



Public Transit Route Performance Report
Annual Report for State Fiscal Year (SFY) 2021

January, 2022

Prepared for VTTrans by:



in association with

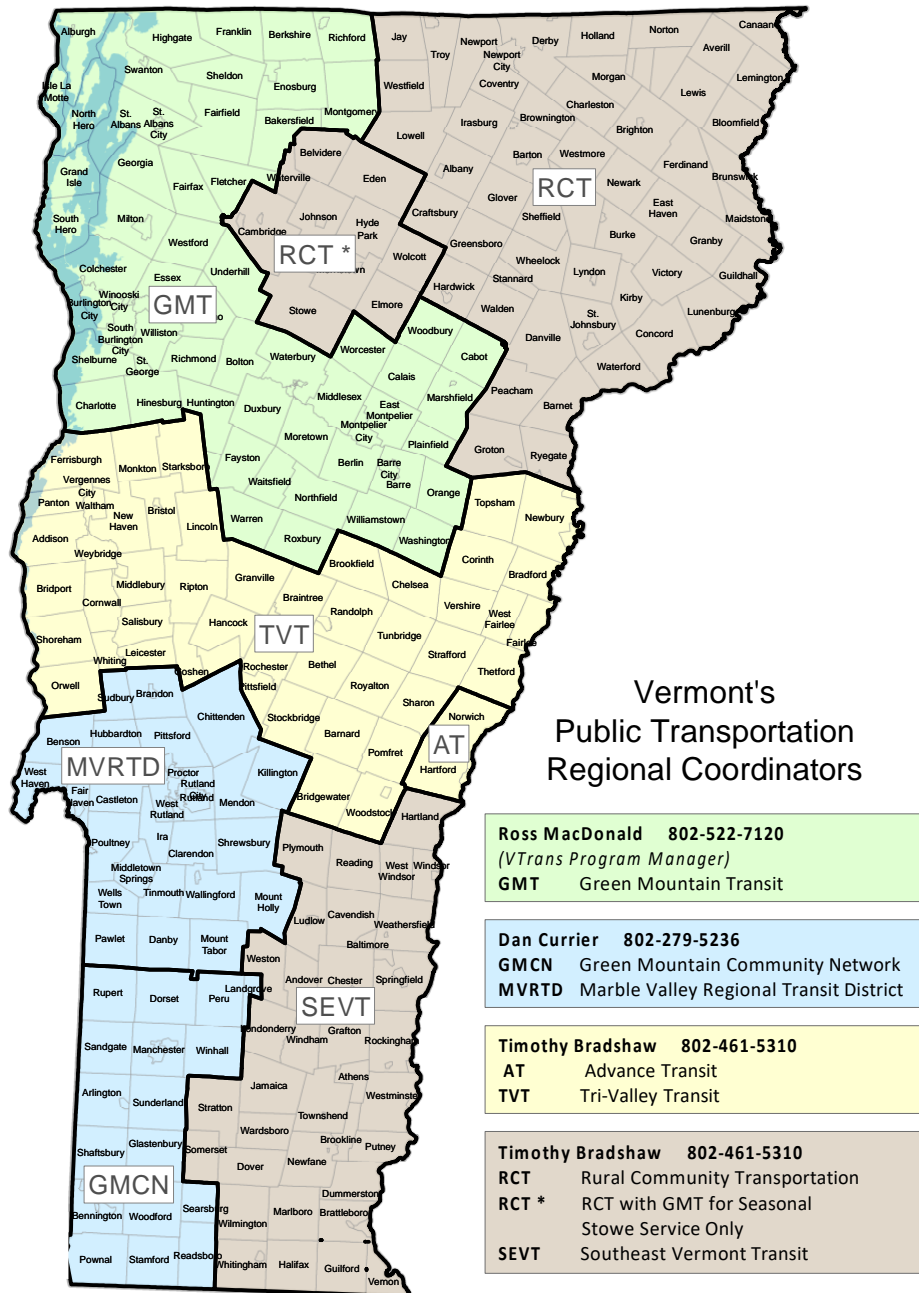


KEY OF VERMONT TRANSIT SYSTEMS AND DIVISIONS

AT	Advance Transit
GMCN	Green Mountain Community Network, Inc.
GMT-Rural	Green Mountain Transit-Rural (previously GMTA)
GMT-Urban	Green Mountain Transit-Urban (previously CCTA)
MVRTD	Marble Valley Regional Transit District
RCT	Rural Community Transportation, Inc.
SEVT-The Current	Southeast Vermont Transit-The Current (previously CRT)
SEVT-The MOOver	Southeast Vermont Transit-The MOOver (previously DVTA)
TVT-ACTR	Tri-Valley Transit, Inc. ACTR (previously ACTR)
TVT-Stagecoach	Tri-Valley Transit, Inc. Stagecoach (previously STSI)
VABVI	Vermont Association for the Blind and Visually Impaired

Figure 1 illustrates the service areas of Vermont’s public transit providers. The areas previously served by ACTR and STSI are now shown as Tri-Valley Transit (TVT).

Figure 1: Service Areas of Vermont’s Public Transportation Providers



Map Produced by the Vermont Agency of Transportation Mapping Section - 6/29/2020
Updated by Public Transit Section - 7/1/2021

EXECUTIVE SUMMARY

VTrans manages Vermont's public transit program, and an essential element of this management is monitoring the performance of all routes and services operated by the state's transit providers. This Public Transit Route Performance Review for state fiscal year (SFY) 2021 presents the results of this annual performance evaluation for public transit services across Vermont. This process helps to ensure that public investment in transit is well spent by comparing performance at the route level to appropriate standards and identifying routes and services that need improvement.

This is the second year using a new evaluation rubric recommended in the [2020 Public Transit Policy Plan](#). Rather than using two separate route evaluation measures, this report, as did the SFY 2020 report, focuses on one measure to determine the performance of a route: cost effectiveness. The report includes analysis of both ridership and cost *efficiency*, comparing Vermont routes to sets of national peers, as has been done in the past. But the ratings of acceptable, successful or underperforming for the cost-effectiveness measure are based on the comparison of a route's performance to the average performance of Vermont routes by class, rather than the comparison to national peers.

Of course, comparisons with performance reports from prior years cannot ignore the huge impact that the COVID-19 pandemic has had on transit ridership. The SFY 2020 report at least had eight months of "normal" data to use for the evaluation before the impacts of the pandemic manifested themselves in March of 2020. The entire year of SFY 2021 was affected by the pandemic, with ebbs and flows in ridership reflecting the spread of vaccination and the resurgence of new strains of the virus. While SFY 2020 saw a 19% drop from prior year ridership levels, SFY 2021 saw a 41% drop from SFY 2020 and a 52% drop from SFY 2019 levels. Some services were affected more than others, with Tourism and Express Commuter routes hit particularly hard. Subsidized intercity bus ridership dropped to zero in SFY 2021, as all service was suspended for the full year.

In SFY 2021 Vermont's public transit systems provided 2.44 million trips. This total is 41% lower than last year's ridership, due to the full-year impact of the pandemic.

While the pandemic-affected portion of SFY 2020 (March through June) was excluded from the evaluative portion of the report last year, there is no part of SFY 2021 that is not affected by the pandemic. Thus, the full year of service is included in the evaluation. Comparisons to national peer averages must be taken with a grain of salt, however, because those peer figures are based on 2019 performance. Under the new methodology, peer comparisons are for information only and are not used in rating the performance of Vermont services.

As of this writing (December 2021), transit ridership is still well below pre-pandemic levels and is likely to remain so for all of SFY 2022 and beyond. In normal circumstances, when routes are shown to be underperforming through the analysis in this report, VTrans works proactively with the subject public transit provider to determine what, if any, strategies may result in increased performance for the route. In the current climate, VTrans will continue to look for improved performance of services but will be cognizant of factors related to the pandemic that are outside the control of the transit agencies.

INTRODUCTION

The Route Performance Report (RPR) is developed annually to document the performance of public transit services all over Vermont. The results are presented to the Vermont Legislature as part of VTrans' consolidated transportation system and activities report to the House and Senate Committees on Transportation. The Vermont Agency of Transportation's Policy, Planning, and Intermodal Development (PPAID) Division, specifically the Public Transit Section, is responsible for managing the state's public transit program. This report documents the Public Transit Section's monitoring efforts to ensure that public investment in transit is well spent.

Vermont has seven transit providers, though this report still makes reference to divisions of several agencies that reflect mergers which occurred over the prior decade. Tri-Valley Transit services in the Middlebury region are shown as TVT-MID and the services in the Orange/North Windsor region are shown as TVT-ONW. Green Mountain Transit continues to be considered as two separate divisions; GMT-Urban and GMT-Rural. This distinction reflects the urban/rural split in the Federal Transit Administration (FTA) program. VTrans authorizes GMT-Urban to be a direct recipient of funds from the FTA, whereas VTrans maintains oversight responsibility for the GMT-Rural division. Finally, in January 2021, SEVT resumed operating non-emergency medical transportation (NEMT), more commonly known as Medicaid transportation. Since 2018, NEMT service in Windham County had been operated by GMCN and service in southern Windsor County had been operated by MVRTD.

In addition to the seven transit systems in Vermont, this performance evaluation covers the volunteer driver services provided by VABVI and the intercity bus services provided by Greyhound and Vermont Translines. For SFY 2021, no subsidized intercity bus service was operated, so this route class will not appear in this report. Other intercity services (e.g., Megabus, Yankee Trails, and Greyhound's Montreal to Boston route) operate in Vermont and cover their costs through fare revenue. However, the private carriers do not provide data on these routes to VTrans and so they are not reported on here.

METHODOLOGY OVERVIEW

VTrans conducts monitoring of transit services by evaluating statewide trends as well as route-level performance. Several data sources were used to develop this annual report:

- The transit systems provide route-level performance data to VTrans in §5311 – Rural Transit Program Monthly Service Indicator Reports (SIRs).
- VTrans collects data on all demand response programs from the transit providers annually.
- VTrans monitors operating budget data by funding source (federal, state, and local) in its grant tracking spreadsheets, and the transit systems provide their profit and loss statements to analyze local share.
- GMT-Urban's route statistics and budget data were provided directly by GMT.
- In order to calculate operating costs more precisely and consistently at the route level, the transit systems provided operating cost information broken down in such a way to allow for the development of two-point cost models (see further discussion below).

VTrans groups public transit routes and services throughout the state in eight categories, described below. Prior to SFY 2019, there had been nine categories, but a significant change was made that year, merging the Volunteer Driver category into the Demand Response category. This change was made for several reasons, all related to the concept of having the data in the RPR be a comprehensive summary of all public transit activity in Vermont. Before 2019, the Volunteer Driver category included trips and administrative costs associated with all funding programs (of which E&D and NEMT were by far the largest), but it excluded the *mileage* costs associated with the trips and thus did not represent the full cost of providing that service. Meanwhile, the Demand Response category excluded NEMT trips provided on agency vans and taxis and also excluded all ADA complementary paratransit trips. The majority of ADA paratransit trips are provided in Chittenden County, but they also occur in Rutland, Brattleboro and the Upper Valley. The rationale for excluding ADA paratransit was that they are required to be provided by law and thus the operators should not be held to particular standards for efficiency or cost effectiveness. There was no rationale for excluding NEMT trips on vans; it was just a vestige of them not having been included when the process was developed in the early 2000s.

Based on recommendations in the 2020 Public Transit Policy Plan (PTPP), the primary method of evaluating route performance changed in SFY 2020 compared to prior years. Rather than using two separate route evaluation measures—productivity and cost-effectiveness—this report focuses just on the latter measure to determine the performance of a route. Basing the rating on just the net cost per passenger trip simplifies the evaluation and avoids cases where a given route might have been underperforming on one measure but satisfactory on the other measure. Ultimately, the cost borne by the taxpayer for a ride taken on a transit vehicle is the most relevant measure of the performance of that transit service.

With the sole focus of the evaluation on cost effectiveness, VTrans determined that it was worthwhile to ensure greater consistency across providers and greater precision at the route level in the estimation of operating costs. In prior years, each provider calculated costs at the route level and reported them through its monthly service indicator reports. These reports did not include detail on how the costs were calculated, but most operators seemed to be using a “single-point” cost model based on vehicle hours of service. That is, the agency calculated its total bus and van operating cost, divided by the total bus and van vehicle hours to determine an hourly rate, and then used that rate to estimate the costs at the route level.

For this report, the analysis team requested financial information from each provider to be able to divide operating costs into three main categories: mileage-related costs, costs associated with volunteer driver or taxi service, and all other costs. Mileage-related costs include fuel, parts and other maintenance labor and expenses. Volunteer driver and taxi costs include mileage reimbursement and the administrative labor needed to schedule and dispatch volunteer and taxi trips. Other costs include all driver and administrative labor and associated fringe benefits, as well as other overhead costs. This information, in conjunction with other data on the number of revenue miles and revenue hours operated, allowed the team to estimate a “two-point” cost model for each provider with separate rates for vehicle mileage and vehicle hours.

The two-point models were then applied to each route to re-estimate the total operating cost. The impact of this was generally to increase the costs for commuter and longer-distance routes relative to local routes, as the former accumulate many more miles and thus generate higher maintenance costs.

Because this model was based on *revenue* miles and hours, it did not account for large differences among non-revenue service (trips from and back to the garage to the beginning and end of revenue service). For a few routes that are known to have large amounts of non-revenue miles and hours, adjustments were made to costs to reflect this situation. In future years, the total vehicle miles and hours may be used as the basis for the cost estimates.

The other significant change in the evaluation method made last year was that the “acceptable” and “successful” thresholds are no longer based on national peer groups, but rather on a comparison to the average of the routes or services in that class. For each class, the acceptable net cost per passenger was set equal to 1.5 times the class average, and the successful net cost per passenger was set equal to two thirds of the class average. Thus, any route with a net cost per passenger between 66% and 150% of the class average is considered acceptable, while those with costs below 66% of the average are successful and those with high costs more than 150% of the average are underperforming.

To preserve continuity with past reports, this report includes (in Appendix A) analysis of both ridership and cost *efficiency*, comparing Vermont routes to sets of national peers. Ridership efficiency is the same as productivity (riders per unit of service) and cost efficiency is the gross operating cost per unit of service. For most categories, these efficiency measures are based on the vehicle revenue hour of service, thus measuring the number of people who boarded and the cost to operate during each hour that a bus, van, or car was operating in service. The exceptions to this are the Urban category, in which efficiency is measured in boardings and cost per vehicle revenue mile, and the Express Commuter and Intercity categories, in which efficiency is measured in boardings and cost per vehicle trip. Routes in urban areas tend to travel slower than rural or small town routes, due to higher levels of congestion, and so measuring based on miles does not “penalize” an operator for running a route in areas with more traffic. Express commuter and intercity trips tend to have little passenger turnover during the trip (in the inbound direction, people tend to get on at stops along the way and then all get off at the final terminal), and so the capacity of the vehicle limits the number of people who can board.

Peer groups were established for each category and then the peer average ridership and cost efficiency was calculated. For the Urban, Tourism, Express Commuter and Rural Commuter categories, the peer groups consisted of agencies selected in prior years whose statistics were updated, while for other categories, new sets of peers were chosen based on their similarity in overall operational size to the Vermont operators. The calculated averages were based on the most recent available data from the National Transit Database (report year 2019). As stated above, the peer averages are not evaluation thresholds, but rather serve as reference points to compare the productivity and cost of Vermont services to those of similar operations around the US. It is very important to note that the peer statistics do not reflect the impact of the pandemic, and thus the performance of Vermont services in SFY 2021 would be expected to be much worse than peer performance in 2019.

Transit Service Categories

The service category descriptions below serve as guidelines; some routes or services may not fit every description perfectly. VTrans may also consider ridership and cost data to group similar services together.

- 1) **Urban:** Routes operating primarily in an urbanized area with all-day, year-round service. The city served by the route has a population of at least 17,500 people and high-density development.
- 2) **Small Town:** Routes operating in towns with 7,500 to 17,500 people with all-day, year-round service. The route typically stays within one town or two adjoining towns and does not run through long stretches of rural areas.
- 3) **Demand Response:** Primarily service that does not operate on a fixed schedule nor on a fixed route; also includes routes that might otherwise fit in the “Rural” category but operate less than once a day (i.e., shopper service operates only once a week or a few times a month). This category includes all NEMT service in Vermont, ADA complementary paratransit service, trips brokered to taxi services, and trips operated by volunteer drivers. Volunteer drivers use their own vehicles, donate their time to transport riders, and are eligible to receive reimbursement for mileage at the IRS-approved rate.
- 4) **Rural:** Routes operating in towns with fewer than 7,500 people or connecting two small towns running through undeveloped areas. These routes operate year-round with daily service, but the frequency may be low (more than one hour between trips).
- 5) **Rural Commuter:** Routes that are similar to the Rural category above but operate primarily during peak commute periods. These routes usually connect several small towns or villages with intermediate stops and operate primarily on state routes in rural areas. Some routes connect outlying areas to the nearby city, with a significant portion of the mileage in rural areas.
- 6) **Express Commuter:** Routes that operate primarily during peak commute periods and often include express segments. These routes are characterized by one-directional ridership (in most cases), longer route lengths, and serve either of the two largest employment centers in the region: the core of Chittenden County or the Upper Valley area spanning Vermont and New Hampshire. These routes primarily travel on interstate highways and provide limited stops, often serving park and ride lots and major employers (rather than other local destinations).
- 7) **Tourism:** Seasonal routes that serve a specific tourist trip generator, such as a ski area.
- 8) **Intercity:** Routes operating regularly scheduled, fixed route, and limited stop service that connects places not in close proximity and makes meaningful connections to the larger intercity network. (No subsidized intercity service was operated in SFY 2021.)

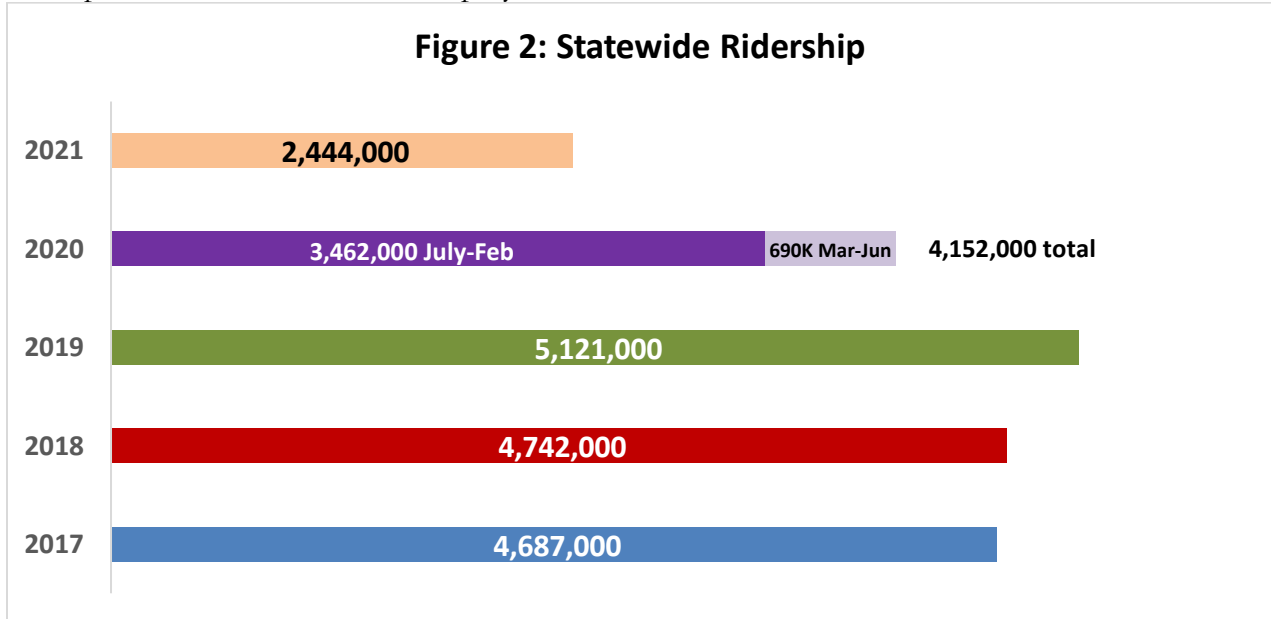
The list of routes and services in each category is not identical to SFY 2020. Several routes were discontinued temporarily or permanently as a result of the pandemic including the Barre LINK Express, the 89er North to Barre, and many of SEVT’s skier shuttle routes. A new demand response service, MyRide by GMT, was initiated in Montpelier and Berlin in January 2021. This microtransit service replaced the Montpelier Hospital Hill and Montpelier Circulator Routes. It is shown as a separate service in the Demand Response group. Three routes were transferred from GMT to RCT at the beginning of the fiscal year: Morrisville Loop, Morrisville Shopping Shuttle and Route 100 Commuter.

STATEWIDE TRENDS

This section describes the trends in Vermont’s transit ridership and costs in recent years, before delving into route-level performance in the next section.

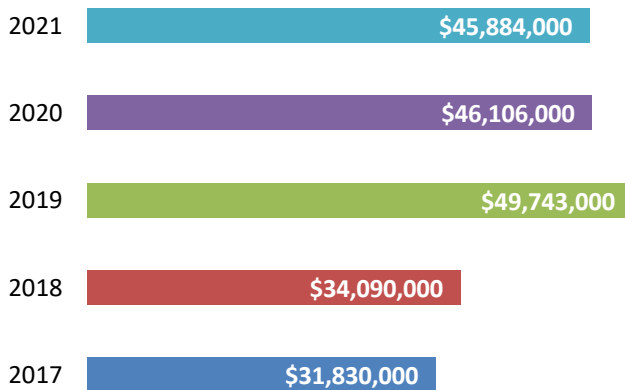
Transit Ridership

In SFY 2021 Vermont’s public transit systems provided 2.44 million trips. Of course, it is impossible to talk about 2021 without recognizing the impact of the COVID-19 pandemic. As shown in Figure 2, the pandemic has reduced ridership by more than half of what it was in SFY 2019.



As is true every year, about half of Vermont’s transit trips occur in the Chittenden County region. In most years, Chittenden County’s share is slightly under 50%, but in SFY 2021, the share is 53%, indicating that rural areas saw more ridership loss associated with the pandemic than the urban area.

Figure 3: Total Operating Costs



Transit Costs

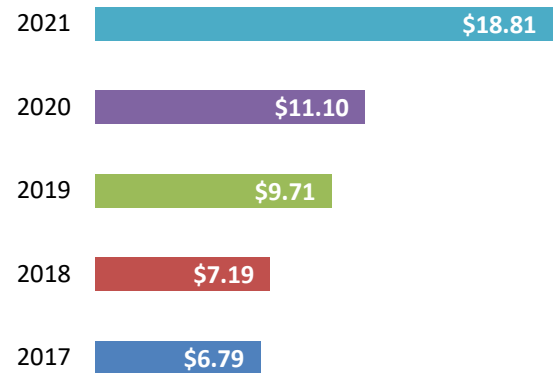
In SFY 2021 transit operating costs totaled \$45.9 million, a 0.5% decrease from SFY 20 (see Figure 3). The decrease is mainly due to a \$500,000 drop in Urban costs as GMT reduced the service level of several bus routes, the savings of more than \$1 million from the suspension of intercity service and savings of \$200,000 to \$300,000 in Tourism and Rural routes which were temporarily or permanently discontinued because of the

pandemic. Rural Commuter and Demand Response services saw increases in operating cost of \$600,000 to \$800,000. The Chittenden County region accounted for one third of the total costs. As noted in the recent reports, the large increase in cost between SFY 18 and SFY 19 was due to a broadening of the definition of the Demand Response category rather than a major increase in unit costs.

Cost per Trip

In SFY 2021 the average cost for a transit trip in Vermont was \$18.81, an increase of 69% from the prior year (see Figure 4). While annual ridership dropped 41% because of the pandemic, costs only dropped by 0.5%. Most transit service continued to operate in SFY 2021 at close to normal levels, but with far fewer riders aboard. Note that this calculation involves the gross cost per trip, and so the lack of fare revenue in SFY 21 has no impact on this statistic. As ridership slowly recovers, the cost per trip would be expected to drop in SFY 22 and beyond.

Figure 4: Cost per Trip



RESULTS BY SERVICE CATEGORY

Vermont's transit systems provide an array of services to meet various markets and needs. The Urban service category generates the highest share of ridership statewide, followed by Small Town and Demand Response. The pandemic affected the various route classes to different degrees. The Urban route category experienced a 31% ridership loss since 2020 and a 44% loss since 2019, the smallest loss of any route class. Tourism experienced the steepest loss, at 73% since 2020 and 77% since 2019 (the ski season was nearly finished when the pandemic hit, so SFY 2020 losses were minimal in this category). Express Commuter routes had the second steepest losses at 63% since 2020 and 74% since 2019. Many of the riders on Express Commuter routes own cars, and for those who were not able to switch to remote work, the lure of the automobile (and the avoidance of being in enclosed spaces with other riders) was a strong incentive to stop riding the bus. Among the other route classes, Demand Response and Small Town had smaller losses (closer to Urban), while Rural and Rural Commuter had larger losses (closer to Express Commuter). As stated earlier, Intercity bus had a 100% loss as all subsidized intercity service was suspended for the entire fiscal year.

Figure 5 illustrates FY 2021 ridership by service category as a share of the statewide total. Because Urban ridership dropped less than other categories, its share of the statewide total grew from 41% in SFY 2020 to 48% in SFY 2021. (Note that the Chittenden County region, which accounts for 53% of the statewide total ridership, includes more than just the Urban class of routes.) The shares of Small Town and Demand Response were roughly the same as last year, but Tourism dropped from 10% to 5% of the total.

Figure 6 shows the operating costs per service category as a percentage of statewide costs in SFY 2021. Because costs were not affected as much by the pandemic as ridership was, the percentage shares of costs in SFY 21 were similar to those in SFY 2020. As noted above, Urban costs decreased by about \$500,000, but because statewide costs decreased overall, the Urban share stayed the same, at 22%.

Figure 5: Transit Ridership by Service Category

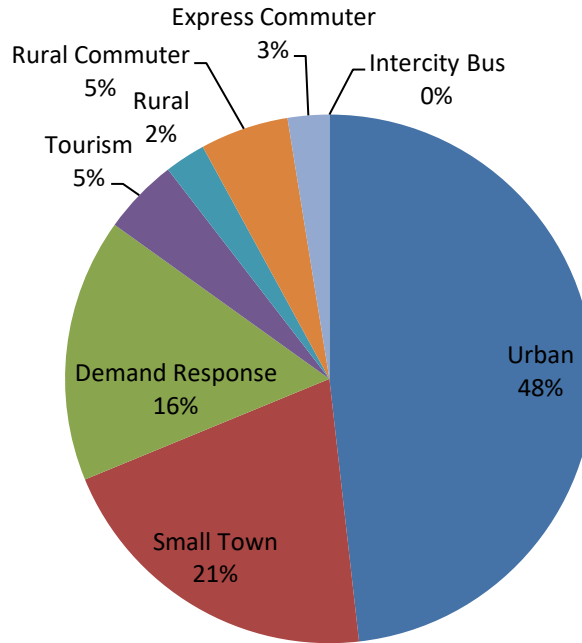
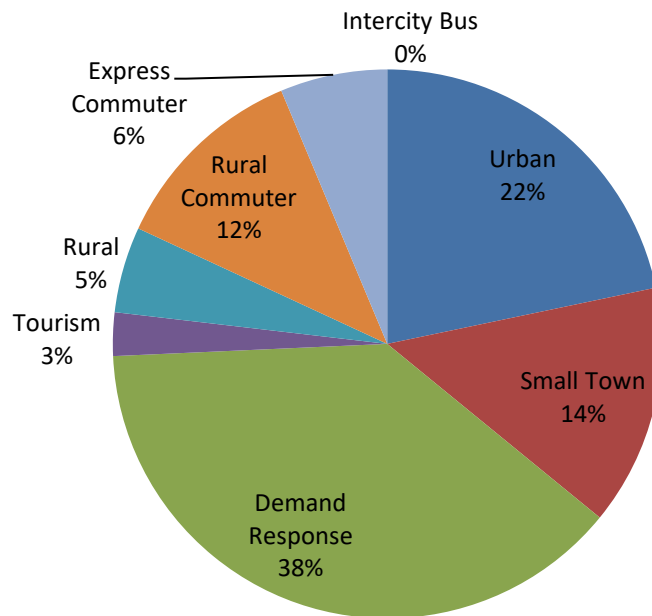


Figure 6: Operating Costs by Service Category

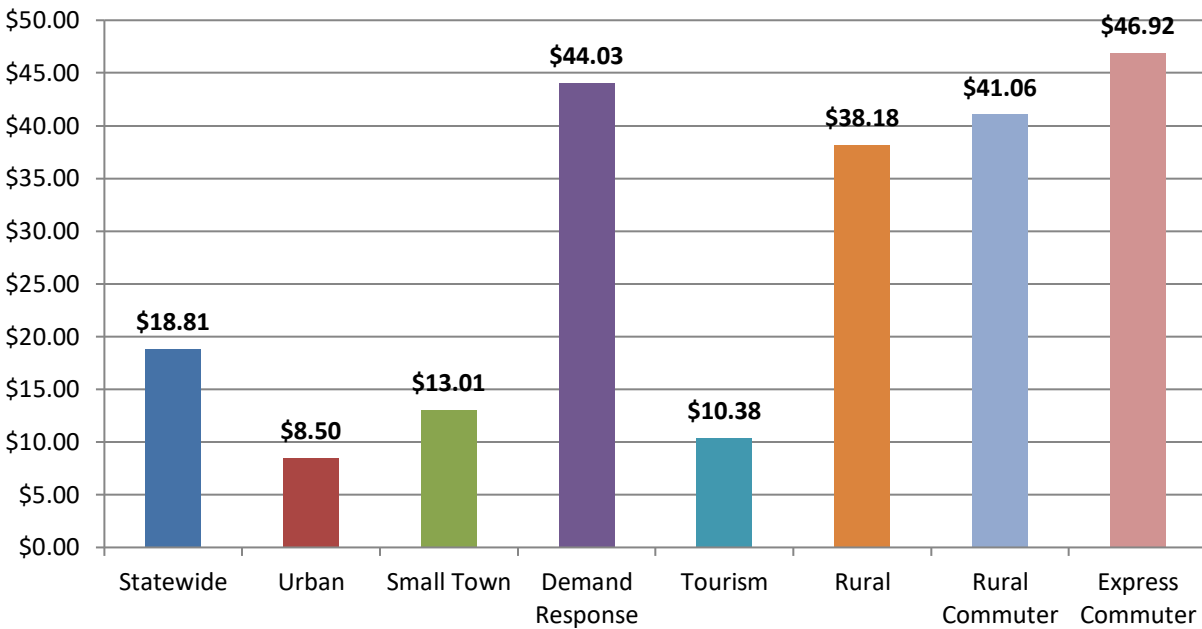


Not surprisingly, Urban service consumes a smaller percentage of the total cost compared to its share of the total ridership, because urban bus routes, which can carry 40 people or more on some trips, are more cost-effective on a per passenger basis. In contrast, Demand Response service consumes 38% of the total cost but only accounts for 17% of the total riders. This reflects the fact

that many demand response trips are carrying one person, or at most a few people, at a time. Rural Commuter, Express Commuter and Intercity Bus all consume greater shares of the cost than of the ridership because these trips are generally longer and thus more costly than local trips in an urban or small town area.

These differences in the cost per trip by mode are shown more explicitly in Figure 7. Urban, Small Town and Tourism had a cost per trip that was lower than the statewide average. Urban had, by far, the smallest increase in cost per trip, at only 38%. The cost per trip for Tourism increased more than 200% from SFY 2020 due to the steep drop in ridership, but it was still less than the statewide average because these trips are short and some of the routes continue to be well used. Demand Response and commuter routes were the most expensive types of service on a per trip basis. Both rural and express commuter services experienced severe ridership losses (as discussed above), driving up the cost per trip by 102% and 160%, respectively. Demand Response trips would be even more expensive were it not for the fact that nearly half of all such trips were operated by volunteer drivers who were paid only for the mileage they accumulated and nothing for their time.

Figure 7: Cost per Trip by Service Category



LOCAL SHARE

The Public Transit Section also examines the transit providers' performance in generating local revenue. The Vermont Public Transit Policy Plan establishes a statewide goal that 20% of the funds for public transportation should be generated locally. This is a broad interpretation of local funding to include fare revenue, contributions from individuals, contracts with outside agencies, and payments from cities and towns.¹ In other words, local share refers to the percentage of transit expenses that are *not* covered by the Federal Transit Administration, the Federal Highway

¹ The federal definition of local match for FTA funds excludes fare revenue from the calculation but includes state operating assistance.

Administration, or the State (and excludes State funding for capital, Rideshare, RTAP, JARC, and Medicaid).

Figure 8 displays the local share of transit operating budgets statewide in SFY 2021, based on actual operating expenses from VTtrans' grant tracking spreadsheets. The statewide policy of fare free service resulted in an across-the-board drop in local share, with the greatest drop in Chittenden County. The local share analysis found that 13% of transit funding statewide comes from local sources, down from 21% last year. Excluding GMT-Urban, the local share of transit budgets outside of Chittenden County dropped from 11% last year to 7%. Much of this drop is attributable to funding from the CARES Act, the emergency legislation for pandemic relief, which provided extra federal funding with zero match requirement.

The available resources and partnerships that transit providers rely on for public transportation funding vary widely and include municipal contributions, business sponsors, institutional partners, contracts with human service agencies, in-kind match from volunteer driver programs, advertising, donations, and fares. VTtrans provides flexibility to the transit providers in using various sources of local revenue to complement state and federal funding.

Figure 8: Local Share

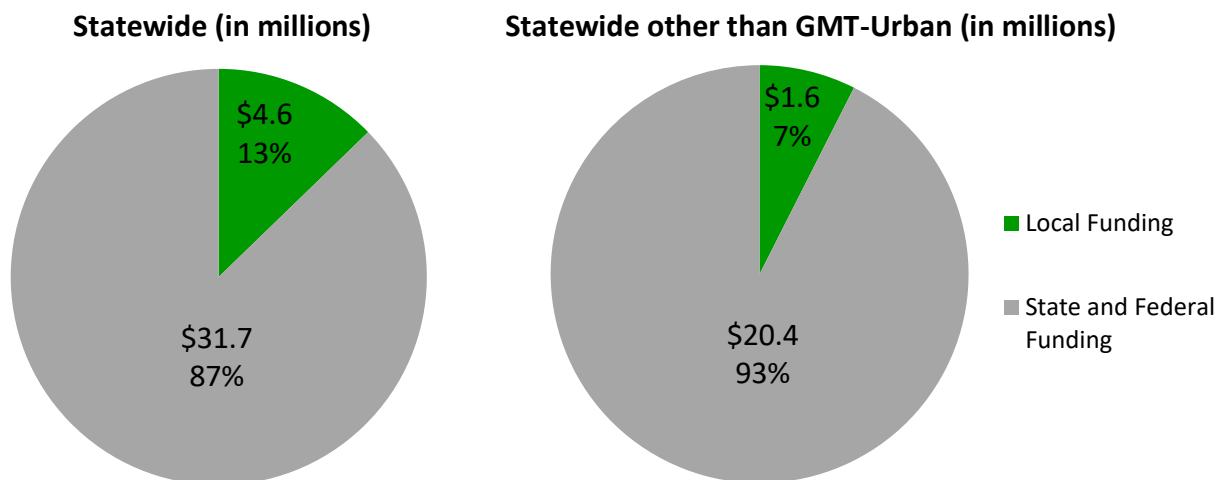
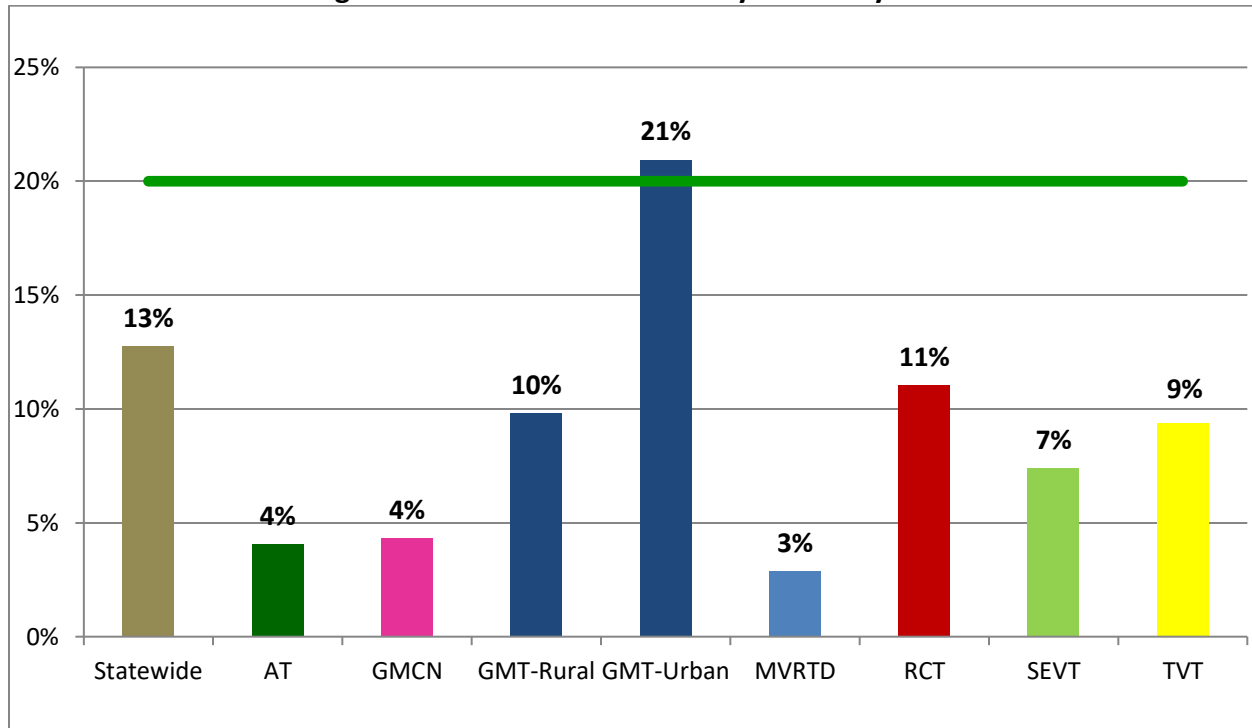


Figure 9 on the next page illustrates the local share percentage by transit system in SFY 2021, in comparison with the state's 20% goal. Local share was calculated as total non-state and non-federal funding divided by total operating expense. Only GMT-Urban exceeded the 20% local share target because of its assessment of its member communities. (Only GMT has this power to assess municipalities for operating and capital assistance.) Advance Transit usually exceeds the target, but because of the CARES funding from 16% in SFY 2020 to only 4%. Several other agencies that were close to the 20% goal last year were well below the goal this year, again, mainly due to the impact of the CARES funding and the lack of fare revenue.

Figure 9: SFY 2021 Local Share by Transit System



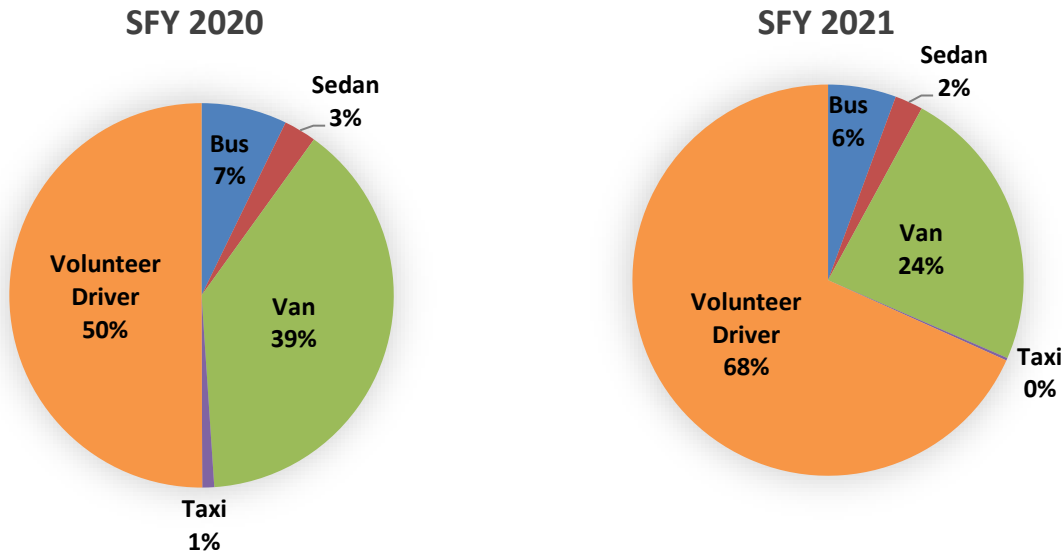
ELDERS AND PERSONS WITH DISABILITIES (E&D) TRANSPORTATION PROGRAM

FTA's §5310 program is targeted toward seniors (people 60 and older) and people with disabilities. The E&D Program, as it is commonly known, is used in most parts of the country to finance the purchase of accessible vans and buses. In Vermont the scope of the E&D Program has been expanded by incorporating funds from the §5311 (rural funding) program to help pay for administrative and preventive maintenance costs.

In SFY21, the total amount spent on the E&D program in Vermont was \$4.47 million, 80% of which (\$3.7 million) was federal money. Some of the local match for the federal funds consisted of in-kind contributions from the volunteer drivers who provide E&D service for the transit agencies. Overall, E&D ridership was continued to be negatively affected by the pandemic, with about 90,000 trips carried compared to 148,000 trips in SFY 2020 and 200,000 in SFY 19. Green Mountain Transit (GMT) with its partners Special Services Transportation Agency in Chittenden County and CIDER in Grand Isle County accounted for the largest share at about 25% of the total. Rural Community Transportation accounted for the second largest share at 18%. The cost per passenger trip ranged from about \$27 at Marble Valley in Rutland, to about \$60 at Southeast Vermont Transit, Tri-Valley Transit and Rural Community Transportation.

Trips funded through the E&D Program are provided across many modes as shown in Figure 10. In SFY 2021, 6% of E&D trips were provided on bus routes, 24% in vans, and, most importantly, 68% in private cars operated by volunteer drivers. These figures represent a significant shift from all modes toward volunteer drivers compared to last year.

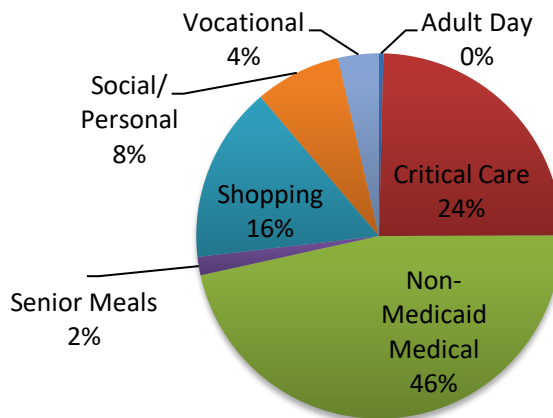
Figure 10: E&D Trips by Mode



Volunteer driver trips cost less per passenger trip than vans and can provide a more personalized service to seniors and persons with disabilities, some of whom are traveling long distances (including to neighboring states) for medical services and other needs. Volunteer drivers are especially important to mobility in large rural areas, where the population is thinly distributed, such as the Northeast Kingdom. However, in places where bus service is available, having E&D passengers use the bus routes is the most cost-effective means of travel.

Figure 11 displays the percentages of E&D trips by trip purpose in SFY 2020. Some 70% of E&D trips transport people to medical appointments and critical care services such as dialysis and cancer treatments. Because of the pandemic, travel to adult day programs and senior meals. Compared to the prior year, the portion of E&D trips for medical trips increased, while the portion for adult day/ meals decreased. It is likely that many adult day and meals programs shut down during the pandemic. The percentage of shopping and social/personal trips each increased slightly.

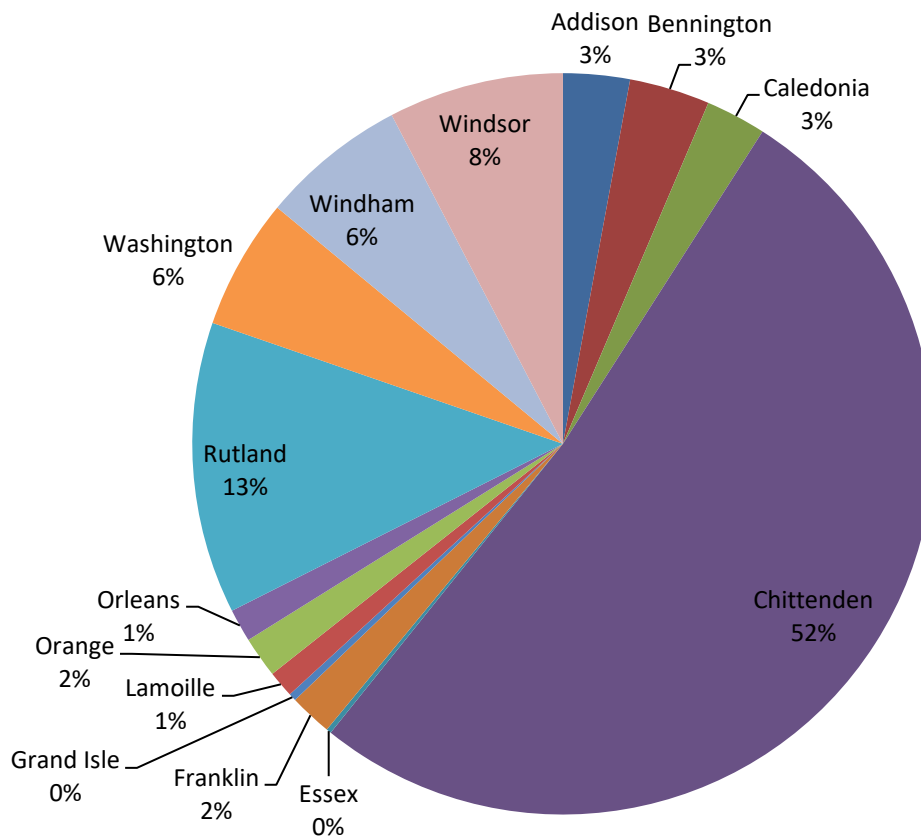
Figure 11: E&D Trips by Purpose in SFY 2021



COUNTY-LEVEL STATISTICS

Reflecting overall population by county, public transit boardings by county show one large county (Chittenden), accounting for just over half of transit trips, four medium-size counties accounting for between 6% and 13% of trips, seven small counties with between 1% and 4% of trips, and two tiny counties with less than 1% of of the statewide total. The breakdown of public transit trips by county of origin in SFY 2021 is presented in Figure 12.

Figure 12: Public Transit Trips by County of Origin in SFY 2021



ROUTE-LEVEL PERFORMANCE

Based on recommendations in the 2020 Public Transit Policy Plan, the Public Transit Section evaluates Vermont's transit services by their cost-effectiveness. Prior to 2020, both productivity and cost-effectiveness were used to evaluate routes, but as described earlier, the evaluation method was changed to focus on cost-effectiveness, while retaining productivity and cost-efficiency as reference measures to compare to national peer groups. For the evaluation, all transit services in the state are grouped by service category and evaluated against the average performance in that category. It is important to reiterate while all services in Vermont were affected by the pandemic, VTTrans understands that the impacts did not affect all services equally.

Methodology for Developing Performance Standards

As mentioned in the methodology overview, the definition of the performance standard was changed in 2020 from prior years. From 2007 to 2020, the performance standard for each service category was based on a set of national peers, with performance data drawn from the National Transit Database. Routes that performed better than the peer averages were considered successful and those that performed at least as half as well as the peers were considered acceptable.

Beginning last year, the performance evaluation was based on a comparison to the average performance of each route class and the measure used was the net cost per passenger. This figure was calculated by taking the gross operating cost, subtracting out any fare revenue and then dividing by the number of boardings. Since no fare revenue was collected in SFY 2021, the net cost per passenger is equal to the gross cost per passenger.

The “Successful” standard for each service category was 66.6% of the category average and the “Acceptable” standard was 150% of the class average. Thus, if a route or service cost two-thirds of the class average or less per passenger, it was successful, but if it cost 50% more than the class average on a per passenger basis, it was not acceptable.

Table 1 summarizes the SFY 2021 performance standards by category. The standards from SFY 2020 (which were for gross cost, not net cost) are shown for reference. The standards for last year were based on the pre-pandemic period (July 2019 through February 2020), and so the average cost per passenger for this fiscal year is much higher in every route class; in most cases, the standards are close to double what they were for the pre-pandemic period. (This is consistent with the 53% overall loss in ridership compared to SFY 2019.) The intercity standard is not shown in the table since there was no subsidized intercity bus service operated in SFY 2021.

Table 1: SFY 2021 Performance Standards Compared to SFY 2020 (Jul-Feb)

Service Category	"Successful" Cost-Effectiveness Standard		"Acceptable" Cost-Effectiveness Standard	
	2021	2020	2021	2020
Urban	\$7.63	\$3.83	\$17.16	\$8.62
Small Town	\$12.13	\$5.81	\$27.28	\$13.08
Demand Response	\$31.67	\$18.78	\$71.26	\$42.26
Tourism	\$6.92	\$3.14	\$15.57	\$7.06
Rural	\$26.35	\$12.59	\$59.28	\$28.34
Rural Commuter	\$43.35	\$12.65	\$97.53	\$28.45
Express Commuter	\$34.97	\$15.26	\$78.68	\$34.33

Route Evaluation Results

Given the way the standards were set, the vast majority (85%) of the 102 transit services evaluated across the state met the Acceptable standards for cost-effectiveness. A sizable portion (28%) of the state’s transit routes were considered Successful, thus leaving 57% in the acceptable-but-not-successful group.

Improved Transit Routes

Four routes moved from underperforming to acceptable performance in cost-effectiveness since SFY 2020. It is important to note that the actual performance of these services all declined from the pre-pandemic period, but they did not decline as much as other services, and thus performed better than the Acceptable threshold.

- In the Rural Commuter category, TVT's 89er South Expansion route, RCT's Littleton route and SEVT's Okemo Seasonal routes all moved into the Acceptable range, mainly because the threshold for Acceptable for Rural Commuter routes jumped from \$28.45 in SFY 2020 to \$97.53 in SFY 2021.²
- In the Demand Response category, VABVI's volunteer-based service moved into the Acceptable range, increasing in cost by "only" 50%, while other services saw the cost per passenger rise by 70% on average.

Underperforming Transit Services

Statewide, 14 transit services did not meet the Acceptable thresholds for cost-effectiveness.³ Seven of these services underperformed for the first time:

- GMCN: Blue Route
- GMT-Urban: Airport/Waterfront via College Street
- GMT-Rural: Mountain Condos
- GMT-Rural Mountain Road Shuttle
- SEVT: Bellows Falls-Ludlow
- TVT: 89er Thetford Connector
- TVT: Middlebury Shuttle

The Thetford Connector was new in SFY 21; it is typical for new services to underperform in their first year as riders only gradually become aware of the new connections available. The GMCN Blue Route and the Middlebury Shuttle operated by TVT both are well established routes and missed the Acceptable threshold by about \$1. These routes suffered from slightly higher than average impacts from the pandemic. The Bellows Falls-Ludlow route had a very high cost per passenger as ridership dropped precipitously because of reduced employment related to skiing. The two GMT-Rural routes also saw ridership drop because of fewer tourists at Sugarbush and Stowe, again due to the pandemic. The College Street Shuttle has historically been a strong performer. It was merged with

² The thresholds are based on the straight average of services in the Rural Commuter class. If a weighted average had been used, the Acceptable threshold would have been \$61.60 and nine additional routes would have been deemed not acceptable. The straight average is so high because the four routes that did fail had extremely high costs per passenger, ranging between \$146 and \$224.

³ Technically, the ADA paratransit service operated by Advance Transit also underperformed with regard to cost effectiveness. Because of the change in the scope of the Demand Response category, this service only started being included in the Route Performance Report in SFY 19. Unlike other agencies that have a mix of demand response data, ADA paratransit is the only type of demand response service operated by AT. The regulations regarding ADA service limit the ability of AT to schedule these trips in a cost-efficient way, and AT does not have the possibility of coordinating them with other demand response service, as other agencies do, since it does not operate E&D or Medicaid service.

the South Burlington Circulator to create the Airport/Waterfront route as an outcome of GMT's NextGen study. It missed the Acceptable threshold by about \$1.50.

Table 2 lists the services that have been underperforming for at least two consecutive years. The Williston/Essex route has been restructured in SFY 21 to include the Essex Center loop. The 89er Barre Express route has been discontinued.

Table 2: Underperforming Services

Service Category	Route	Years Underperforming
Express Commuter	TVT-Stagecoach: 89er	8
Rural Commuter	TVT: 89er North	2
Rural Commuter	RCT: 15/14 Commuter	2
Urban	GMT-Urban: Williston/Essex	6
Rural	TVT: Bradford Circulator	2
Small Town	AT: Yellow Route	2
Tourism	GMT: Valley Floor Shuttle	2

Performance Graphs

The next section of the report includes graphs depicting the cost effectiveness of all transit services in Vermont for SFY 2021. For each route, the graph shows the net cost per passenger as a solid color bar and the gross cost per passenger as a gray pattern bar. Because there were no fares collected, the net cost and gross cost are equal in every case. The standard for Successful performance, equal to the 66% of the class average, is shown on each graph as a green line, while the standard for Acceptable performance, equal to 150% of the class average, is shown as a red line. New transit services, or portions of existing services, which are funded through the CMAQ Program are distinguished by a diagonal line fill in the graphs. Each provider has a specific and consistent color used throughout all of the graphs. Two of the charts, for Small Town and Rural Commuter, are split into two pages because of the large number of routes in those classes.

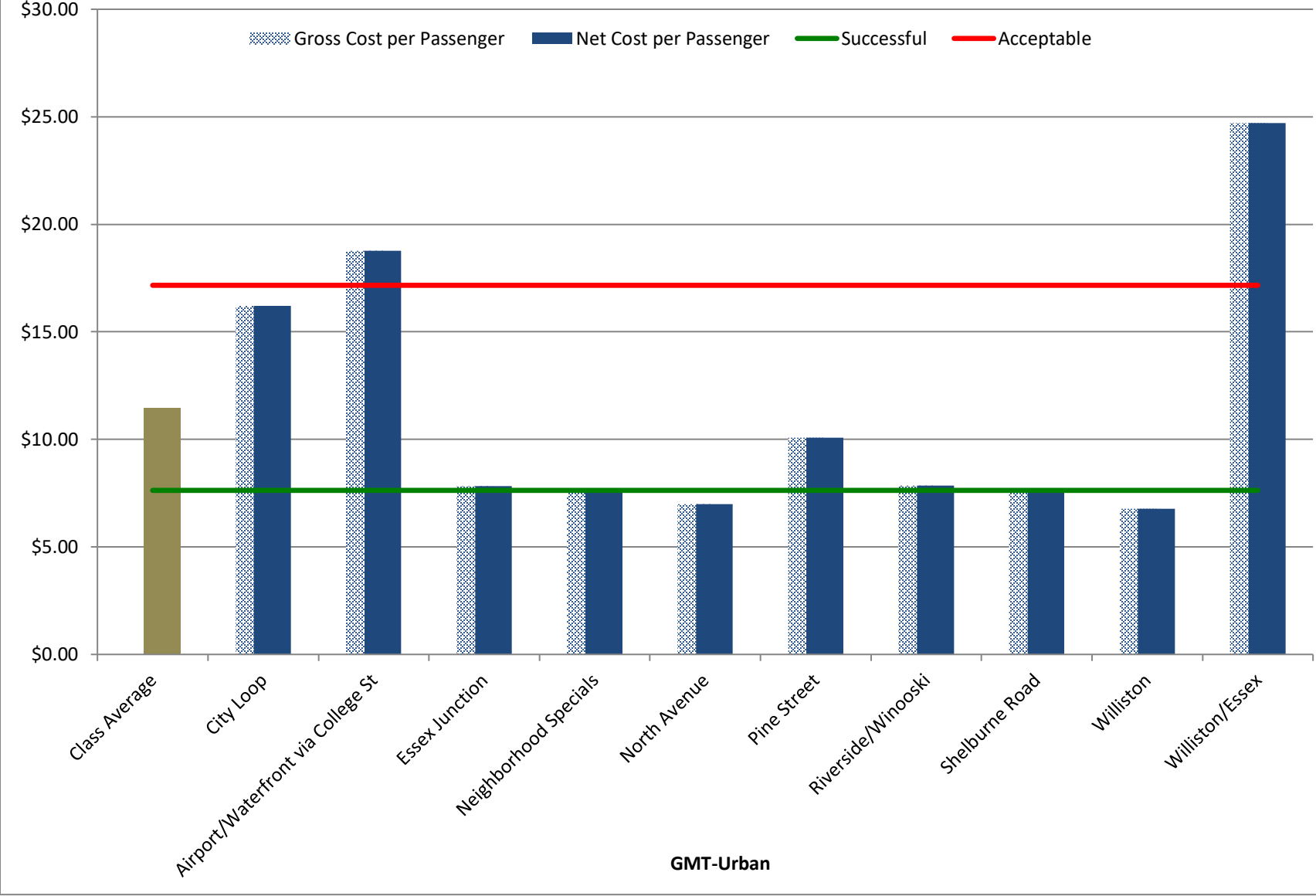
The Demand Response chart is treated a bit differently from the others. The gross cost per passenger is not shown as very few of the demand response services would have any fare revenue even when fares are collected. Secondly, the chart also shows the percentage of demand response trips that are operated by volunteer drivers for each agency through grey dots that refer to the right-hand axis. Dots that appear higher on the chart indicate a greater percentage of trips operated by volunteer drivers. In general, there is an inverse relationship between cost-effectiveness and volunteer percentage, as volunteer trips are typically less costly than those operated by agency drivers. However, there are other important factors affecting cost, such as the average length of the trips and the density of demand, which can affect how easily an agency can coordinate trips. Thus, GMT-Urban has a lower cost per passenger than GMT-Rural even though GMT-Rural uses volunteer drivers much more often. Demand response trips in the GMT-Urban area tend to be much shorter than those in other areas, and the higher population density in Chittenden County allows for more ride coordination.

Appendix A contains two additional sets of graphs showing the ridership efficiency (productivity) and cost efficiency of each route. These charts also show the average performance of the national peers on these measures. The peer performance is based on 2019 data, and is therefore not reflective of the impacts of the pandemic. This appendix also includes all of the performance data in a tabular format for easy reference. Appendix B includes charts that portray historical ridership, total operating cost, and cost per trip by transit system/division from SFY 2017 through SFY 2021. Appendix C presents the historical performance for every route or service in Vermont from SFY 2017 through SFY 2021, showing the trends in ridership efficiency, cost efficiency and cost effectiveness.

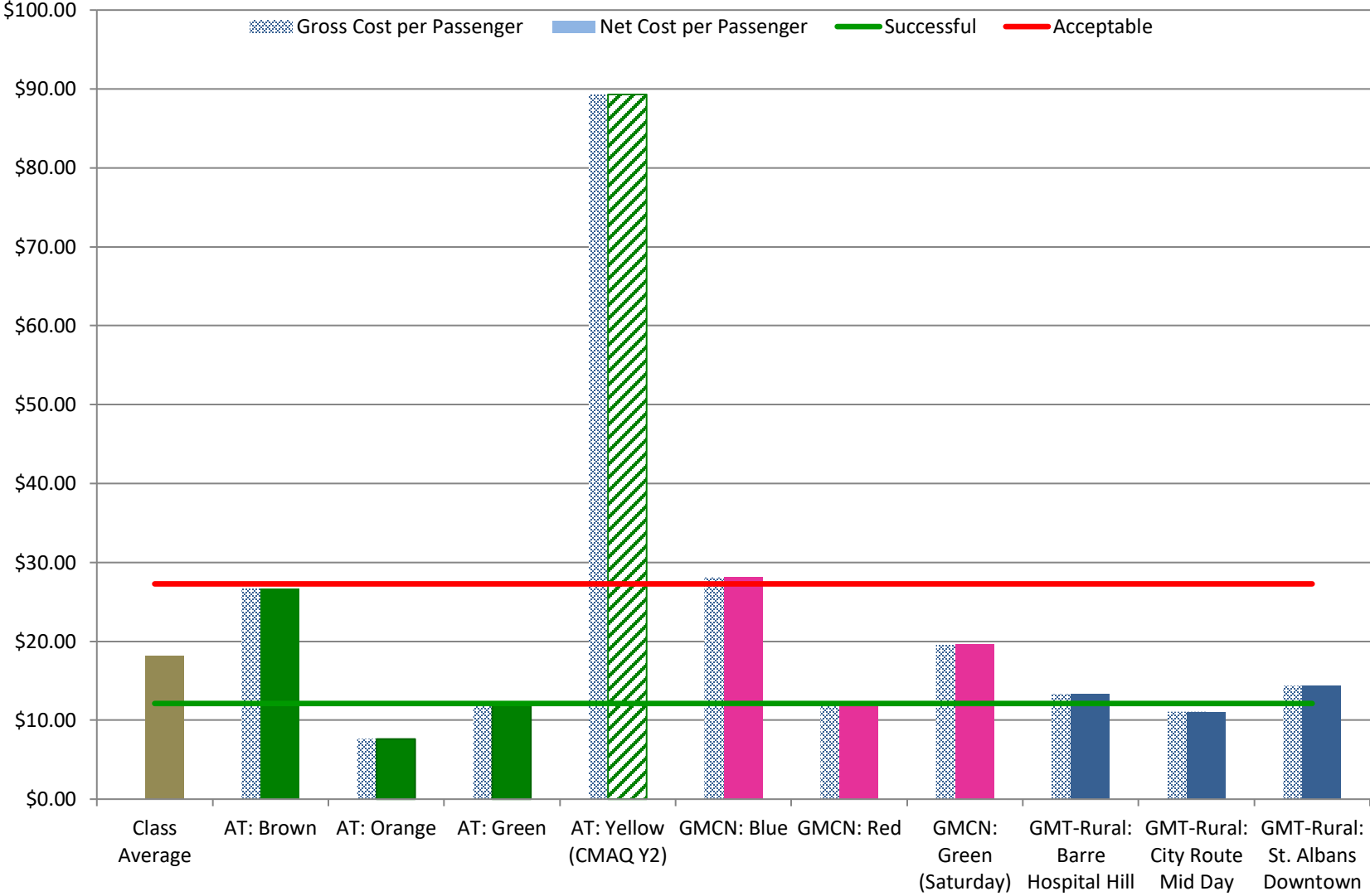
**COST-EFFECTIVENESS PERFORMANCE
BY SERVICE CATEGORY**

**FOR THE PERIOD
JULY 2020 THROUGH JUNE 2021**

Graph #1: 2021 Urban Cost per Passenger

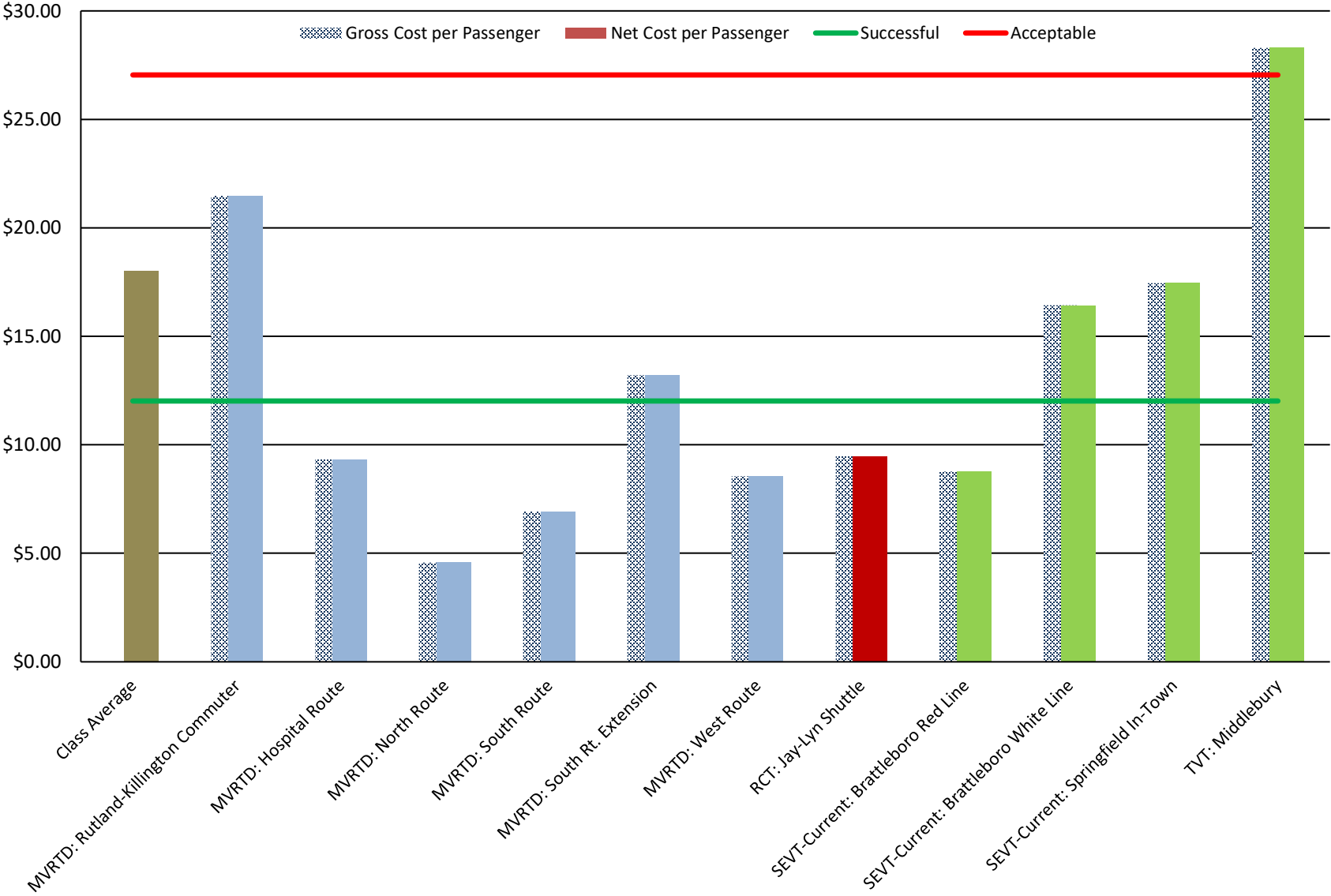


Graph #2: 2021 Small Town Cost per Passenger (page 1)

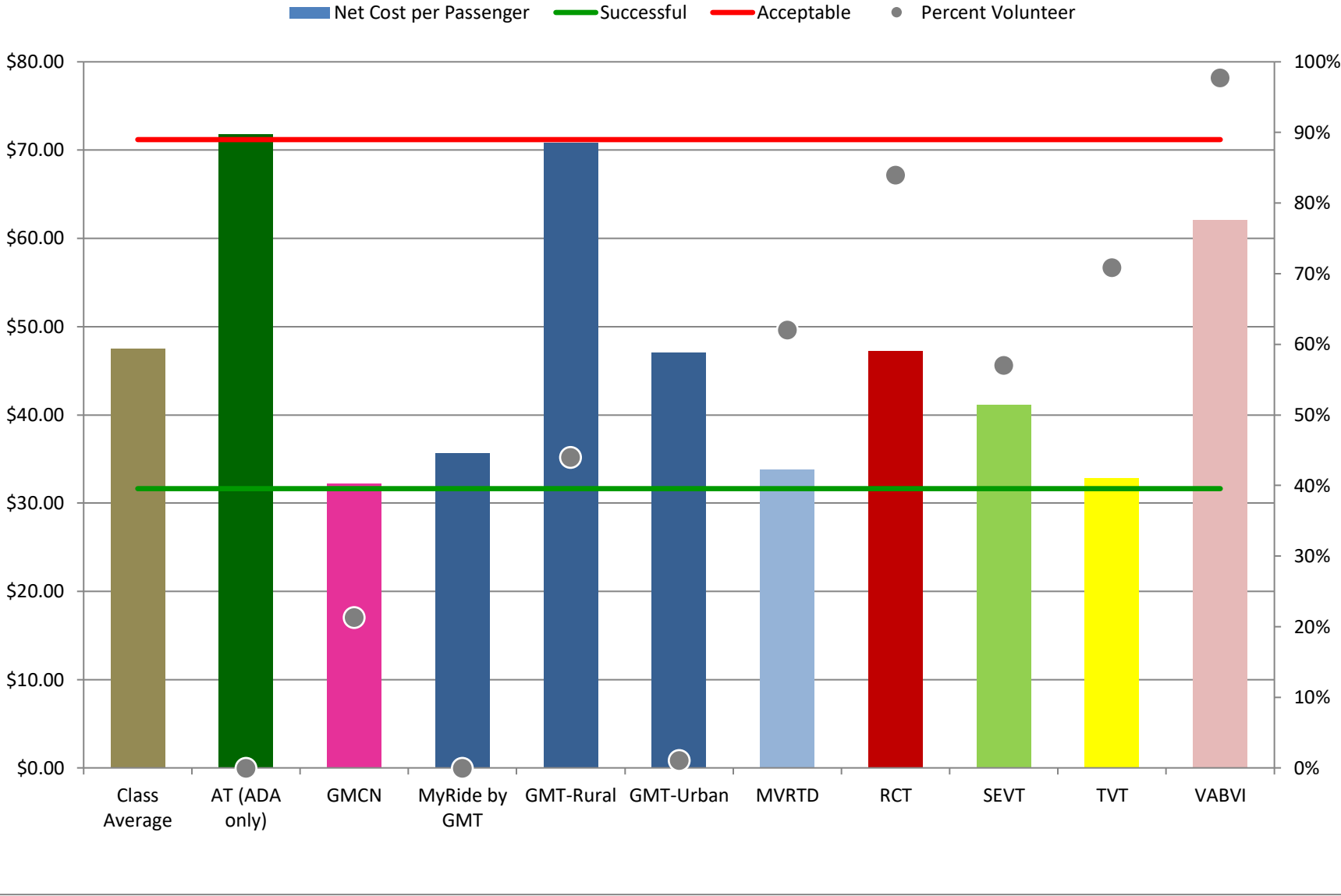


Note: Data for AT routes represent the entire route, even though a portion of the route is in New Hampshire.

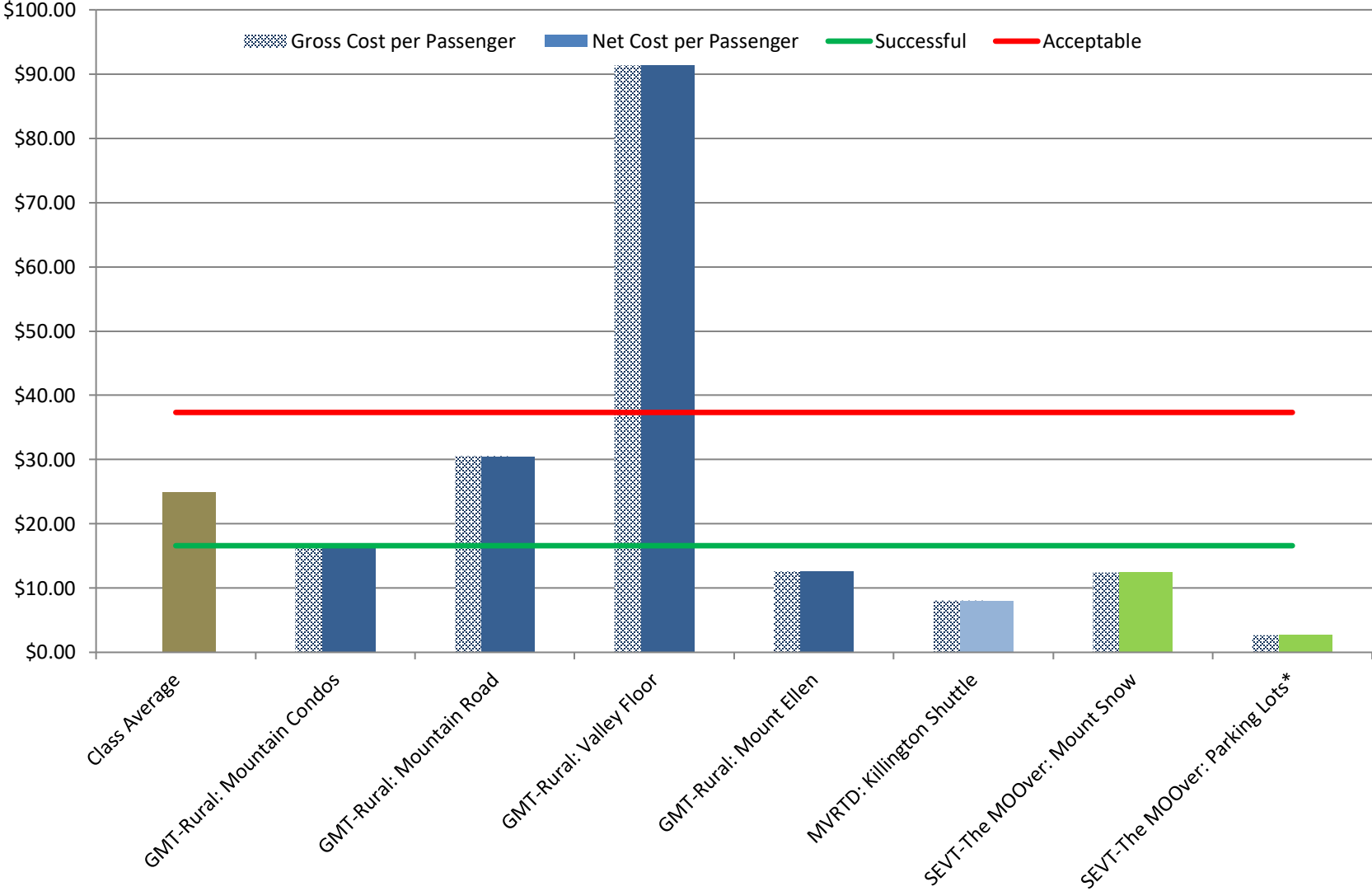
Graph #2: 2021 Small Town Cost per Passenger (page 2)



Graph #3: 2021 Demand Response Cost per Passenger

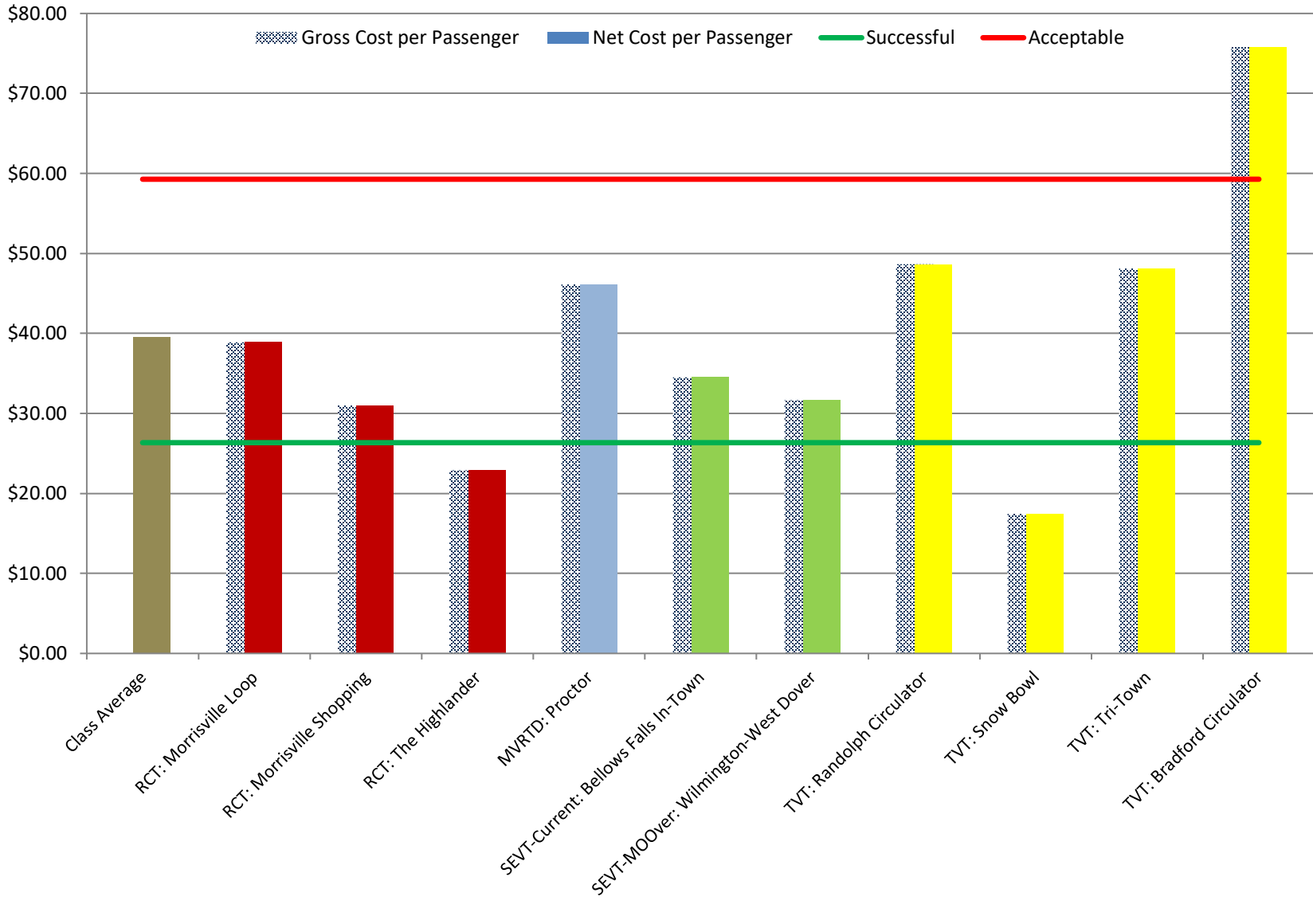


Graph #4: 2021 Tourism Cost per Passenger

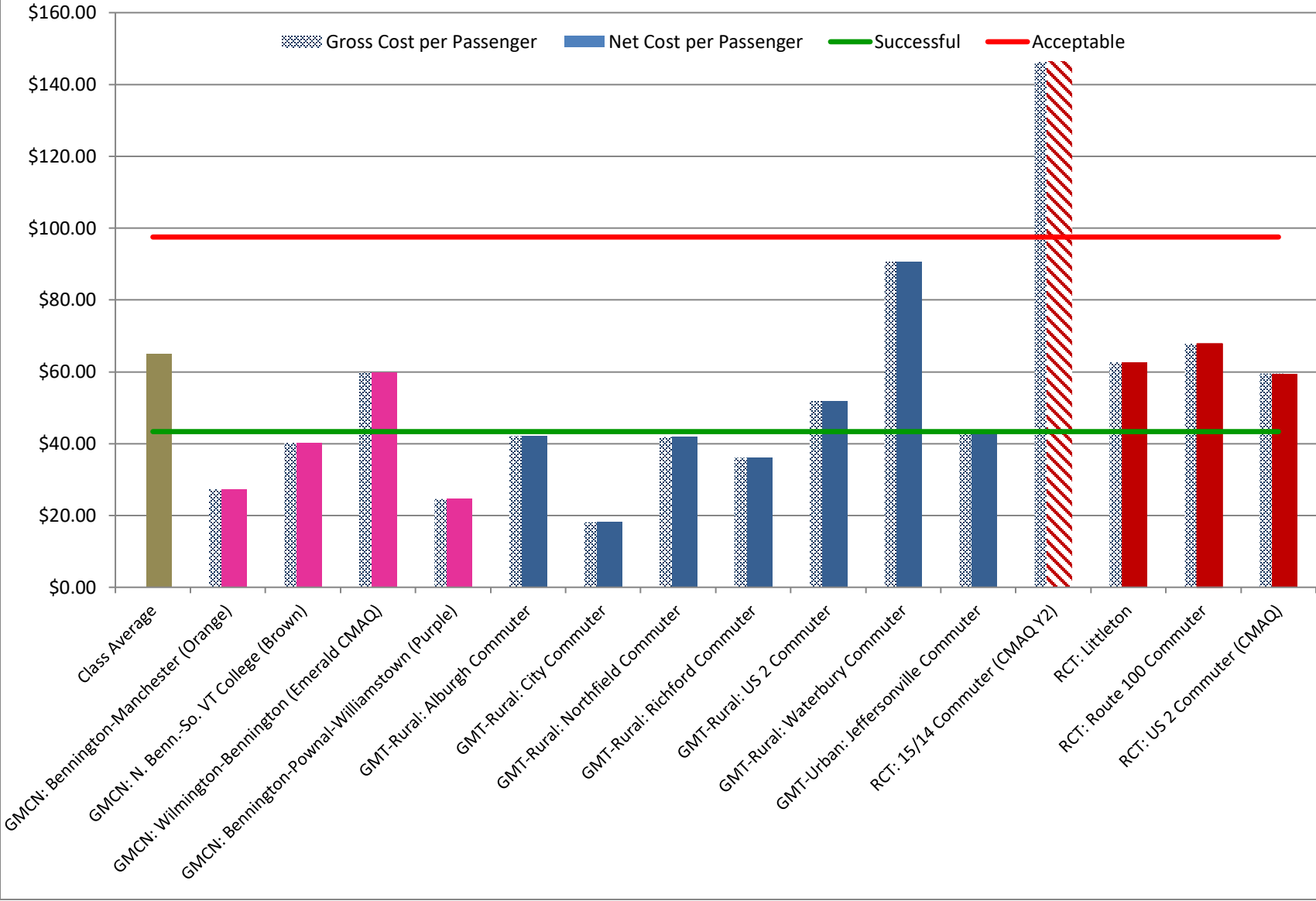


*Privately funded operations; no state or federal funds

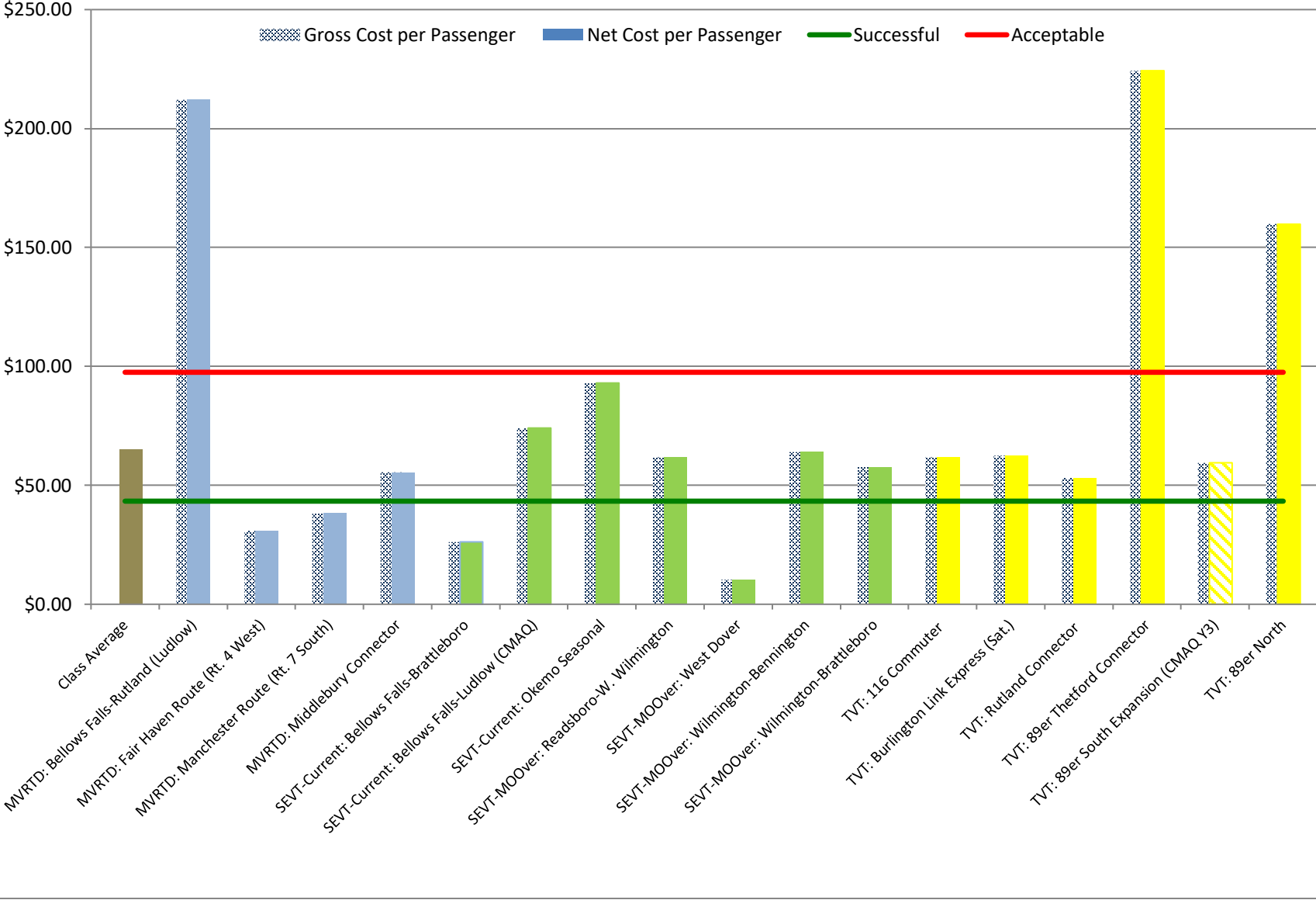
Graph #5: 2021 Rural Cost per Passenger



Graph #6: 2021 Rural Commuter Cost per Passenger (page 1)



Graph #6: 2021 Rural Commuter Cost per Passenger (page 2)



Graph #7: 2021 Express Commuter Cost per Passenger

