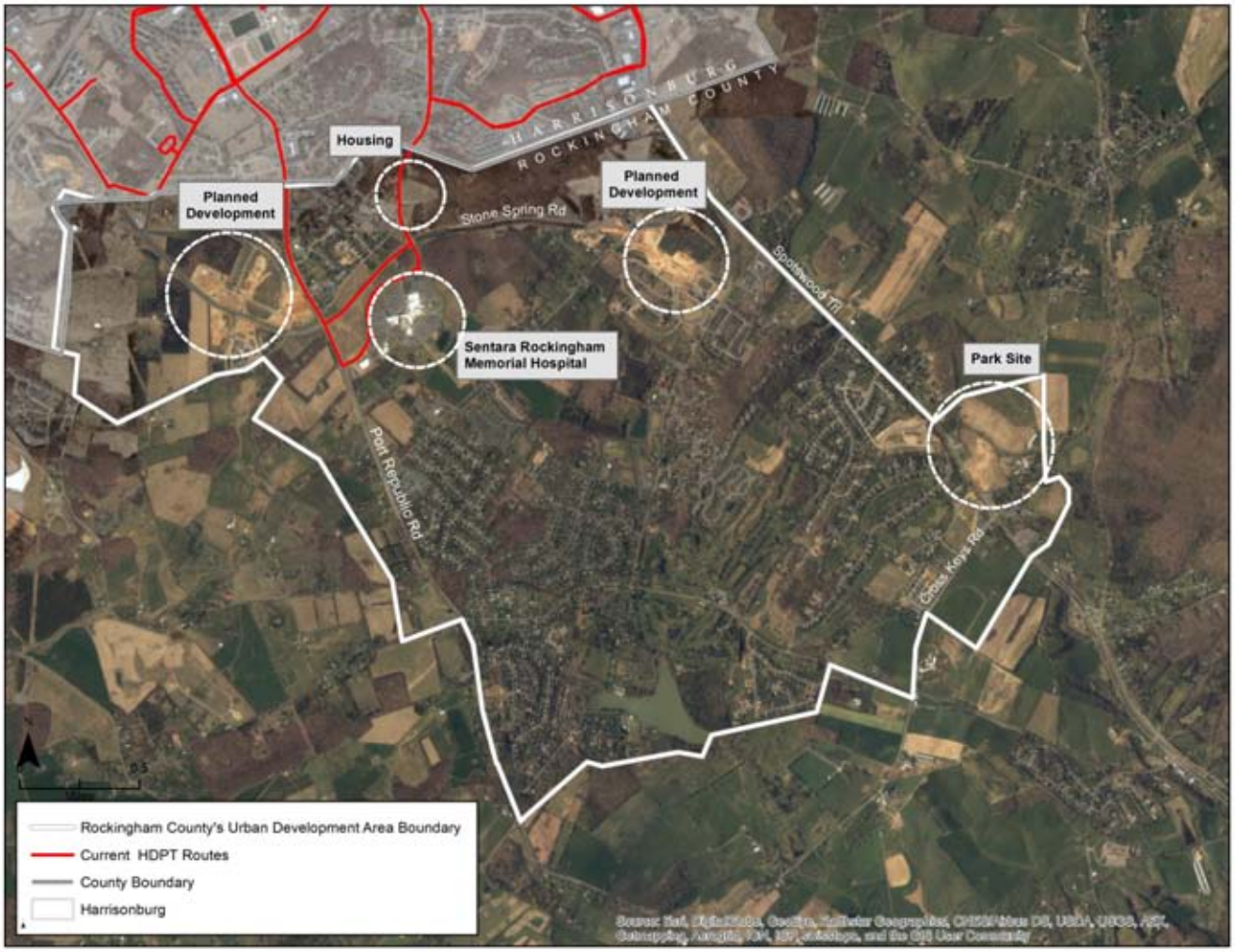
The focus of this planning project is to work with the county to design new transit services for the UDA as it develops. New transit services within the UDA should connect new housing, shopping, medical, and employment destinations within the UDA, as well as directly connecting to the city's established route network.

Because the UDA Plan is not yet completed, additional details regarding this improvement have not been fully crafted. It is included as a TDP project, as development will likely occur within the ten year period covered by the HDPT TDP. Once the need for service is more fully defined, it will be possible to propose specific transit projects to meet new transit needs within as well as to/from the UDA.

[2] Ibid, page 7.
[3] Ibid, page 13.

Any services implemented within the UDA could be funded through FTA Section 5307, state operating assistance, and local funding provided through fares, Rockingham County and/or local developers and major employers.

Figure 4-5: Rockingham County's UDA and Existing HDPT Routes



Costs

- The primary cost for this project is HDPT and Rockingham County staff time that will be involved with planning services. Some recommendations may already be "paid for" through work that is currently being conducted for the county under the Urban Development Area Grant.

- There will be costs associated with any new services that are planned, and these can be outlined in HDPT's annual TDP update letter, as applicable.

Implementation

- Planning for UDA service has been assigned for FY2022 and FY2023, with implementation of service to follow in the out-years of the TDP (FY2024-2027). If the area develops quickly and the county desires to study the options sooner, then this implementation schedule can be updated. It should be noted that the planning project is dependent upon interest by Rockingham County and any additional transit service options in the UDA will need local funding assistance from the county in order to be implemented.

- This implementation schedule is also dependent funding from federal and state, and local entities.

Planning Project #3 – Work with Rockingham County on Other Potential Route Extensions

Survey comments and feedback from HDPT drivers, indicated that there are unmet transit needs for other areas of Rockingham County, including areas that are directly adjacent to the City of Harrisonburg. These areas include the following:

- U.S. Route 11 South, south of the current Route 4 terminus
- U.S. Route 11 North, north of the service currently provided via Route 3
- Pleasant Valley Road and Greendale Road, east of the current Route 4 terminus

While service into these areas may be beyond the mission of HDPT currently, if Rockingham County were to invest in transit services, these areas (in addition to the UDA area) would be good candidates for services that feed into current HDPT routes.

Costs

- The primary cost for this project is HDPT and Rockingham County staff time that will be involved with planning services.

Implementation

- This project has been assigned to FY2024, with implementation of any recommended services occurring in FY2026 or FY2027. This project is also dependent upon interest and eventual local matching funds from Rockingham County.

- This implementation schedule is dependent upon further study and funding from federal, state, and local entities.

CAPITAL IMPROVEMENT PLAN

Capital Improvement #1-
Develop a Purpose-Built Transfer Center and Park and Ride

HDPT has historically provided public transportation throughout the city using a timed transfer route network, whereby the city routes meet each hour at a central location so that passengers can transfer from one route to another to access most areas of the city. Currently the primary transfer location is in the Roses/Merchant Tire shopping center parking lot. There is a secondary transfer location for the city routes at the Cloverleaf Shopping Center. In addition, the JMU-oriented routes, as well as Route 3, use the Godwin Center on the JMU campus as a transfer location.

The Roses/Merchant Tire transfer area has two large passenger waiting shelters and is signed, including specific loading areas for each of the routes that serve the center. Photos of the current site are provided in Figure 4-6.

Figure 4-6: Current Shopping Center Transfer Location

This location has proven to be acceptable geographically for the routes; however, there are several issues about the site that make it less than ideal. The issues are listed below.

- There is no protected pedestrian access to the site.
- There are no driver restrooms, though HDPT does have an arrangement whereby Merchant's Tire allows drivers to use their restroom.
- HDPT does not control the site, which makes it difficult to make improvements.
- There are limited security features at the site.

The focus of this option is for HDPT to construct its own facility that would be built specifically as a bus transfer center, including covered passenger waiting, bicycle and pedestrian facilities, driver restroom, information kiosk, and security cameras. A park and ride lot should also be considered, as there is not one located in Harrisonburg. This facility could be considered for the future intercity bus stop, once service has begun in the I-81 corridor, though a tentative location for the intercity bus stop has already been identified. This location, the JMU Lot 10/11, adjacent to I-81 (Port Republic Road, Exit 245), may be too far south to work as the primary bus transfer center, but could work as a secondary hub. HDPT staff indicated that the site for the transfer center does not necessarily have to be downtown, given the high cost of real estate within the downtown area.

The City of Harrisonburg currently has $500,000 set aside for the development of a transit center. Given that federal and state funds will typically fund up to 90% of the cost, Harrisonburg's $500,000 could be used as match for a total facility cost of up to $5 million, if federal and state funds are available for the project. This type of project, assuming a park and ride lot were to be included, may be a good candidate for Smart Scale Grant funding.

Photos of similar types of facilities are provided in Figure 4-7.

Figure 4-7: Examples of Passenger Transfer Facilities: Ocean City, Maryland and Hickory, North Carolina

Ocean City, Maryland

Hickory, North Carolina

Costs

- The cost to build a transfer facility and park and ride lot will depend upon several factors, including the cost of the land, number of parking spaces provided, number of bus bays provided, amenities provided, and complexity and size of the structure.

- Expenses for the project will typically include more than one phase, including land acquisition (if applicable); design and engineering; and construction.

- This project has been assigned a planning estimate of $5 million.

Implementation

- This project was the highest ranked project among all of the TDP project proposals. Stakeholders indicated that the development of a transfer facility and park and ride lot will be a positive development for local and regional mobility, as well as providing an opportunity for increased carpooling.

- As a real estate and construction project, the development of the transit center and park and ride lot will likely be a multi-year project. The real estate acquisition is planned for FY2018, with planning and design scheduled for FY2019 and construction scheduled for FY2020.

- This implementation schedule is dependent upon further study and funding from federal, state, and local entities.

Capital Improvement #2 – Continue to Provide Additional Shelters and Benches

HDPT has added sixteen shelters since the 2011 TDP and plans to continue its program of providing passenger amenities at stops with usage that warrants these improvements, as well as for new stops. Staff noted that currently the high priority areas for additional shelters are as follows:

- Larger shelter at Walmart

- Shelter at Target

- Shelters at the bus stops that serve Squire Hill Apartments and Fox Hill Apartments on Devon Lane

- The shelter at Harrisonburg High School on Garber's Church Road is on the opposite side of the street as the direction of travel for Route 3. There should be a shelter on the other side of the street.

Costs

- The cost to improve bus stops with passenger amenities can range from $200 to $15,000 depending on the level and type of improvements. In some instances it can exceed $15,000 if extensive engineering is required to install the amenities and comply with the Americans with Disabilities Act (ADA). Table 4-1 provides cost estimates for potential stop improvements. For planning purposes, this initiative is budgeted for $20,000 per year.

- Federal and state funds typically fund up to 95% for shelter purchases.

Table 4-1: Estimated Bus Stop Improvement Costs

Improvement	Unit Cost
Shelter (installed)	$5,000 - $10, 000
Bench (installed)	$1,500 - $2,500
4' Wide Sidewalk	$17.50 - $25.00 per linear foot
Bicycle Racks	$200 - $500
Curb Ramps	$2,000 - $2,500

Implementation

- HDPT and stakeholders are interested in continuing to provide additional bus stop improvements throughout the course of the TDP period. Bus stop improvements are viewed favorably, as they convey the image of public transportation as being part of a well-integrated multi-modal transportation system.

- This implementation schedule is dependent upon further study and funding from federal, state, and local entities.

SUMMARY OF PLANNED IMPROVEMENTS

Table 4-2 provides a summary of the potential improvements described within this chapter.

Table 4-2: Summary of Service Improvement Options

Planned Implementation Year	Service Improvement Options	Annual Operating Hours	Annual Operating Costs	Capital
	Schedule Improvements			
FY2019	#1 - Add Service Later in the Evening for City Routes (Monday- Friday)	4,990	$294,410	$0
FY2019	#2 - Operate Full Schedule on Saturdays for City Routes	1,092	$64,428	$0
FY2020	#3 - Start the City Routes Earlier in the Morning (Monday - Friday)	1,530	$90,270	$0
FY2021	#4 - Add Service on Sundays for City Routes - Shorter Schedule	2,704	$159,536	$0
	Route Improvements			
FY2018	#1 - Downtown/JMU Circulator - Event Shuttle:- Route 210/Route 505	648	$38,232	$0
FY2019	#2 - Adjust Route 4 to Remove it from the Cloverleaf Shopping Center		Minor savings	
FY2022	#3 - Add a Daily (Monday-Friday) Route to Dayton/Bridgewater/Mt. Crawford (possibly)	3,060	$180,540	$420,000
FY2025	#4 - Add a Reverse Loop Vehicle for Route 1 and Route 3	7,000	$413,000	$840,000
Each Year	#5 - Continue to Partner with JMU on Service Needs		TBD	
	Marketing and Planning Projects			
FY2018	Marketing Project #1 - Develop Full System Map		Staff Time	
FY2018	Marketing Project #2 - Education for JMU Students		$5,000	
FY2020	Planning Project #1 - JMU Route Optimization		$100,000	
FY2022/2023	Planning Project #2 - Work with Rockingham County to Develop UDA Service		Staff Time	
FY2024	Planning Project #3 - Work with Rockingham County on Other Potential Route Extensions		Staff Time	
Totals		**21,024**	**$1,345,416**	**$1,260,000**
	Capital Improvement Options			
FY2018/2019/ 2020	#1 - Develop a Purpose-Built Transfer Center and Park and Ride			$5,000,000
Each Year	#2 - Continue to Provide Additional Shelters and Benches		Per Year	$20,000

Note: This implementation schedule is dependent upon further study and funding from federal, state, and local entities.

Funding TDP Improvements

The cost information provided within this document is based upon the fully allocated operating costs for service expansions. The capital costs are shown as full costs. The local costs required to implement improvements will likely be significantly less than the total costs shown, as HDPT does not currently use all of the federal operating funds for which it is eligible. Federal operating funds can be used to fund up to 50% of the total operating cost for a service. In addition, DRPT has historically funded about 16% of the operating costs for service. The DRPT funding is not guaranteed, but is typically available.

An example of how these federal and state funds could reduce the local cost required for improvements is provided below:

Sample Total Operating Cost	$200,000 total cost for service
Subtract Fare Revenue	- $ 12,000 (assuming a city route)
Net Deficit	= $188,000
Apply Federal S.5307	- $94,000
Apply State Funding	- $30,080
Local Funding Needed	= $63,920

In addition, federal and state funds are typically available for 90– 95% of capital purchases, depending upon the purchase.

The full financial plan to support the current HDPT network and the TDP improvements is provided as Chapter 6.

Chapter 5
Implementation Plan

INTRODUCTION

The Implementation Plan provides a general outline of the steps required to implement the Service and Capital Improvement Plan described in Chapter 4. This first section includes a discussion of the major activities for each year of the plan, followed by a capital replacement plan for vehicles, facilities, passenger amenities, and technology systems.

TRANSIT DEVELOPMENT PLAN INITIATIVES BY YEAR

Each planning year covered by the HDPT 2017 TDP is listed below, followed by the list of improvements scheduled for the year, along with some general implementation steps. Greater detail is provided for the short-term projects than for the longer- term projects. It should be noted that this schedule has been constructed using currently available information with regard to service priorities and funding constraints. Additional resources or shifting priorities may change this schedule and HDPT can address these changes through the annual TDP update process.

FY2018

- **Route Improvement #1** - Implement Route 210 and Route 505 to provide late night service and event service between JMU and downtown Harrisonburg, including the Grace Street Apartments and local hotels.
    - This has been implemented with HDPT's fall 2017 schedule changes.
- **Marketing Improvement #1** – Develop full system map.
    - HDPT is in the process of implementing this improvement.
    - GIS shape files for the routes are being used by the city's Community Development staff to create this map.
- **Marketing Improvement #2** – Education for JMU students.
    - Work with JMU on the development of a YouTube video to explain how HDPT routes work together to help provide additional campus mobility.

- **Capital Improvement #1** – Develop transfer center and park and ride.
    - Continue to research potential land parcels that could be purchased by the city.
    - Ensure that applicable local, state, and federal rules are followed with regard to purchasing land.
    - Federal Transit Administration (FTA) guidance is covered under the following:

      "Real property acquisition, use and disposal is covered by FTA Circular 5010.1E, Chapter IV; 49 C.F.R. part 18.31; 49 C.F.R. part 24, subpart B; and by the FTA Master Agreement, Section 19.1. It is important that the grantee be familiar with the requirements established by FTA in Circular 5010.1E, Chapter IV. This circular establishes procedures to be followed by grantees in the following areas:

        - *The conduct of Hazardous Waste Site Assessments before acquiring real property.*
        - *The conduct of an independent appraisal by a certified appraiser.*
        - *The requirement for a review appraisal of the initial appraisal.*
        - *FTA review and concurrence requirements related to the grantee's offer to buy the property.*
        - *Disposition of excess real property by sale, transfer to other programs, etc.*
        - *The requirement to prepare an excess property utilization plan for all real property no longer used for its original purpose. (Revised: September 2010)"* [1]
    - Purchase land for the project.
- **Capital Improvement #2** – Continue to provide additional shelters and benches.
    - Focus on the specific locations outlined in Chapter 4.

FY2019

- **Route Improvement #2** – Adjust Route 4 to remove stop at Cloverleaf Shopping Center.
    - Conduct time checks on Route 4 during the fall of 2017 and the spring of 2018 to validate the need for the change.

[1] Federal Transit Administration website, Acquiring Real Estate, Frequently Asked Questions, viewed 9/8/2017.

  - Track how many times tripper buses were needed for Route 4.

  - If on-time performance and the use of tripper buses continue to show a need for schedule relief for Route 4, implement the change during the fall of 2018 schedule change (FY2019)

- **Scheduling Improvement #1** – Add service later in the evening for city routes – Monday through Friday.

  - Prepare new driver schedules and add drivers as needed during the summer of 2018 to implement in the fall of 2018.

  - Change the public schedule to coincide with the fall of 2018 schedule change.

- **Scheduling Improvement #2** – Operate full schedule on Saturdays.

  - Prepare new driver schedules and add drivers as needed during the summer of 2018 to implement in the fall of 2018.

  - Change the public schedule to coincide with the fall of 2018 schedule change.

- **Capital Improvement #1** – Transfer center and park and ride lot.

  - Conduct planning and design work.

- **Capital Improvement #2** – Continue to provide additional shelters and benches.

  - Focus on the specific locations outlined in Chapter 4.

FY2020

- Evaluate schedule improvements implemented in FY2019.

- **Schedule Improvement #3** – Start the city routes service earlier in the morning.

  - Prepare new driver schedules and add drivers as needed during the summer of 2019 to implement in the fall of 2019.

  - Change the public schedule to coincide with the fall of 2019 schedule change.

- **Route Improvement #3** – Add daily service to Bridgewater/Dayton/Mt. Crawford (possibly).

  - Begin outreach and further study for the potential service.
  - Engage Rockingham County and the Towns of Bridgewater, Dayton, and Mt. Crawford.

- **Planning Project #1** – JMU route analysis and optimization
  - Develop scope of work for consultant assistance to address:
    - MWF versus TuTh scheduling
    - Long and short versions of routes – Do they make sense?
    - Should there be a consideration of clock-face scheduling?
    - Are there ways to increase capacity and reduce travel time via route and schedule changes?
  - Work with DRPT to use the statewide task order contract to choose a firm.
  - Use data collected via the automatic passenger counters to help conduct this project.
  - Conduct the study
- **Capital Improvement #1** – Transfer center and park and ride lot.
  - Move to the construction phase of the project.
- **Capital Improvement #2** – Continue to provide additional shelters and benches.
  - Focus on the specific locations outlined in Chapter 4.

FY2021

- Evaluate schedule improvements implemented in FY2019 and FY2020.
- Implement changes recommended via the FY2020 JMU Route Optimization Study.
- **Schedule Improvement #4** – Add service on Sundays for city routes.
  - Prepare new driver schedules, and add drivers as needed during the summer of 2020 to implement in the fall of 2020.
  - Change the public schedule to coincide with the fall of 2020 schedule change.

- **Route Improvement #3** – Provide daily service to Bridgewater/Dayton/Mt. Crawford (possibly).
    - Complete planning for service for FY2022 implementation.
- **Capital Improvement #1** – Transfer center and park and ride lot.
    - Open the transfer center and park and ride lot.
- **Capital Improvement #2** – Continue to provide additional shelters and benches.
    - Focus on the specific locations outlined in Chapter 4.

FY2022

- Evaluate schedule improvements implemented in FY2021.
- **Route Improvement #3** – Provide daily service to Bridgewater/Dayton/Mt. Crawford (possibly).
    - Prepare new driver schedules and add drivers as needed during the summer of 2021 to implement in the fall of 2021.
    - Change the public schedule to coincide with the fall of 2021 schedule change.
- **Planning Project #2** – Work with Rockingham County to develop UDA service.
    - Begin planning process for UDA service.
    - Work collaboratively with Rockingham County to develop a service design that will connect seamlessly with the HDPT route network.
- **Capital Improvement #2** – Continue to provide additional shelters and benches.

FY2023

- Monitor and evaluate the success of the Dayton/Bridgewater/Mt. Crawford service.
- **Capital Improvement #2** – Continue to provide additional shelters and benches.

FY2024

- Implement service for the UDA area, pending the outcome of the planning project conducted in FY2022.
- **Planning Project #3** – Work with Rockingham County on other potential route extensions.
- **Capital Improvement #2** – Continue to provide additional shelters and benches.

FY2025

- Monitor and evaluate the success of the UDA services.
- **Route Improvement #4** – Add reverse loop vehicle for Route 1 and Route 3.
    - Prepare new driver schedules and add drivers as needed during the summer of 2024 to implement in the fall of 2024.
    - Change the public schedule to coincide with the fall of 2024 schedule change.
- **Capital Improvement #2** – Continue to provide additional shelters and benches.

FY2026

- Implement services in Rockingham County, pending outcome of the planning project conducted in FY2024.
- **Capital Improvement #2** – Continue to provide additional shelters and benches.

FY2027

- Monitor and evaluate the success of the Rockingham County services.
- **Capital Improvement #2** – Continue to provide additional shelters and benches.

CAPITAL NEEDS

Vehicle Replacement and Expansion Plan

This section presents the details of the vehicle replacement and expansion plan, including vehicle useful life standards and estimated costs. A vehicle replacement and expansion plan is necessary to maintain a high quality fleet and to dispose of vehicles that have reached their useful life. The capital program for vehicles was developed by applying FTA/DRPT vehicle replacement standards to the current vehicle fleet which was presented in Chapter 1.

Useful Life Standards

The useful life standards used by the FTA were developed based on the manufacturer's designated vehicle life-cycle and the results of independent FTA testing. The standards indicate the expected lifespans for different vehicle types. If vehicles are allowed to exceed their useful life they become much more susceptible to break-downs, which may increase operating costs and decrease the reliability of scheduled service. With some exceptions for defective vehicles, DRPT/FTA funds are not typically available to replace vehicles that have not yet met the useful life criteria. The FTA's vehicle useful life policy for a number of different vehicle types is shown in Table 5-1. DRPT's useful life policy mirrors the FTA's useful life policy.

Table 5-1: FTA's Rolling Stock Useful Life Policy

Vehicle Type	Useful Life
Light Duty Vans, Sedans, Light Duty Buses and All Bus Models Exempt from Testing Under 49 CFR, part 665	Minimum of 4 Years or 100,000 Miles
Medium, Light Duty Transit Bus	Minimum of 5 Years or 150,000 Miles
Medium, Medium Duty Bus	Minimum of 7 Years or 200,000 Miles
Small, Heavy Duty Transit Bus	Minimum of 10 Years or 350,000 Miles
Large, Heavy Duty Transit Bus	Minimum of 12 Years or 500,000 Miles

Source: FTA Circular 5100.1: Bus and Bus Facilities Formula Program Guidance

Vehicle Replacement Plan – Baseline Estimate

The majority of HDPT's revenue service vehicles are heavy-duty buses, with a useful life of twelve years or 500,000 miles. These vehicles have diesel engines. HDPT also has nine body-on-chassis paratransit vehicles and two wheelchair accessible minivans. The body-on-chassis and minivans are fueled with gasoline and are five-year vehicles. Given HDPT's relatively compact service area, HDPT vehicles typically reach replacement age rather than replacement mileage.

Table 5-2 provides the existing fleet inventory with the estimated calendar year that each vehicle is eligible for replacement. The operating condition of the vehicles and the availability of funding will dictate the actual replacement year. While budgets are typically presented following fiscal years, vehicle models are typically associated with calendar years. This plan reflects this practice, with the vehicle replacement schedule presented by calendar year and the budgets presented by fiscal year.

In addition to helping HDPT and DRPT plan future fleet needs, this vehicle replacement plan will also feed DRPT's transit asset management plan (TAM), which is an FTA-required plan that must include an asset inventory; condition assessments of inventoried assets; and a prioritized list of investments to improve the state of good repair of its capital assets.[2] The new TAM requirements establish state of good repair standards and four state of good repair performance measures. HDPT is required to set performance targets for its capital assets based on the state of good repair measures and the condition of its capital assets, and report these to the National Transit Database.

[2] Federal Register, Volume 81, No. 143, Tuesday July 26, 2016, Rules and Regulations, DOT, FTA, 49 CFR Parts 625 and 630, Transit Asset Management; National Transit Database.

Table 5-2: HDPT Vehicle Inventory and Replacement Schedule

Inventory Number	Make and Model	Year	Type	Seats	Vehicle Mileage (January 2017)	Proposed Replacement Year
2001	Gillig G27B102N4	2008	Bus	32	175,355	2020
2002	Gillig G27B102N4	2008	Bus	32	200,049	2020
2003	Gillig G27B102N4	2008	Bus	32	181,044	2020
2004	Gillig G27B102N4	2008	Bus	32	192,689	2020
2005	Gillig G27B102N4	2008	Bus	32	170,715	2020
2006	Gillig G27B102N4	2008	Bus	32	135,668	2020
2007	Gillig G27B102N4	2009	Bus	32	134,902	2021
2008	Gillig G27B102N4	2009	Bus	32	145,156	2021
2009	Gillig G27B102N4	2009	Bus	32	150,150	2021
2010	Gillig G27B102N4	2009	Bus	32	134,287	2021
2011	Gillig G27B102N4	2009	Bus	32	136,879	2021
2012	Gillig G27B102N4	2009	Bus	32	143,928	2021
2013	Gillig G27B102N4	2009	Bus	32	127,625	2021
2014	Gillig G27B102N4	2009	Bus	32	144,180	2021
2015	Gillig G27B102N4	2011	Bus	32	138,568	2023
2016	Gillig G27B102N4	2011	Bus	32	166,283	2023
2017	Gillig G27B102N4	2011	Bus	32	166,984	2023
2018	Gillig G27B102N4	2011	Bus	32	156,442	2023
2019	Gillig G27B102N4	2011	Bus	32	155,681	2023
2020	Gillig G27B102N4	2011	Bus	32	156,814	2023
2021	Gillig G27B102N4	2011	Bus	32	136,605	2023
2022	Gillig G27B102N4	2013	Bus	29	67,829	2025
2023	Gillig G27B102N4	2013	Bus	29	70,460	2025
2024	Gillig G27B102N4	2014	Bus	29	44,508	2026
2025	Gillig G27B102N4	2014	Bus	29	54,762	2026
2026	Gillig G27B102N4	2014	Bus	29	46,872	2026
2027	Gillig G27B102N4	2015	Bus	29	32,322	2027
2028	Gillig G27B102N4	2015	Bus	29	34,698	2027
2029	Gillig G27B102N4	2015	Bus	29	27,917	2027
2030	Gillig G27B102N4	2015	Bus	29	18,253	2027
2031	Gillig G27B102N4	2016	Bus	29	3,147	2028
2032	Gillig G27B102N4	2016	Bus	29	3,293	2028
2033	Gillig G27B102N4	2016	Bus	29	2,999	2028

Inventory Number	Make and Model	Year	Type	Seats	Vehicle Mileage (January 2017)	Proposed Replacement Year
2034	Gillig G27B102N4	2016	Bus	29	3,241	2028
2035	Gillig G27B102N4	2016	Bus	29	3,736	2028
2036	Gillig G27B102N4	2016	Bus	29	2,949	2028
2037	Gillig G27B102N4	2016	Bus	29	3,032	2028
2038	Gillig G27B102N4	2016	Bus	29	3,067	2028
2047	Gillig G27B102N4	2007	Bus	32	89,325	2019
2070	Chevrolet 4500 Express	2014	BOC	13	45,249	2019
2071	Chevrolet 4500 Express	2014	BOC	13	48,232	2019
2074	Chevrolet C450	2013	BOC	13	76,991	2019
2077	Ford E450	2010	BOC	19	97,881	2018
2078	Chevrolet C450	2013	BOC	17	69,070	2019
2079	Ford E450 / Starcraft	2015	BOC	14	26,957	2020
2080	Ford E450 / Starcraft	2015	BOC	14	21,277	2020
2081	Ford E450 / Starcraft	2015	BOC	14	16,766	2020
2082	Ford E450 / Starcraft	2015	BOC	14	22,968	2020
2083	Dodge Braun Caravan	2015	Van	5	6,082	2021
2084	Dodge Braun Caravan	2016	Van	5	3,100	2021
2085	Ford E450/Starcraft	2017	BOC	17	1,021	2023

Vehicle Replacement and Expansion Plan

The annual schedule for vehicle replacement and expansion, based on the implementation schedule provided in Chapter 5 and the FTA's vehicle useful life standards, is shown in Table 5-3. The expansion vehicles shown for FY2018 are programmed for use by HDPT to support additional service to new apartment complexes that house JMU students.

This vehicle replacement and expansion schedule is based on estimates; actual vehicle purchases may vary depending upon service changes, funding availability, and unexpected economic shifts. Changes to this vehicle replacement and expansion schedule can be made by HDPT within its annual TDP update letter to DRPT, if needed. As shown in the table, the most number of vehicle purchases are scheduled for FY2020 and FY2021. In addition, given that the TDP planning period is now ten years, the paratransit vehicles purchased in FY2018, FY2019, FY2020, and FY2021 will likely need to be replaced in years 6-10 of the current plan.

Table 5-3: Vehicle Replacement and Expansion Schedule

Year	Number of Vehicles		
	Replacement	Expansion	Total
FY 2018	1	2	**3**
FY 2019	4	0	**4**
FY 2020	10	0	**10**
FY 2021	10	0	**10**
FY 2022	0	2	**2**
FY 2023	7	0	**7**
FY 2024	1	2	**3**
FY 2025	6	2	**8**
FY 2026	7	2	**9**
FY 2027	6	0	**6**

Estimated Vehicle Costs

The estimated vehicle replacement costs are presented in Table 5-4. These costs are based on vehicle costs experienced throughout the commonwealth as referenced in the FY2018 Six Year Improvement Program (SYIP). For FY2019 to FY2027 a 4% inflationary factor was applied, as per guidance found in the "DRPT Transit Development Plan Requirements, February 2017." These cost estimates were used to develop the capital budget, which is included with the Financial Plan in Chapter 6. The plan includes the replacement of 52 vehicles and ten expansion vehicles. Potential funding sources for the replacement and expansion vehicles include FTA Section 5307 funds, DRPT's Mass Transit Trust Fund and Mass Transit Capital Fund, Surface Transportation Program (STP) funds, and local funds, which include funds from the City of Harrisonburg, James Madison University, and private apartment developers. All service vehicles purchased will be lift or ramp-equipped. Bicycle racks are purchased for all vehicles, with the exception of those vehicles used for ADA paratransit.

Table 5-4: Estimated Costs of New Vehicles

Fiscal Year	35-Foot, Low-Floor Heavy Duty Transit Bus - Diesel	Paratransit Vehicle - Gasoline
2018	$420,000	$65,000
2019	$436,800	$67,600
2020	$454,272	$70,304
2021	$472,443	$73,116
2022	$491,341	$76,041
2023	$510,994	$79,082
2024	$531,434	$82,246
2025	$552,691	$85,536
2026	$574,799	$88,957
2027	$597,791	$92,515

Facilities

An important project for HDPT, scheduled to begin in FY2018, is the development of a passenger transfer center and park and ride lot. As discussed in Chapter 4, this facility will serve two primary purposes: 1) provide a safe location for HDPT fixed route buses to meet for transfer opportunities; and 2) develop a park and ride lot for the City of Harrisonburg. The preliminary planning budget estimate for the project is $5 million. More precise cost information can be provided by HDPT via the annual TDP letter and grant application when a specific parcel of land is chosen and a preliminary design completed.

Passenger Amenities

The provision of additional passenger shelters and benches is included in the six-year plan. A budget of $20,000 is included for each plan year. This level of funding should allow HDPT to add shelters, benches, and other bus stop amenities over the course of the ten-year period.

Technology and Equipment

HDPT has recently implemented a replacement for the real-time information technology that was purchased in 2011. The new system (Avail Technologies) includes real-time customer information (including a smart phone application), mobile data terminals for drivers to use for a variety of data collection needs, and automatic passenger counters. The system was purchased in FY2017, with implementation beginning in the summer of 2017 and full implementation with the start of the JMU academic year in August 2017.

Given that the mobile data terminals will provide much of the same data that is collected via electronic fareboxes, and there is a relatively small amount of cash collected on board the vehicles, the plan does not include the purchase of electronic fareboxes.

The routine replacement of computer hardware and software is included in the plan, as are shop equipment and spare parts.

Chapter 6
Financial Plan

INTRODUCTION

This chapter provides a financial plan for funding existing and proposed Harrisonburg Department of Public Transportation (HDPT) services for the TDP's ten-year planning period. The projects indicated in Years 1-3 should be considered short-term, those in Years 4-7 are considered mid-term, and those planned for years 8 through 10 should be considered long-term projects. The financial plan addresses both operations and capital budgets, focusing on the project and capital recommendations that were highlighted in Chapter 4 and the implementation schedule and capital needs highlighted in Chapter 5. It should be noted that over the course of the ten-year period there are a number of unknown factors that could affect transit finance, including: the future economic condition of the City of Harrisonburg, James Madison University, and the Commonwealth of Virginia; the availability of funding from the Federal Transit Administration; the Commonwealth Transportation Fund; local sources; and the results of the 2020 U.S. Census. In addition, the Virginia Department of Rail and Public Transportation (DRPT) is currently conducting a financial planning study to determine the most feasible way to replace revenue bonds that expired in Fy2016 and had been used to fund transit capital projects. The decisions made based on the funding study will affect future transit capital funding scenarios.

OPERATING EXPENSES AND FUNDING SOURCES

Tables 6-1 and 6-2 provide a financial plan for the operation of HDPT's services under the ten-year plan. Table 6-1 summarizes the annual revenue hours of service for the existing transit program as well as for the service projects that are recommended. Table 6-2 provides operating cost estimates, and Table 6-3 identifies the funding sources associated with these service projects. A number of assumptions used in developing the operating cost estimates are described below.

For FY2018, the first year of the plan, the expenses and revenues are based on HDPTs adopted budget for the fiscal year. The projected cost per revenue hour and the operating costs to maintain the current level of service between FY2019 and FY2027 assume a 3% annual inflation rate. It is understood that none of the funding partners (DRPT, the city, JMU, and other local partners) are committing to these funding levels, but that they are planning estimates. Specific funding amounts for each year will be determined during the annual SYIP adoption and budget cycle for the Commonwealth of Virginia and the City of Harrisonburg.

Table 6-1: HDPT TDP Financial Plan for Operations – Planned Revenue Hours

Projects	Current Year Budget FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027
Projected Incremental Annual Revenue Hours										
Current Level of Service	**77,774**	**77,774**	**77,774**	**77,774**	**77,774**	**77,774**	**77,774**	**77,774**	**77,774**	**77,774**
Schedule Improvements										
#1 - Add service later on City Routes	0	4,990	4,990	4,990	4,990	4,990	4,990	4,990	4,990	4,990
#2 - Operate full schedule on Saturdays for City Routes	0	1,092	1,092	1,092	1,092	1,092	1,092	1,092	1,092	1,092
#3 - Start the City routes earlier in the morning	0	-	1,530	1,530	1,530	1,530	1,530	1,530	1,530	1,530
#4 - Operate service on Sundays	0	-	-	2,704	2,704	2,704	2,704	2,704	2,704	2,704
Route Improvements										
#1 Downtown/JMU/Event Circulator (Route 210/505)	Replaced the previous Route 35 - no net additional hours									
#2 - Adjust Route 4	0	-	-	-	-	-	-	-	-	-
#3 - Daily route to Dayton/Bridgewater/Mt. Crawford	0	-	-	-	3,060	3,060	3,060	3,060	3,060	3,060
#4 - Reverse loop for Routes 1 and 3	0	-	-	-	-	-	-	7,000	7,000	7,000
Total Transit Revenue Hours	**77,774**	**83,856**	**85,386**	**88,090**	**91,150**	**91,150**	**91,150**	**98,150**	**98,150**	**98,150**

Table 6-2: HDPT TDP Financial Plan for Operations – Annual Operating Expenses

Projects	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027
Projected Operating Expenses										
Cost Per Revenue Hour	$63.63	$65.54	$67.51	$69.53	$71.62	$73.77	$75.98	$78.26	$80.61	$83.03
Current Level of Service	$4,949,079	$5,097,551	$5,250,478	$5,407,992	$5,570,232	$5,737,339	$5,909,459	$6,086,743	$6,269,345	$6,457,426
Schedule Improvements										
#1 - Add service later on City Routes	$0	$327,059	$336,871	$346,977	$357,387	$368,108	$379,151	$390,526	$402,242	$414,309
#2 - Operate full schedule on Saturdays for City Routes	$0	$71,573	$73,720	$75,932	$78,210	$80,556	$82,973	$85,462	$88,026	$90,666
#3 - Start the City routes earlier in the morning	$0	$0	$103,289	$106,388	$109,579	$112,867	$116,253	$119,740	$123,333	$127,033
#4 - Operate service on Sundays	$0	$0	$0	$188,021	$193,662	$199,472	$205,456	$211,620	$217,968	$224,507
Route Improvements										
#1 Downtown/JMU/Event Circulator (Route 210/Route 505)	Replaced the previous Route 35 - no net additional operating expenes									
#2 - Adjust Route 4	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
#3 - Daily route to Dayton/Bridgewater/Mt. Crawford	$0	$0	$0	$0	$219,159	$225,734	$232,506	$239,481	$246,665	$254,065
#4 - Reverse loop for Routes 1 and 3	$0	$0	$0	$0	$0	$0	$0	$547,832	$564,267	$581,195
Planning and Marketing Projects										
Marketing #1 - Full system map	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Marketing #2 - Education for JMU students	$0	$5,000	$5,150	$5,305	$5,464	$5,628	$5,796	$5,970	$6,149	$6,334
Planning #1 - JMU route optimization	$0	$100,000	$0	$0	$0	$0	$0	$0	$0	$0
Planning #2 - UDA service planning	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Planning #3 - Route extensions into Rockingham County	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Projected Operating Expenses	**$4,949,079**	**$5,601,184**	**$5,769,508**	**$6,130,615**	**$6,533,692**	**$6,729,703**	**$6,931,594**	**$7,687,374**	**$7,917,995**	**$8,155,535**
% Change Year by Year		**13%**	**3%**	**6%**	**7%**	**3%**	**3%**	**11%**	**3%**	**3%**

Table 6-3: HDPT Financial Plan for Operations – Annual Operating Funding and Revenue

Anticipated Funding Sources	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027
Section 5307	$1,455,962	$1,730,638	$1,782,557	$1,836,034	$1,891,115	$1,947,848	$2,006,284	$2,337,977	$2,408,117	$2,480,360
State										
Formula Assistance	$1,319,254	$1,452,000	$1,495,560	$1,540,427	$1,586,640	$1,634,239	$1,683,266	$1,733,764	$1,785,777	$1,839,350
Local										
Fares and Contracts	$1,957,156	$2,045,871	$2,117,247	$2,190,764	$2,277,487	$2,345,812	$2,416,186	$2,538,672	$2,614,832	$2,693,277
Advertising	$80,000	$82,400	$84,872	$87,418	$90,041	$92,742	$95,524	$98,390	$101,342	$104,382
Local Funds	$136,707	$290,275	$289,272	$475,972	$688,410	$709,062	$730,334	$978,571	$1,007,929	$1,038,166
Total Projected Operating Funds	**$4,949,079**	**$5,601,184**	**$5,769,508**	**$6,130,615**	**$6,533,692**	**$6,729,703**	**$6,931,594**	**$7,687,374**	**$7,917,995**	**$8,155,535**

CAPITAL EXPENSES AND FUNDING SOURCES

Replacement and Expansion Vehicle Expenses and Funding

Table 6-4 offers the financial plan for Tier 1 projects including vehicle expansion and replacement over the ten-year period.

Eligible activities for funding under Tier 1 include[1]:

- Replacement and expansion vehicles
- Assembly line inspection
- Fare collection equipment
- Automated passenger counters
- On-vehicle radios and communication equipment
- Surveillance cameras
- Aftermarket installation of farebox, radios, and surveillance cameras
- Vehicle tracking hardware and software
- Rebuilds and mid-life repower of rolling stock

Over this plan's ten-year timeline a total of ten expansion and 52 replacement vehicles are recommended. These vehicles are ordered with bicycle racks and manual fareboxes.

Federal and state matching ratios for Tier 1 projects are currently as follows: federal – 80%; state – 16%.

[1] DRPT FY2015 Revised Budget. http://www.drpt.virginia.gov/media/1293/fy15-drpt-agency-budget-revised.pdf

Table 6-4: Tier 1 Projected Capital Expenses and Funding

Type of Vehicle	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027
Replacement										
Heavy Duty	0	0	6	8	0	7	0	2	3	4
Paratransit	1	4	4	2	0	0	1	4	4	2
Expansion										
Heavy Duty	2	0	0	0	2	0	2	2	2	0
Sub-Total Vehicles	**3**	**4**	**10**	**10**	**2**	**7**	**3**	**8**	**9**	**6**
Vehicle Costs										
Replacement	$65,000	$270,400	$3,006,848	$3,925,776	$0	$3,576,958	$82,246	$1,447,526	$2,080,225	$2,576,194
Expansion	$840,000	$0	$0	$0	$982,682	$0	$1,062,868	$1,105,382	$1,149,598	$0
Sub-Total Vehicle Costs	**$905,000**	**$270,400**	**$3,006,848**	**$3,925,776**	**$982,682**	**$3,576,958**	**$1,145,114**	**$2,552,908**	**$3,229,823**	**$2,576,194**
Radios	$15,000	$15,600	$16,224	$16,873	$8,436	$0	$9,125	$9,490	$9,869	$10,264
Sub-Total Tier One	**$920,000**	**$286,000**	**$3,023,072**	**$3,942,649**	**$991,118**	**$3,576,958**	**$1,154,239**	**$2,562,398**	**$3,239,692**	**$2,586,458**
Anticipated Funding Sources - Current Federal/State/Local Matching Ratios										
Federal	$736,000	$228,800	$2,418,458	$3,154,119	$792,895	$2,861,566	$923,391	$2,049,918	$2,591,754	$2,069,167
State	$147,200	$45,760	$483,692	$630,824	$158,579	$572,313	$184,678	$409,984	$518,351	$413,833
Local	$36,800	$11,440	$120,923	$157,706	$39,645	$143,078	$46,170	$102,496	$129,588	$103,458
Total Funding	**$920,000**	**$286,000**	**$3,023,072**	**$3,942,649**	**$991,118**	**$3,576,958**	**$1,154,239**	**$2,562,398**	**$3,239,692**	**$2,586,458**

Infrastructure Facilities Expenses and Funding

Table 6-5 provides the financial plan for infrastructure facilities, considered Tier 2 capital projects. Eligible activities under this funding tier include[2]:

- Construction of infrastructure or facilities for transit purposes
- Real estate used for a transit purpose
- Signage
- Surveillance/security equipment for facilities
- Rehabilitation or renovation of infrastructure and facilities
- Major capital projects

The focus of the Tier 2 projects for HDPT is to improve passenger facilities, including the planned transfer center and park and ride lot and additional shelters and benches. In order to help improve bus stops throughout the service area, a budget of $20,000 per year of the TDP was included. Estimated unit costs for bus stop improvements (e.g. shelters and benches) are shown in Table 6-6.

Federal and state matching ratios for Tier 2 projects are currently as follows: federal – 80%; state – 16%. These are the ratios that have been used for Table 6-5; however, it should be noted that DRPT has indicated that there may not be this level of state support in the future for Tier 2 projects and HDPT may need to be prepared to supply up to a 20% match for these projects.

[2] DRPT FY2015 Revised Budget. http://www.drpt.virginia.gov/media/1293/fy15-drpt-agency-budget-revised.pdf

Table 6-5: Tier 2 Projected Capital Expenses and Funding

Capital Need	FY 2018	FY 2019	FY 2020	FY 2021	FY2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Transit Infrastructure Facilities										
Transfer center and Park and Ride Lot	$500,000	$1,000,000	$3,500,000	$0	$0	$0	$0	$0	$0	$0
Additional shelters and benches	$20,000	$20,800	$21,632	$22,497	$23,397	$24,333	$25,306	$26,319	$27,371	$28,466
Total Costs	**$520,000**	**$1,020,800**	**$3,521,632**	**$22,497**	**$23,397**	**$24,333**	**$25,306**	**$26,319**	**$27,371**	**$28,466**
Anticipated Funding Sources- Current Federal/State/Local Matching Ratios										
Federal	$416,000	$816,640	$2,817,306	$17,998	$18,718	$19,466	$20,245	$21,055	$21,897	$22,773
State	$83,200	$163,328	$563,461	$3,600	$3,744	$3,893	$4,049	$4,211	$4,379	$4,555
Local	$20,800	$40,832	$140,865	$900	$936	$973	$1,012	$1,053	$1,095	$1,139
Total Funding	**$520,000**	**$1,020,800**	**$3,521,632**	**$22,497**	**$23,397**	**$24,333**	**$25,306**	**$26,319**	**$27,371**	**$28,466**

Table 6-6: Bus Stop Improvement Costs

Improvement	Unit Cost
Shelter (installed)	$5,000 - $10, 000
Bench (installed)	$1,500 - $2,500
4' Wide Sidewalk	$17.50 - $25.00 per linear foot
Bicycle Racks	$200 - $500
Curb Ramps	$2,000 - $2,500

Other Capital Expenses and Funding Sources

Other capital expenses, considered Tier 3 capital projects, are presented in Table 6-7. Capital projects eligible for funding under this tier include[3]:

- All support vehicles
- Shop equipment
- Spare parts
- Hardware and software not installed on a vehicle
- Project development expenses for capital projects
- Office furniture and other equipment
- Handheld radios
- Landscaping
- Other transit-related capital items

Federal and state matching ratios for Tier 3 projects are currently as follows: federal – 80%; state – 16%. These are the ratios that have been used for Table 6-7; however, it should be noted that DRPT has indicated that there may not be this level of state support in the future for Tier 3 projects and HDPT may need to be prepared to supply up to a 20% match for these projects.

Table 6-7: Tier 3 Projected Capital Expenses and Funding

Other Capital	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Shop Equipment/Parts	$15,000	$15,450	$15,914	$16,391	$16,883	$17,389	$17,911	$18,448	$19,002	$19,572
Technology Equipment	$10,000	$10,300	$10,609	$10,927	$11,255	$11,593	$11,941	$12,299	$12,668	$13,048
Subtotal, Equipment	**$25,000**	**$25,750**	**$26,523**	**$27,318**	**$28,138**	**$28,982**	**$29,851**	**$30,747**	**$31,669**	**$32,619**
Anticipated Funding Sources - Current Federal/State/Local Matching Ratios										
Federal	$20,000	$20,600	$21,218	$21,855	$22,510	$23,185	$23,881	$24,597	$25,335	$26,095
State	$4,000	$4,120	$4,244	$4,371	$4,502	$4,637	$4,776	$4,919	$5,067	$5,219
Local	$1,000	$1,030	$1,061	$1,093	$1,126	$1,159	$1,194	$1,230	$1,267	$1,305
Total Funding	**$25,000**	**$25,750**	**$26,523**	**$27,318**	**$28,138**	**$28,982**	**$29,851**	**$30,747**	**$31,669**	**$32,619**

Total Capital Expenses over TDP Timeframe

Table 6-8 presents a summary of the total capital program categorized by tier for the TDP period. Under each tier, the projects are listed by fiscal year. Actual project implementation will be determined each year based on available funds. As indicated in Table 6-8, FY2020 is programmed to need the largest level of capital funds, with construction of the transfer center and park and ride lot, as well as a significant number of vehicle replacements.

As previously discussed, DRPT has indicated that state capital funding may not be available for Tier 2 and 3 projects and HDPT should be prepared to match those projects at 20%.

Table 6-8: HDPT Capital Budget- FY2018-FY2027

	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027
Tier 1 Costs										
Replacement	$65,000	$270,400	$3,006,848	$3,925,776	$0	$3,576,958	$82,246	$1,447,526	$2,080,225	$2,576,194
Expansion	$840,000	$0	$0	$0	$982,682	$0	$1,062,868	$1,105,382	$1,149,598	$0
Radios	$15,000	$15,600	$16,224	$16,873	$8,436	$0	$9,125	$9,490	$9,869	$10,264
Sub-Total Cost	**$920,000**	**$286,000**	**$3,023,072**	**$3,942,649**	**$991,118**	**$3,576,958**	**$1,154,239**	**$2,562,398**	**$3,239,692**	**$2,586,458**
Tier 2 Costs										
Transfer Center and Park and Ride	$500,000	$1,000,000	$3,500,000	$0	$0	$0	$0	$0	$0	$0
Additional Shelters and Benches	$20,000	$20,800	$21,632	$22,497	$23,397	$24,333	$25,306	$26,319	$27,371	$28,466
Sub-Total Cost	**$520,000**	**$1,020,800**	**$3,521,632**	**$22,497**	**$23,397**	**$24,333**	**$25,306**	**$26,319**	**$27,371**	**$28,466**
Tier 3 Costs										
Shop Equipment/Parts	$15,000	$15,450	$15,914	$16,391	$16,883	$17,389	$17,911	$18,448	$19,002	$19,572
Technology Equipment	$10,000	$10,300	$10,609	$10,927	$11,255	$11,593	$11,941	$12,299	$12,668	$13,048
Sub-Total Cost	**$25,000**	**$25,750**	**$26,523**	**$27,318**	**$28,138**	**$28,982**	**$29,852**	**$30,747**	**$31,670**	**$32,620**
Total Capital Cost	**$1,465,000**	**$1,332,550**	**$6,571,227**	**$3,992,464**	**$1,042,653**	**$3,630,273**	**$1,209,397**	**$2,619,464**	**$3,298,733**	**$2,647,544**
Anticipated Funding Sources - Current Federal/State/Local Matching Ratios										
Federal	$1,172,000	$1,066,040	$5,256,982	$3,193,971	$834,122	$2,904,218	$967,518	$2,095,571	$2,638,986	$2,118,035
State	$234,400	$213,208	$1,051,396	$638,794	$166,824	$580,844	$193,504	$419,114	$527,797	$423,607
Local	$58,600	$53,302	$262,849	$159,699	$41,706	$145,211	$48,376	$104,779	$131,949	$105,902
Total Funding	**$1,465,000**	**$1,332,550**	**$6,571,227**	**$3,992,464**	**$1,042,653**	**$3,630,273**	**$1,209,397**	**$2,619,464**	**$3,298,733**	**$2,647,544**

Appendix A: Survey Instruments

FIXED ROUTE ON-BOARD RIDER SURVEY

Harrisonburg Department of Public Transportation (HDPT) is seeking input concerning our services. Please take a minute to complete this survey during your bus trip. Please complete only one survey. Thank you!

1. Which HDPT route did you board?

_____

2. How many HDPT buses will it take to complete this one-way trip today?

❑ 1 ❑ 2 ❑ 3 ❑ 4+

3. Where did you board the bus? Please indicate the address, intersection, or landmark:

_____

4. Where is your destination? Please indicate the address, intersection, or landmark:

_____

5. What is the purpose of your trip today?
You may check more than one.

❑ Work ❑ School
❑ Social/Recreation ❑ Medical/Dental
❑ Shopping/Errands ❑ Tourism
❑ Child Care ❑ Other

6. How did you get to the bus stop for this bus?
You may check more than one.

❑ Walked – How many blocks? _____
❑ Another bus – Which route? _____
❑ Car – Drove Alone ❑ Car - Carpooled
❑ Bicycle
❑ Other: _____

7. How will you get to your final destination once off the bus? *You may check more than one.*

❑ Walk – How many blocks? _____
❑ Another bus – Which route? _____
❑ Car – Drive Alone ❑ Car - Carpool
❑ Bicycle
❑ Other: _____

8. If you walked to and from your bus stop(s), did you see a need for improvements to any of the following pedestrian amenities? (please check all that apply)

Yes: ❑ Sidewalks ❑ Crosswalks ❑ Curb ramps No: ❑ I did not see a need for improvements

Location(s) of needed improvements:_____

9. Please rate HDPT in the following areas:

		Strongly Satisfied	Satisfied	Neutral	Dis-satisfied	Strongly Dis-satisfied	No Opinion
a.	Frequency of Bus Service	❑	❑	❑	❑	❑	❑
b.	Areas that are Served by Bus Routes	❑	❑	❑	❑	❑	❑
c.	Bus Running On-Time	❑	❑	❑	❑	❑	❑
d.	Hours of Bus Service	❑	❑	❑	❑	❑	❑
e.	Availability of Transit Information	❑	❑	❑	❑	❑	❑
f.	Cost of the Bus Fare	❑	❑	❑	❑	❑	❑
g	Sense of Safety/Security on Buses	❑	❑	❑	❑	❑	❑
h.	Sense of Safety/Security at Stops	❑	❑	❑	❑	❑	❑
i.	Cleanliness of Buses and Stations	❑	❑	❑	❑	❑	❑
j	Courtesy/Friendliness of Bus Drivers	❑	❑	❑	❑	❑	❑
k	Overall Service	❑	❑	❑	❑	❑	❑

10. Do you find the HDPT public information helpful and easy to use? ❑ Yes ❑ No

What can HDPT do to improve public information: _____

Turn Over Please ☞

11. What do you like the <u>MOST</u> about HDPT?

_____

12. What do you like the <u>LEAST</u> about HDPT?

_____

13. Are there places in the region that you need to go that HDPT does not serve?
❑ Yes ❑ No

If yes, where?

_____

14. Do you think HDPT is a good value for the services you receive? ❑ Yes ❑ No

15. If HDPT were to make one service improvement, what would you request?

_____

16. If a bus service were to be available that connected Harrisonburg, Staunton, Waynesboro, and Charlottesville, would you use it?

❑ Yes ❑ No

---

17. How often do you typically ride HDPT per week?
❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5+

18. Are you: ❑ Male ❑ Female

19. How many people live in your household? _____

20. What is your age?
❑ 12 or younger ❑ 35 – 49
❑ 13 – 17 ❑ 50 – 64
❑ 18 – 24 ❑ 65 and older
❑ 25 – 34

21. Do you have a valid driver's license?
❑ Yes ❑ No

22. How many cars are in your household?
❑ 0 ❑ 1 ❑ 2 ❑ 3 or more

23. Was a car available to you for this trip?
❑ Yes ❑ No

24. Do you have a cell phone or other portable device with Internet access?
❑ Yes ❑ No

25. Are you affiliated with any of the following institutions? Please check all that apply.
❑ James Madison University (JMU)
❑ Eastern Mennonite University (EMU)
❑ Blue Ridge Community College (BRCC)

26. What is your employment status?
You may check more than one.
❑ Employed Full-Time ❑ Employed Part-Time
❑ Student ❑ Retired
❑ Not Employed

27. What is your total annual household income?
❑ Under $20,000 ❑ $60,000 - $79,999
❑ $20,000-$39,999 ❑ Over $80,000
❑ $40,000 - $59,999 ❑ Don't Know

28. Are you of Hispanic origin?
❑ Yes ❑ No

29. Do you speak a language other than English at home? ❑ Yes ❑ No

If yes, what is this language?

_____

For example: Spanish, Korean, Chinese

If yes, how well do you speak English?
❑ Very Well ❑ Well ❑ Not Well ❑ Not at All

30. How would you classify yourself?
❑ African American/Black
❑ Asian or Pacific Islander
❑ Caucasian/White
❑ Native American
❑ Other: _____

Comments:

_____

_____

_____

PARATRANSIT ON-BOARD RIDER SURVEY

Harrisonburg Department of Public Transportation (HDPT) is seeking input concerning our services. Please take a minute to complete this survey during your bus trip. Please complete only one survey. Thank you!

1. **Do you sometimes ride HDPT fixed route buses?**
   ❑ Yes ❑ No

2. **What is the purpose of your trip today?** *You may check more than one.*
   ❑ Work ❑ School ❑ Shopping/Errands ❑ Tourism
   ❑ Social/Recreation ❑ Medical/Dental ❑ Child Care ❑ Other

3. **If you were not using HDPT paratransit, how would you most likely make your trip today?**
   ❑ Friend or family member would drive me ❑ I would take a taxi
   ❑ I would drive myself ❑ I would not make the trip
   ❑ Other: _____

4. **Where did your trip start?** Please indicate the street address, intersection, or landmark. *For example, if your trip started at home, please put your address or the closest intersection.*

   _____

5. **Where is your final destination?** Please indicate the street address, intersection, building, or landmark.

   _____

6. **Do you see a need for improvements to any of the following pedestrian amenities? (please check all that apply)**
   Yes: ☐ Sidewalks ☐ Crosswalks ☐ Curb ramps Location(s) of needed improvements:_____
   No: ☐ I did not see a need for improvements _____

7. **How often do you use paratransit service?**
   ❑ 5 days/week or more ❑ 1-4 days/week ❑ Less than 1 day/week (e.g., few times a month)

8. **How long have you been using this service?** ❑ 0 - 6 months ❑ 1 - 2 years ❑ 6 - 12 months ❑ More than 2 years

9. **Please rate HDPT in the following areas:**		Strongly Satisfied	Satisfied	Neutral	Dis-satisfied	Strongly Dis-satisfied	No Opinion
a	ADA Certification Process	❑	❑	❑	❑	❑	❑
b.	Trip Scheduling Process	❑	❑	❑	❑	❑	❑
c.	Telephone Customer Service	❑	❑	❑	❑	❑	❑
d.	Phone Wait Time	❑	❑	❑	❑	❑	❑
e.	On-time Performance	❑	❑	❑	❑	❑	❑
f.	Availability of Transit Information	❑	❑	❑	❑	❑	❑
g.	Cost of the Fare	❑	❑	❑	❑	❑	❑
h	Sense of Safety/Security on the Vehicles	❑	❑	❑	❑	❑	❑
i.	Sense of Safety/Security Waiting for the Vehicle	❑	❑	❑	❑	❑	❑
j.	Cleanliness of the Vehicles	❑	❑	❑	❑	❑	❑
k	Courtesy/Friendliness of Bus Drivers	❑	❑	❑	❑	❑	❑
l	Overall Service	❑	❑	❑	❑	❑	❑

10. **Do you find the HDPT public information helpful and easy to use?** ❑ Yes ❑ No

    What can HDPT do to improve public information? _____

Turn Over Please ☞☞☞

11. What do you like the <u>MOST</u> about HDPT?

_____

12. What do you like the <u>LEAST</u> about HDPT?

_____

13. If HDPT were to make one service improvement, what would be your top choice?

_____

14. Are there places in the region that you need to go that HDPT does not serve?

□ **Yes** □ **No**

If yes, where?

_____

15. If a bus service were to be available that connected Harrisonburg, Staunton, Waynesboro, and Charlottesville, would you use it?

□ Yes □ No

16. Do you think HDPT is a good value for the services you receive? ❑ Yes ❑ No

---

17. Are you: ❑ Male ❑ Female

18. How many people live in your household? _____

19. What is your age?

❑ 12 or younger
❑ 13 – 17
❑ 18 – 24
❑ 25 – 34
❑ 35 – 49
❑ 50 – 64
❑ 65 and older

20. Do you have a valid driver's license?

❑ Yes ❑ No

21. How many cars are in your household?

❑ 0 ❑ 1 ❑ 2 ❑ 3 or more

22. Was a car available to you for this trip?

❑ Yes ❑ No

23. Do you have a cell phone or other portable device with Internet access?

❑ Yes ❑ No

24. Are you affiliated with any of the following institutions? Please check all that apply.

❑ James Madison University (JMU)
❑ Eastern Mennonite University (EMU)
❑ Blue Ridge Community College (BRCC)

25. What is your employment status?

You may check more than one.

❑ Employed Full-Time
❑ Employed Part-Time
❑ Student
❑ Retired
❑ Not Employed

26. What is your total annual household income?

❑ Under $20,000
❑ $20,000-$39,999
❑ $40,000 - $59,999
❑ $60,000 - $79,999
❑ Over $80,000
❑ Don't Know

27. Are you of Hispanic origin?

❑ Yes ❑ No

28. Do you speak a language other than English at home? ❑ Yes ❑ No

If yes, what is this language?

_____

For example: Spanish, Korean, Chinese

If yes, how well do you speak English?

❑ Very Well ❑ Well ❑ Not Well ❑ Not at All

29. How would you classify yourself?

❑ African American/Black
❑ Asian or Pacific Islander
❑ Caucasian/White
❑ Native American
❑ Other: _____

Comments:

_____

_____

_____

Appendix B: Rider Survey Comments

COMMENTS

<3

865 East, UREC, Westport bus stops

A bus stop at 1888 Pear St for handicap/disabled would be great. Later hours of service past 7 pm would be great even when JMU is off because it interferes a lot with employment and needs.

A bus stop in front of Summit House, Pear St.

A lot of drivers don't stop at Wampler even when I pull the cord

A restaurant route would be nice.

Amazing service, friendly usually, love having this around especially during winter

Bus drivers are kind and helpful.

Bus to Charlottesville would be nice

Buses should be on time or slightly late, but never early or else I miss them

Connect apartment complexes

Don't ever ask me to survey again

Drivers are very nice and friendly everyday

Everything is good

Get better drivers. The guy driving now (Anthony) is amazing though. Bus 3, 9:44 am, Wed Nov 9. He needs a Good job, guys :)

Have more stops for important locations or those without sidewalks.

HDPT needs buses to run on Sundays and at nights. HDPT needs shelters at all of its bus stops!

I am very pleased with service

I did a presentation for my class on improving the bus system. I am interested in helping create a better mobile app for HDPT & JMU. Email me if I can help: gray3d1@dukes.jmu.edu

I enjoy the bus service, but I do think that something needs to be done about people that are not bus riders that hang out at the Gay St transfer hub. There should be a no loitering rule enforced on that location.

I hope this survey helps increase HDPT service. I hope you put the #3 stop inside the supermarket

I live in Pheasant Run and buses stop running before 7 pm. I'm usually on campus later than that and end up walking home. Would love a later bus, but other than that, Thanks!

I love the bus system! :)

I want to thank all the drivers because you bring me home safely. During the snow days and bad weather when you have to stop driving you make me go home safe and I'm really thankful for that. Thank you.

I would have had a good opportunity for a job off campus with good pay, but because the buses didn't run late enough I had to decline the position.

If there is profanity by bus riders, bus driver need to kick them off immediately. As a student, I find it terrible that city kids talk like that when they are provided free HDPT service.

It would be nice if the bus could come more frequently & have later hours. Also be more on time

It would be nice to have buses for the other nearby counties or towns

Love the bus system

Maintains schedule, efficient. Happy with service.

Need a stop closer to Rte. 42 Walmart. Too dangerous at present.

New student housing developments in Rockingham, as well as Sentara, Stone Port, Preston Lake areas just outside city limits need PT options

No sidewalks on N Main St & Vine St. No sidewalks at all on Vine St

PLEASE add more buses to come to Sun chase! There is only one bus (8) and two 8 buses on T-Th mornings

Please add night service!

Please clean up the hub and stop people from sitting in the shelters at night cause they on drugs. They also do drugs during the day.

Route 7 driver is the best
Run on Sundays. Some people work on Sundays but can't get to work
Seat belts for everyone, not just handicap
She has to stand sometimes
Smaller stops should be by a sidewalk/have paved ground for us. Put a clock at the sheltered bus stops & put programs/bus pamphlets at the stops too. Frequency of riders will increase.
Some drivers are very rude to "certain" customers. Sunday service, later routes, more frequent routes will increase in ridership and needed
Some drivers on my route are aggressive/too fast and I get carsick
Sunday routes and at night. Mr. Reggie Smith class of "72"
Sunday routes? Rte. 1-5 drivers friendly. 1 sub not at all. Rte. 4 is dangerous
Thanks for the great service!
The operation hours during the weekend is very inconvenient. No buses till 6 pm Saturday & 1 pm Sunday
Time management is my only issue BUT for me it's been a recurring big issue, specifically this semester.
We need bus services on Sundays, 9 am to 9:45 pm, 7 am Monday-Friday up to 9:45 pm, Saturdays fromm9 am to 9:45 pm. Raise prices to $2 regular fee, and $1 for disabled people. Provide monthly bus passes.
Would love to see a "health" route that is exclusively to medical centers in Harrisonburg.

Appendix C: Public Survey

Public Transportation Survey

The Harrisonburg Department of Public Transportation (HDPT) is conducting a Public Transportation Survey. Please help us learn more about community transportation needs in the City by completing this survey. Alternatively, you can complete this survey on-line at https://www.surveymonkey.com/r/Harrisonburg

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1. Have you completed a survey onboard the bus within the last month? ❑ Yes ❑ No

2. How do you ***usually*** get to where you need to go within the community for work, school, shopping, errands, or medical appointments? *Please rank the top 3 modes you use, with #1 being the one you use most frequently.*

____ I drive ____ I use public transportation ____I walk
____ Friends/family drive me ____ I ride a bicycle ____I take a taxi/Uber/Lyft

3. Do you currently use any of the following transportation services? *Please check all that apply and indicate how often you typically ride*

Service	**Frequency of Use**		
❑ HDPT fixed routes	❑ 5 days/week or more	❑ 1-4 days/week	❑ Less than 1 day/week
❑ HDPT paratransit	❑ 5 days/week or more	❑ 1-4 days/week	❑ Less than 1 day/week
❑ BRITE Bus – BRCC Shuttle	❑ 5 days/week or more	❑ 1-4 days/week	❑ Less than 1 day/week
❑ BRITE Bus – Other Routes	❑ 5 days/week or more	❑ 1-4 days/week	❑ Less than 1 day/week
❑ Valley Program for Aging Services	❑ 5 days/week or more	❑ 1-4 days/week	❑ Less than 1 day/week
❑ Home Ride or Green Shuttle (JMU)	❑ 5 days/week or more	❑ 1-4 days/week	❑ Less than 1 day/week
❑ Taxis/Uber/Lyft	❑ 5 days/week or more	❑ 1-4 days/week	❑ Less than 1 day/week
❑ Vanpools or carpools	❑ 5 days/week or more	❑ 1-4 days/week	❑ Less than 1 day/week
❑ Other: _____	❑ 5 days/week or more	❑ 1-4 days/week	❑ Less than 1 day/week

❑ I do not currently use public transportation

4. If you **DO** use public transportation, what are the primary reasons why you choose public transportation? *Please check all that apply*

❑ I do not have access to a vehicle
❑ I am unable to drive due to age or disability
❑ I do not have a driver's license
❑ It saves me time
❑ It saves me money
❑ For environmental reasons
❑ The bus is more convenient than other modes
❑ Other: _____

5. If you **DO NOT** use public transportation currently, **OR ARE ONLY ABLE TO USE IT FOR SOME TRIPS**, what transit service improvements would be needed for you to choose to ride public transportation more frequently? *Please check all that apply*

❑ Better service availability near my home/work/school- where: _____
❑ Improved access to transit information
❑ More frequent buses
❑ Improved regional connectivity
❑ Guaranteed ride home for emergencies/overtime
❑ Greater bicycle capacity
❑ Better security on board the vehicles
❑ Shorter travel time
❑ Service earlier in the morning
❑ Service later in the evening
❑ Less crowded vehicles
❑ Improved reliability
❑ I would not ride, I prefer to drive

OVER please ⟹

6. What is your zip code? _____

7. Do you have Internet access? ❑ Yes ❑ No

8. Have you visited the HDPT website in the last 12 months? ❑ Yes ❑ No

9. Are you a student, faculty, or staff member of any of the following area colleges/universities? *Please check all that apply*.

❑ James Madison University (JMU) ❑ Blue Ridge Community College (BRCC)
❑ Eastern Mennonite University (EMU) ❑ Bridgewater College
❑ No

10. How would you classify yourself?

❑ Caucasian/White ❑ African American/Black ❑ Native American ❑ Prefer not to say
❑ Bi-racial/multi-racial ❑ Asian/Pacific Islander ❑ Other

11. Are you of Hispanic origin? ❑ Yes ❑ No

12. Do you speak a language other than English at home? ❑ Yes ❑ No

If yes, what is this language? _____ (f*or example: Spanish, Korean, Arabic, etc.)*

13. How well do you speak English? ❑ Very Well ❑ Well ❑ Not Well ❑ Not at All

14. Are you: ❑ Male ❑ Female

15. Do you have a driver's license? ❑ Yes ❑ No

16. Do you have access to a vehicle? ❑ Yes ❑ No

17. Please indicate your age group

❑ Under 12 yrs. ❑ 12-17 yrs. ❑18-24 yrs. ❑ 25-34 yrs.
❑ 35 -49 yrs. ❑ 50 -64 yrs. ❑65 yrs. or older

18. Which of the following best describes your current employment status? *You may check more than one*

❑ Employed, full-time ❑ Student, full-time ❑ Retired ❑ Unemployed
❑ Employed, part-time ❑ Student, part-time ❑ Homemaker ❑ Other

19. What is your annual household income level? *Please check only one*

❑ $19,999 or less ❑ $40,000-$59,999 ❑ $80,000 or higher
❑ $20,000- $39,999 ❑ $60,000-$79,999 ❑ Don't know

20. Please provide any comments you may have concerning public transportation in the City.

Please return this survey to the collection box where you picked it up, or to HDPT, 475 E. Washington Street, Harrisonburg, Virginia. Contact: Gerald.Gatobu@harrisonburgva.gov

Thank you!

Appendix D: Public Survey Comments

- *More routes to run for the people who live here not just JMU. Also Sunday and service for people who work late and early shifts*
- *I think our transit system is clean and efficient and the drivers are considerate and friendly. I wish the hours could be extended for those who work evenings and Sundays.*
- *Change light cycle at N Main St and 33 East. No reason exists for this to have a dedicated "walk" both ways. Really it causes problems for no reason*
- *It is a great service to anyone needing transportation.*
- *I think there's should be more busses throughout the day rather than every hour. The bus system is only convenient for JMU students as everything else is in Harrisonburg.*
- *The buses should run later during the week. I get out of class at 6:45pm on Monday and Wednesdays and have to walk back to my car at dark.*
- *My biggest complaint is the frequency of buses. Sometimes after work I will be a couple minutes late to the bus stop (it comes 10 minutes after I am supposed to be done with work) and then it is a long wait for it to come around again. On days that I ride transit I have to carefully plan my time to make the bus.*
- *I have talked to many people who are unemployed who COULD and WOULD work if ONLY bus transportation started earlier so they could get BE at work at 7:00 or could be sure they could LEAVE work at 11:00 -and if bus transportation were available for housing projects in those areas,. More of those people would work and be employed. When I was without a car several years ago my options were limited because while the bus stop is outside my front door the buses didn't go past my house until AFTER 7:00.*
- *Please make an app that combines the NextBus app with a route showing where the bus is going and when. Also having more routes during the evening and on the weekends is needed. A bus that goes from JMU to downtown would be nice as well.*
- *I am a refugee volunteer. I would love to see a bus stop close to a grocery store. This is a huge obstacle for those in our community with no transportation.*
- *Needs to cover more territory as there are needs outside the city.*
- *I would use HDPT if routes were more convenient to get off campus and around the community. It is also challenging when students leave because the routes pretty much stop.*
- *More night routes needed and shuttle needed for hospital-patients being discharged who have no way to get home have been told they can pay for a cab or walk.*
- *As concern about the environment takes a higher priority, I consider reducing the vehicles owned and relying more on public transportation.*
- *I would definitely ride the bus if it were convenient. Thanks!*
- *The area would be well served by regular bus service to Dulles Airport. This could be a "by-reservation" service.*
- *I work for an agency that provides services to homeless/low-income persons. There is a big need for affordable transportation to large-scale employers such as RR Donnelly, plants on Pleasant Valley Rd., in Dayton, Bridgewater and even Broadway. There is a new business starting up, called WorkBus, but their prices are too high to be used on a regular basis. Many people who are not students use the BRCC shuttle to go to Staunton & Waynesboro- there again, a daily "Central Valley Shuttle" has potential to become very popular. Maybe the bus services of Winchester, Staunton and Harrisonburg would consider working together to provide something like that on a regular basis? We frequently have people who need to go to UVA for a doctor's*

appt., or to Charlottesville bus/train station. WorkBus charges 100.00 for a round trip! It costs a fraction of that to drive a car, but a reasonably priced bus has its advantages-- rather than fight the traffic, one can relax, read, eat, text. If the route became established, I would be one who would consider making my appointments and visits there according to the bus service. A weekly or twice-weekly service to Charlottesville and/or Richmond would also provide a Harrisonburg connection to Amtrak & Greyhound.

- *I don't currently have transportation needs personally but am concerned that access is improved for older adults and adults with disabilities or low income.*
- *Busses often do not come when they are supposed to. Also, certain places do not have a bus that comes to them frequently enough*
- *Sup*
- *There needs to be a drop off at the front of the hospital.*
- *More direct routes between frequently travelled areas instead of city-wide loops.*
- *I think overall it is an excellent service. Drivers are very professional.*
- *I live downtown and would like to be able to take a bus from home to school (JMU) but there aren't many options currently available. By having a bus that runs through campus and services downtown it could help boost economic activity in downtown Harrisonburg.*
- *I would love the ability to safely move around the city in more bike lanes or paths, over more public transit.*
- *I work on campus at JMU and frequently use HDPT to get around campus to meetings. Though my house is about a five minute drive to campus, there's not a route of any sort I can safely walk to -- and if I were to drive to a pick-up location, I'd spend at least 30-50 minutes on a route that would get me close to my office. It'd be great to have a dedicated route that went north-south on High St. (and Main St, too).*
- *Would be helpful to coordinate with Rockingham county for public transport from outside city into it. Including buses, biking, and pedestrian options*
- *"The paratransit bus is great but it is not available at my home, so I have to get a ride to and from the closest bus stop to ride to my job in Harrisonburg. That is the reason it is not used all the time by me" stated by my 32 year old son with Intellectual Delay.*
- *During the school year there is limited access to transit on the south end of the city. When JMU is not in session there are far fewer options for the transit. I feel that the transit needs to be more geared towards the actual city residents and not solely towards JMU. There are zero night time routes for city residents. All night time routes only go to campus and student housing. What about the rest of the city? If the transit is going to be geared towards JMU students/staff, why do they not have their own transit system so the rest of us can more easily utilize the other routes of the city?*
- *Why do high school students have to pay if they don't have their id ... I thought students were free and had to pay no charge. Some students that do night school in high school don't have an ID like its mad stupid.*
- *Route planning to replace some (or all) of the loops with end-to-end routes may make travel times shorter and enhance service to non-campus locations; aside from service ending too early in the evening for me to take after work, my trip would be twice as long on the way home as it is in the morning to work; 30-minute (or more) headways does not provide adequate service for non-work trips; from an equity standpoint, JMU should pay the same amount per trip as other riders especially because campus receives a disproportionate amount of service*
- *great services, great staff - primary "shortcoming" seems to be very early AM and late evening services are very limited when JMU isn't in session; also on Sunday*

- *Need a safe pedestrian crossing across Rte. 42 north at the harmony square Food Lion.*
- *Since very few JMU students use Paratransit, it should continue running at night when JMU is gone! I can't afford a taxi at night and I'm handicapped.*
- *Although I do not regularly use public transportation, I am happy to support this community resource. If I could use public transportation to access recreation areas such as the National Park or GWNF, I would.*
- *Just want to make clear that the thing I prefer to drive is my bike and not my car.*
- *The bus drivers are always friendly and the buses are careful around me when I'm walking and biking!*
- *I would like to travel between Bridgewater/Dayton/Harrisonburg on a separated bike path and/or bus.*
- *More bike lanes and sidewalks are the answer to so many transit questions.*
- *I find the published transit route information difficult to understand. I'm a visual person who reads maps well, but there is not a city map showing all the routes combined on one map so I can see what routes go close to where. I prefer seeing a map, rather than using an online app.*
- *I would love to use the bus more often to get to work but I don't know how long it will take and when the bus comes. Also, I would take my bicycle but I'm nervous about putting it on the front of the bus because I don't know how. I have also heard from clients that I work with that the bus service stops after 7pm and has a limited weekend schedule. Thank you for asking!*
- *The nextbus app is awful. There are way better apps out there if you all would open up your real time data... such as Transit App Inc.*
- *I am a professor at JMU, and every semester one of the courses I teach has a final exam time of 8:00 AM on the Saturday following the last day of JMU classes. (For example, this semester it will be Saturday, April 29, 2017. Last semester it was Saturday, December 9, 2016.) This exam time is assigned by JMU; each semester, it is the assigned exam time for about 12 sections of a history survey course, each of which has 110 students enrolled. However, the transit route Saturday schedule does not start early enough for the hundreds of students and faculty who need to arrive for an 8:00 A.M. exam. I request that HDPT consider starting service early on the first Saturday of the final exam period. Students have told me that the lack of bus service for the exam causes them significant difficulty. I appreciate the HDPT greatly. Thank you for the opportunity to participate in this survey.*
- *One thing I would like to see change is driving taking off before the passenger is seated. That is a good way for an injury to happen. Also, why do drivers prefer being late? A lot of times when I'm on a city route, if they are early, they'll sit at a stop for a couple minutes. Why? The busses are never running on time unless it's the very first hour or the very last so why does it matter if they are two or three minutes early?*
- *Service has really gone downhill. Drivers are hateful and drive like maniacs. They go fast and then slam on the brakes. Over and over*
- *I am concerned with the lack of available public transportation in the Greendale subdivision. I have a teenage son without a driver's license and the stop(s) over on Pleasant Valley Rd are not suitable or conveniently located for teenagers and others to access from Greendale.*
- *I would love to take transit more often, but the biggest hurdle for me is the start time. My job starts at 7:30am and the first bus doesn't stop near me until 7:15am and it's a 45min bus trip.*
- *A bus stop (even if just "On Demand") is needed somewhere in the Greendale Subdivision or along Greendale Rd before/at the intersection with Ramblewood. Children in the neighborhood could use access to a stop to be able to get to the Rec. Center. Current stops located on Pleasant Valley Road (past the new landfill entrance and railroad tracks) are not suitable.*

- *Even though I don't use public transportation often, it is extremely important to me that these services be as reliable, efficient and affordable as possible for the many in our community who are dependent on them.*
- *I would love to use public transportation and I would if it was convenient and I could get it at 7:30 am and take PT to the hospital for meetings from the Atrium. I grew up in a country where public transportation was regularly used by most people.*
- *I use the Paratransit service exclusively, due to not having access to a vehicle. I do not know how I would manage without it, as taxis & uber would be out of my price range for routine trips. I must say that the vast majority of drivers are pleasant, & make my day enjoyable. Thank you for such a wonderful service*
- *More buses*
- *For me, driving to work takes 5 minutes, taking a bus takes 22 minutes and walking takes 25 minutes (I'm too scared to ride a bike without proper bike lanes; so I don't even consider that 7 minute possibility). I imagine many others in the community are in the same boat as I: it simply doesn't make sense to use public transportation. But that does not mean it's not something I value and find important for the community, nor do I mind paying taxes to support a strong transportation system. Thanks!*
- *Our para transit is excellent...thank you*
- *I wish the great service provided when JMU was in session would happen year round--it's frustrating losing routes, late night service, and Sunday service in the summer when JMU is out; my son worked a late shift last summer and we struggled with transportation*
- *Let's make 2017 a great year for public transportation in Harrisonburg!*
- *Provide better service to the citizens of Harrisonburg not JMU*
- *The transit service cannot take me to all my routine weekly destinations in a timely manner: work north downtown, exercise class at Westover Park that starts .5 hour after I get off work, evening meetings east and south of the city in the county or back at the north end of downtown, etc. In addition, I live about 3 miles north of the Harmony Square in the County.*
- *Nextbus app sucks, better apps are needed*
- *I am lucky in that I can easily walk to many destinations and use my car for those that are not nearby. However, I would love to see more emphasis on assisting people with disabilities. I have heard from area nonprofit support groups that there are challenges still for them in getting around and keeping a job - which is also something I hear about our refugee community. It also would be wonderful if JMU and the city had a campaign to get more students biking, walking, and using transit so there is less emphasis on the car and more emphasis on complete streets. The city can't do this alone - JMU needs to change their parking policies to encourage other modes of travel.*