

Vermont Agency of Transportation (VTrans)

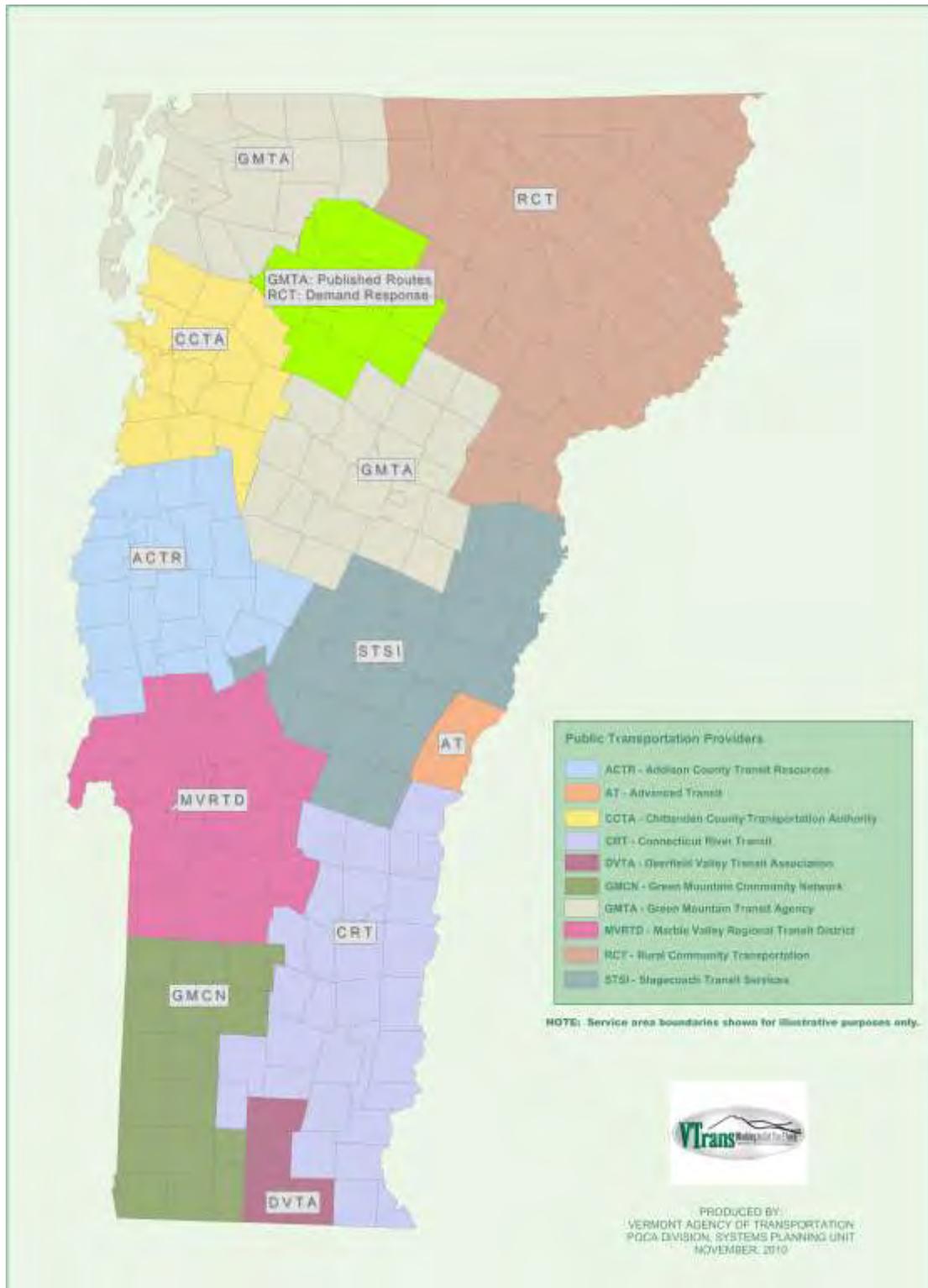
Public Transit Route Performance Reviews

Annual Report for State Fiscal Year (SFY) 2011

To the Vermont Legislature General Assembly
Pursuant to 24 V.S.A. Section 5092

January, 2012

Figure 1: Service Areas of Vermont's Public Transit Providers



Source: VTrans Website, http://www.aot.state.vt.us/PublicTransit/images/AOT-OPS-PT_PTProviderServiceAreas.pdf.

KEY OF VERMONT TRANSIT SYSTEMS

ACTR	Addison County Transit Resources
AT	Advance Transit
CCTA	Chittenden County Transportation Authority
CRT	Connecticut River Transit (dba The Current)
DVTA	Deerfield Valley Transit Association
GMCNI	Green Mountain Community Network, Inc.
GMTA	Green Mountain Transit Agency
MVRTD	Marble Valley Regional Transit District
RCT	Rural Community Transportation, Inc.
STSI	Stagecoach Transportation Services, Inc.
VABVI	Vermont Association for the Blind and Visually Impaired

INTRODUCTION

Vermont's Public Transit Program is managed under the Vermont Agency of Transportation's Policy, Planning, and Intermodal Development (PPAID) Division's Public Transit Section. The Public Transit Section produces this report annually to inform the State Legislature of the results of its ongoing transit performance evaluations, as required by 24 V.S.A. Section 5092 and the purpose of which is to ensure that public investment in transit is well spent.

This report was developed based on performance monitoring guidelines outlined in the 2007 Vermont Public Transit Policy Plan (PTPP), which details policies, goals, and strategies to meet the State's public transportation challenges. The Public Transit Section was in the process of completing the 2012 update of the PTPP at the time that this report was developed. Where feasible, recommendations regarding performance monitoring from the 2012 update of the PTPP were incorporated into this report including:

- Re-classifying particular routes to better reflect the characteristics of the service, including re-classifying rural routes that operate less than once a day as demand response service; and
- Identifying routes or services that underperform using service standards (based on national peer reviews or internal Vermont averages, depending on the type of transit service).

The second issue is especially important as the 2012 update of the PTPP included a policy recommendation to enforce and accelerate the discontinuation of State/federal funding to underperforming services. Another recommendation in the PTPP update was to re-institute monitoring of the transit providers' local funding levels, with a target of 20% local funding. While this performance measure was not included in this year's report due to time constraints with data collection, the issue is summarized below.

TRANSIT SERVICE CATEGORIES

The service categories below are the same route classifications reported in the past and recommended in the 2007 PTPP, with only one change to the Demand Response category, which now includes services that operate less than once a day.

- 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) **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 all-day service, but the frequency may be low (more than one hour between trips).
- 4) **Demand Response:** Primarily service that does not operate on a fixed schedule nor on a fixed route; also includes routes that are “rural” in nature but operate less than once a day (i.e., service operates only once a week or a few times a month).
- 5) **Tourism:** Seasonal routes that serve a specific tourist trip generator, such as a ski area.
- 6) **Commuter:** Routes that operate primarily during peak commute periods and often include express segments.
- 7) **Volunteer Driver:** Services provided by volunteer drivers who use their own vehicles, donate their time to transport riders, and receive reimbursement for mileage at the federal rate.

These service definitions do not constitute hard rules. Where service characteristics could fall under more than one route classification, services were generally assigned the same classification as last year’s report for consistency. The exceptions are described below.

- Two services previously in the Commuter category were changed this year to the Rural category because the routes serve numerous local stops (whereas Commuter service is more express in nature):
 - CRT: Bellows Falls-Brattleboro
 - GMCNI: Bennington-Manchester
- Four services previously in the Rural category were changed to the Demand Response category because the services operate less than daily (most operate a few times per month):
 - GMTA: Northfield Shuttle
 - STSI: Randolph-West Lebanon
 - STSI: Rochester-West Lebanon
 - STSI: Rochester-Randolph

Note: Data for individual demand response services were added to the data per system for the performance evaluation.

Vermont Route Performance Data

The transit route performance data analyzed in this report were primarily obtained from the Public Transit Section, in the form of Section 5311 – Rural Transit Program Monthly Service Indicator Reports¹ that each transit system submits to VTrans. In addition, the transit systems provided separate data on trips provided by volunteer drivers for the evaluation of their administrative costs per volunteer trip. CCTA also provided their route statistics separately.

¹ Monthly data were available for State Fiscal Year 2011, July 2010 through June 2011.

PERFORMANCE STANDARDS

The Public Transit Section evaluates Vermont's transit services by their productivity and cost-effectiveness. The 2012 update of the PTPP also recommended evaluating the transit systems by the local share of their operating costs; the data for this third measure will be collected and analyzed starting in next year's report.

Methodology for Developing Performance Standards

The performance standards for Vermont's transit services were developed using different data sources and approaches depending on the service category. The Federal Transit Administration's National Transit Database (NTD), both the Urban and Rural NTD, was the principal source in compiling data on peer transit systems to develop performance standards. The NTD is the primary source for statistics of transit systems in the country.² Because NTD data are provided by service type (i.e., fixed-route, demand response) per transit system, performance standards developed using the data represent an approximation of peer services that are comparable to Vermont's service categories, rather than a route-to-route comparison. However, the benefits of utilizing the NTD – it is readily accessible, updated annually, and includes a large number and diversity of potential peer systems from across the country – outweighs this limitation.

The performance standards for Vermont's Urban category were based on data from the 2010 Urban NTD and developed by the same methodology from the 2007 PTPP, which identified 19 peer systems. The performance standards for the Commuter and Volunteer Driver categories were based on internal Vermont peers, the same approach that was used in the two previous reports. The development of performance standards for the Tourism category was enhanced to incorporate data on peers available in the Rural NTD; data were also collected directly from several peers that have been included previously.

The primary changes in this year's methodology pertained to the Small Town, Rural, and Demand Response categories. The methodology continues to use the most recent Rural NTD (2010) for peer data, but the approach for identifying peers changed. Rather than using last year's methodology of designating fixed-route bus systems as peers for Small Town routes and deviated fixed-route bus systems as peers for Rural routes, new data on service area types were used to identify potential peer systems. Systems that the Rural NTD identified with "Municipality" service areas were examined for Small Town peers, while systems identified with "Multi County/Independent City" or "County/Independent City" service areas were examined for Rural peers.³ Systems that the Rural NTD identified as Demand Response mode were still examined as potential Demand Response peers.

² NTD Website, <http://www.ntdprogram.gov/ntdprogram/ntd.htm>.

³ Note that most Vermont providers had "Multi County/Independent City" service areas in the Rural NTD.

This new approach to Small Town and Rural peers aimed to capture data for peer services that are more similar in nature to Vermont's services, as opposed to differentiating the Rural NTD data by systems that operate fixed-route or deviated fixed-route services. (The Vermont service categories are not differentiated in this way.) The rationale was that Small Town routes operate primarily within a municipality, and Rural routes operate primarily between two small towns and travel over stretches of undeveloped areas; most of Vermont's transit systems also operate Rural routes that travel over county boundaries.

The lists of potential peers were first narrowed down to those with costs per hour comparable to that of Vermont systems.⁴ Then the lists were further screened by revenue hours, boardings per hour, or cost per passenger depending on the service category; specifically systems with values within one standard deviation of the mean value of all potential peers were kept as peers. Additional outliers were eliminated from the peer groups where systems are very different from Vermont's systems in terms of the type of transit service provided and/or the type of area served (i.e., systems in Hawaii and Alaska, urban systems, university/college systems).

Following the same methodology as in recent years, the peer average⁵ per service category was generally designated as the standard for "Successful" services. The only exception was for Volunteer Trips, where 80% of the peer average was considered the Successful standard, per guidelines in the 2007 PTPP. For all the service categories, the "Acceptable" standard was set at half the Successful threshold in measuring productivity, and twice the Successful threshold in measuring cost-effectiveness. Table 1 displays the performance standards developed using this year's methodology, along with last year's performance standards.

⁴ A similar step was done in last year's report to screen peer systems for the Small Town, Rural, and Demand Response categories. The overall cost per hour for the systems was used in this first screening because the NTD provides operating costs per system, rather than by type of service.

⁵ The peer average of each performance measure was calculated as the average of the performance measures for all the peer systems (i.e., three peer systems had values X, Y, and Z for their boardings per hour and the peer average was calculated as the average of X, Y, and Z); rather than summing the values for all the peer systems and then calculating the measure (i.e., summing the boardings for all peer systems and summing the revenue hours for all systems, and then calculating total boardings divided by total hours).

Table 1: Comparison of SFY 2010 and SFY 2011 Performance Standards

Service Category	"Successful" Productivity Standard		"Successful" Cost-Effectiveness Standard (cost/passenger)	
	2010	2011	2010	2011
Urban	1.74 boardings/mile	1.67 boardings/mile	\$3.89	\$4.20
Small Town	10.4 boardings/hour	9.06 boardings/hour	\$5.76	\$7.80
Rural	5.32 boardings/hour	6.25 boardings/hour	\$14.34	\$14.66
Demand Response	3.66 boardings/hour	3.81 boardings/hour	\$14.38	\$14.04
Tourism	13.5 boardings/hour	16.97 boardings/hour	\$5.25	\$4.85
Commuter	9.9 boardings/trip	8.8 boardings/trip	\$15.43	\$15.30
Volunteer Driver	n/a	n/a	\$3.37	\$3.32

The most significant changes in SFY 2011 were in the Small Town, Tourism, and Commuter categories. The standards for Tourism service increased as more systems were included in the peer group with data available from the Rural NTD. While the methodology focused on systems that offer free transit service at ski areas as Tourism peers, the data for most peers represented year-round services including the winter schedules; it was difficult to obtain separate data just for ski shuttles. Therefore, this year's standard for Tourism boardings per hour was probably higher because it included data for year-round services. A few systems that operate tourism services in the summer in rural areas similar to Vermont were also included as peers.

The Successful standard for Commuter service productivity decreased due to a slight change in methodology. This year's Successful performance measures are Vermont's pure internal averages for all commuter services, whereas last year the average was adjusted by a small multiplier to account for several new CMAQ services with lower figures. While the cost-effectiveness measures for SFY 2010 and SFY 2011 look similar, taking into account the adjustment made for last year's standard, Vermont's average cost-effectiveness among commuter routes improved in SFY 2011. This can be attributed to fifteen of the eighteen services in the Commuter category experiencing ridership increases, with significant increases on several CMAQ routes (89er North, Milton Commuter, and US 2 Commuter) as well as the Montpelier LINK Express, Route 100, and the Waterbury Commuter.⁶

⁶ The CMAQ routes experienced ridership increases as high as 200% and 500% over last year, most likely because last year's data represented partial-year service – the first year that the route started – while the SFY 2011 data captured a full year of operations. The non-CMAQ routes that experienced significant ridership increases transported 20% to 30% more riders than last year.

The Small Town standards also decreased, most likely because the new methodology identified peers that operate both deviated fixed-route and fixed-route services, whereas last year's peers only operate fixed-route services. Deviated fixed-route services are often provided in areas with lower densities, and tend to transport fewer passengers per hour and have higher costs per passenger than fixed-route services. Thus including deviated fixed-route systems in the peer group this year lowered the performance standards, but also provided more comparable data as several services in Vermont's Small Town category provide deviations.

Local Share

The 2012 update of the PTPP recommended analysis of the transit systems' locally generated revenue as an additional performance measure. Local share refers to the percentage of the system's operating expenses that are *not* covered by the Federal Transit Administration, the Federal Highway Administration, or the State. Potential local sources of revenue include fares; advertising; contributions from municipalities, universities/colleges, businesses, or tourism destinations such as ski resorts; contracts for service provided to private agencies; in-kind donations; local tax revenues; sale of assets such as old buses; and the transit system's general fund.

The local share performance measure helps VTrans determine how well each transit system is meeting the State policy of funding at least 20% of its operating costs through local sources. While data could not be collected in time for inclusion in this report, VTrans plans to collect local share data from the transit systems for the SFY 2012 legislative report.

PERFORMANCE GRAPHS

The next section of the report includes graphs that display Vermont's transit service performance data – both the productivity and cost-effectiveness measures for each service category – in conjunction with the standards for Successful and Acceptable services. Note that New Services, which are still being funded through the Congestion Mitigation and Air Quality Improvement (CMAQ) program, are included but are distinguished by hash-marked fill in the graphs. Most of Vermont's transit services met the Acceptable performance standards set by peer systems. Those services that were underperforming or have improved since the last report are highlighted below.

Underperforming Routes/Services

Table 2 outlines Vermont's services that were underperforming and did not meet the Acceptable thresholds for two consecutive years.⁷

⁷ Three services not included in Table 2 were discontinued in FY 2011 due to underperformance: STSI: Rochester-Rutland (Rural), GMTA: Warren (Tourism), and CRT: DHMC 12-hr (Commuter).

Table 2: Underperforming Services

<i>Service Category</i>	Route	Underperformed in:	
		Productivity	Cost-Effectiveness
Small Town	GMCNI: Blue	X	
Small Town	GMCNI: Green (Saturday)	X	
Rural	GMTA: Morrisville Loop	X	
Rural	MVRTD: Ludlow Route (CMAQ Y3)	X	
Tourism	GMTA: Valley Floor	X	
Commuter	CCTA: Milton Commuter (CMAQ Y2)	X	
Commuter	MVRTD: Manchester Route	X	

The demand response services for CCTA and RCT are additional services to monitor. CCTA's boardings per hour and both RCT's productivity and cost-effectiveness measures met the Acceptable threshold last year, but not this year. These services were the only "new" underperforming services in SFY 2011 that had met Acceptable standards last year.

The 2012 update of the PTPP includes new policy to address services that do not meet performance standards. Once the PTPP update is finalized, the Public Transit Section will work with the transit providers to take next steps in accordance with the new policy.

Improved Routes/Services

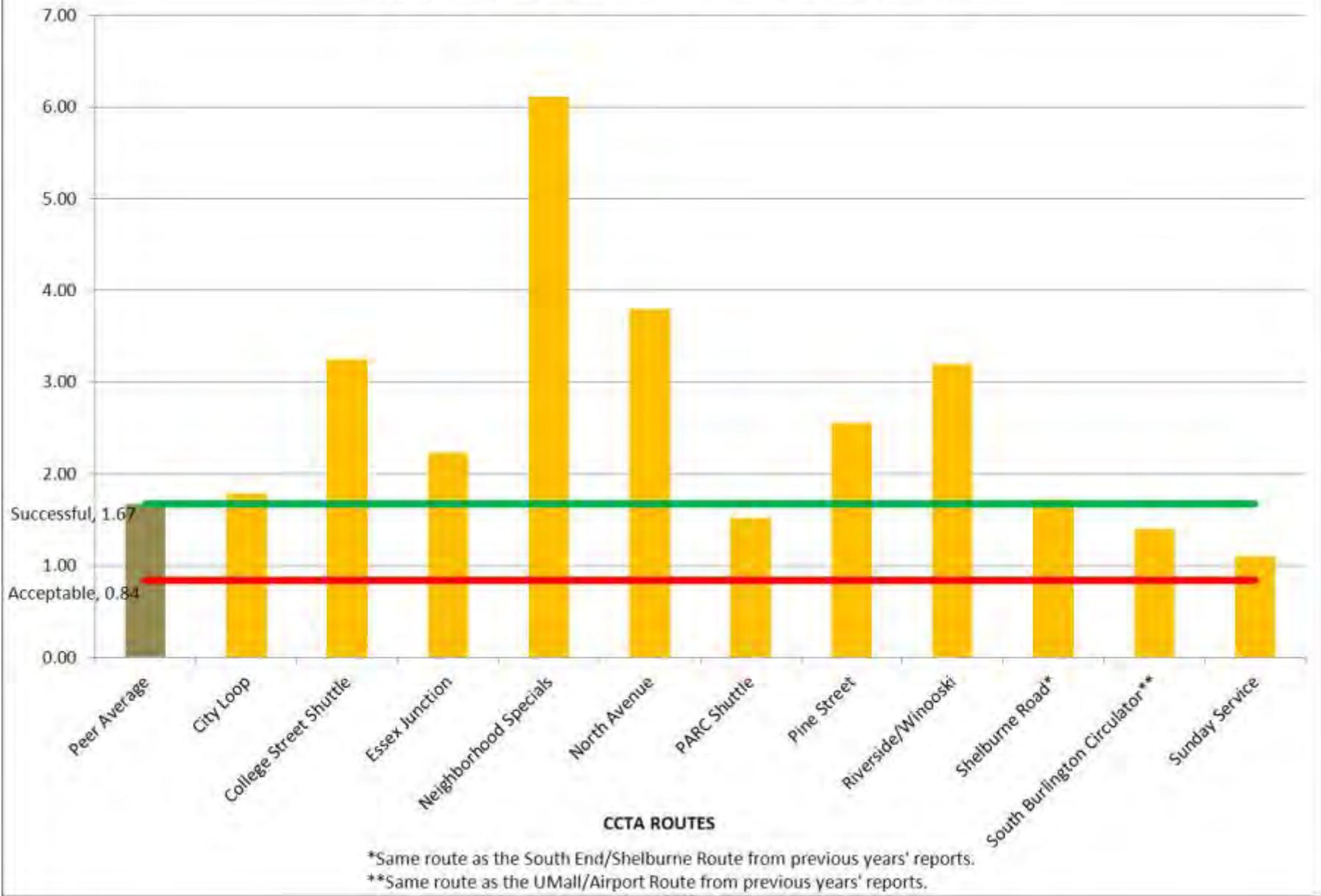
Table 3 includes services that did not meet the Acceptable threshold in SFY 2010, but improved over the year to meet at least the Acceptable standard in SFY 2011.

Table 3: Improved Services

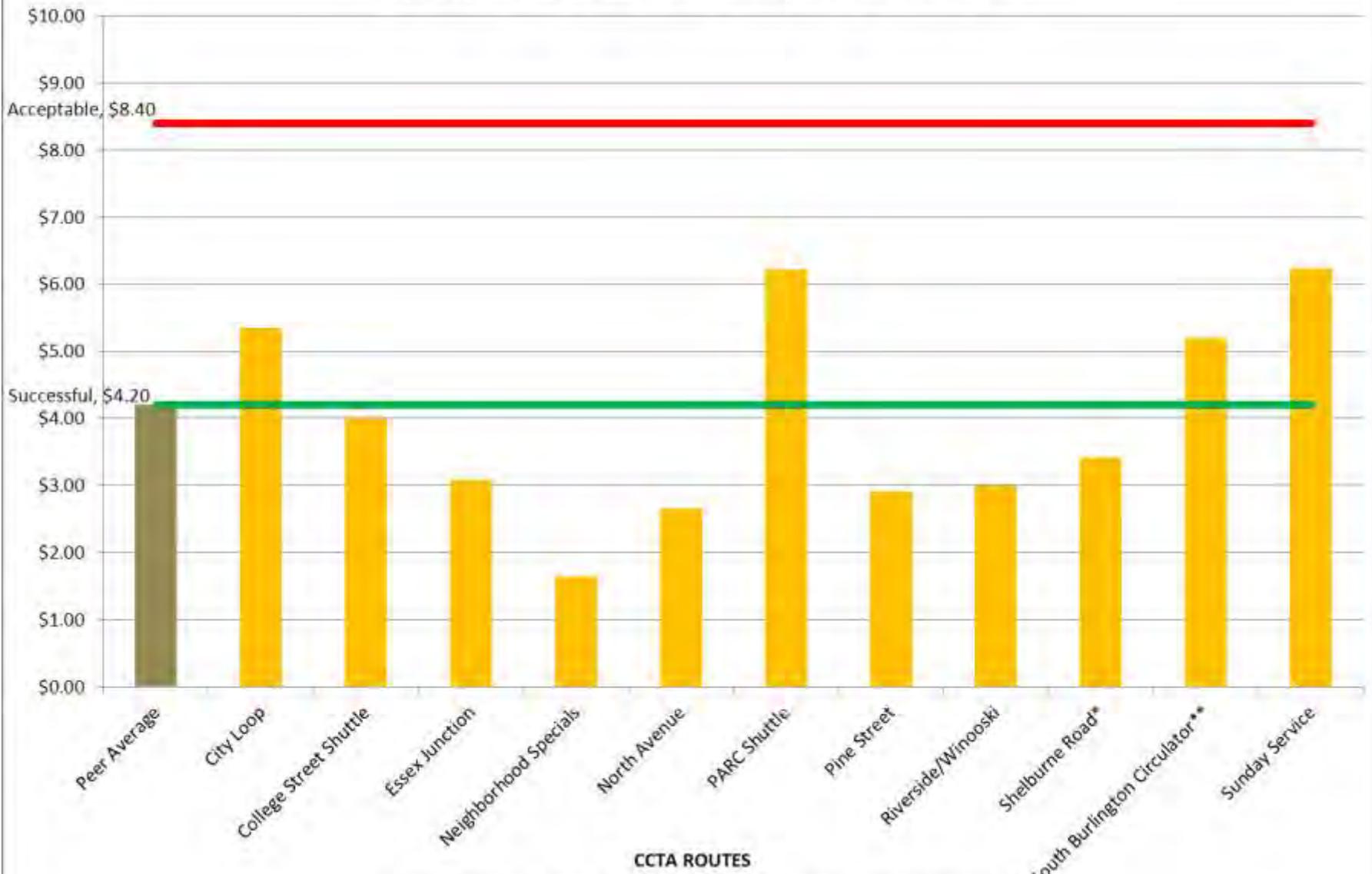
<i>Service Category</i>	Route	Underperformed in SFY 2010 and Improved in SFY 2011:	
		Productivity	Cost-Effectiveness
Small Town	GMCNI: Blue		X
Small Town	GMCNI: Green (Saturday)		X
Small Town	GMTA: Capital Shuttle	X	X
Small Town	MVRTD: South Route Extension (CMAQ Y2)	X	X
Commuter	GMTA: US 2 Commuter (CMAQ Y2)	X	X
Commuter	GMTA: Route 100	X	
Commuter	RCT: US 2 Commuter (CMAQ Y2)	X	
Commuter	STSI: 89er North (CMAQ Y2)	X	X
Volunteer Driver	MVRTD	n/a	X

Though the Acceptable standard for Small Town cost-effectiveness became "easier" this year, the four Small Town services above all also decreased their costs per passenger in SFY 2011.

Graph #1: 2011 Urban Boardings per Mile



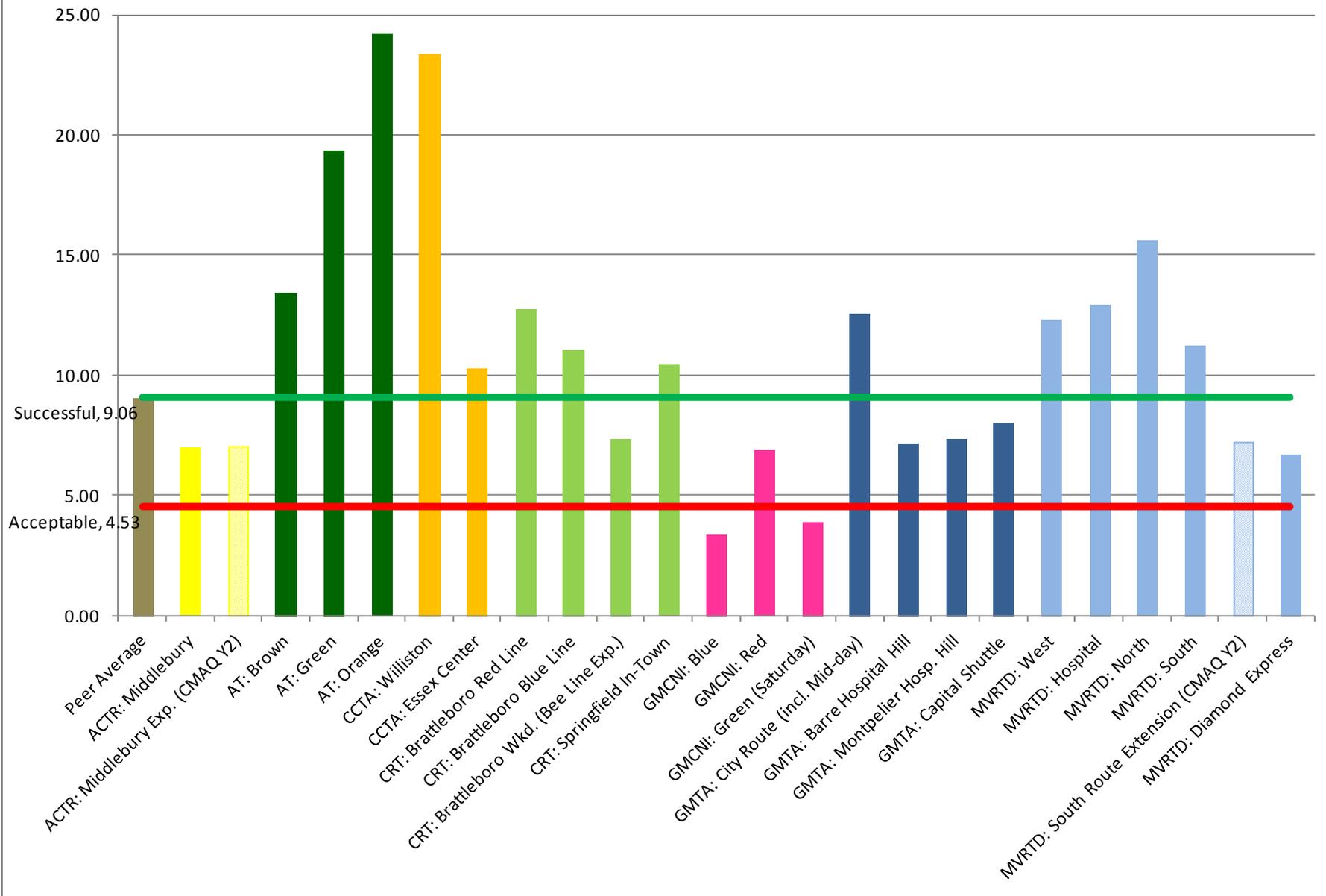
Graph #2: 2011 Urban Cost per Passenger



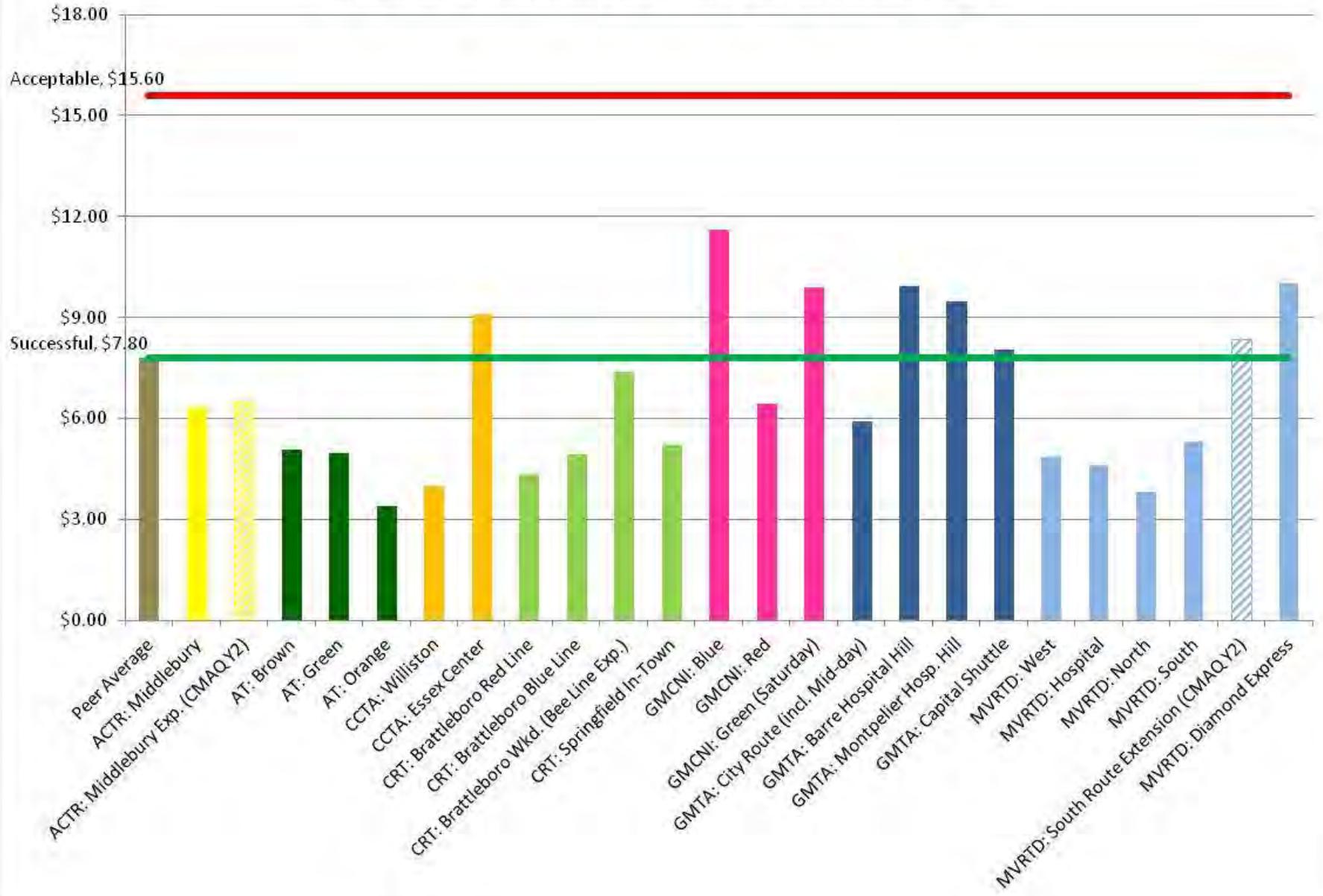
*Same route as the South End/Shelburne Route from previous years' reports.

**Same route as the UMass/Airport Route from previous years' reports.

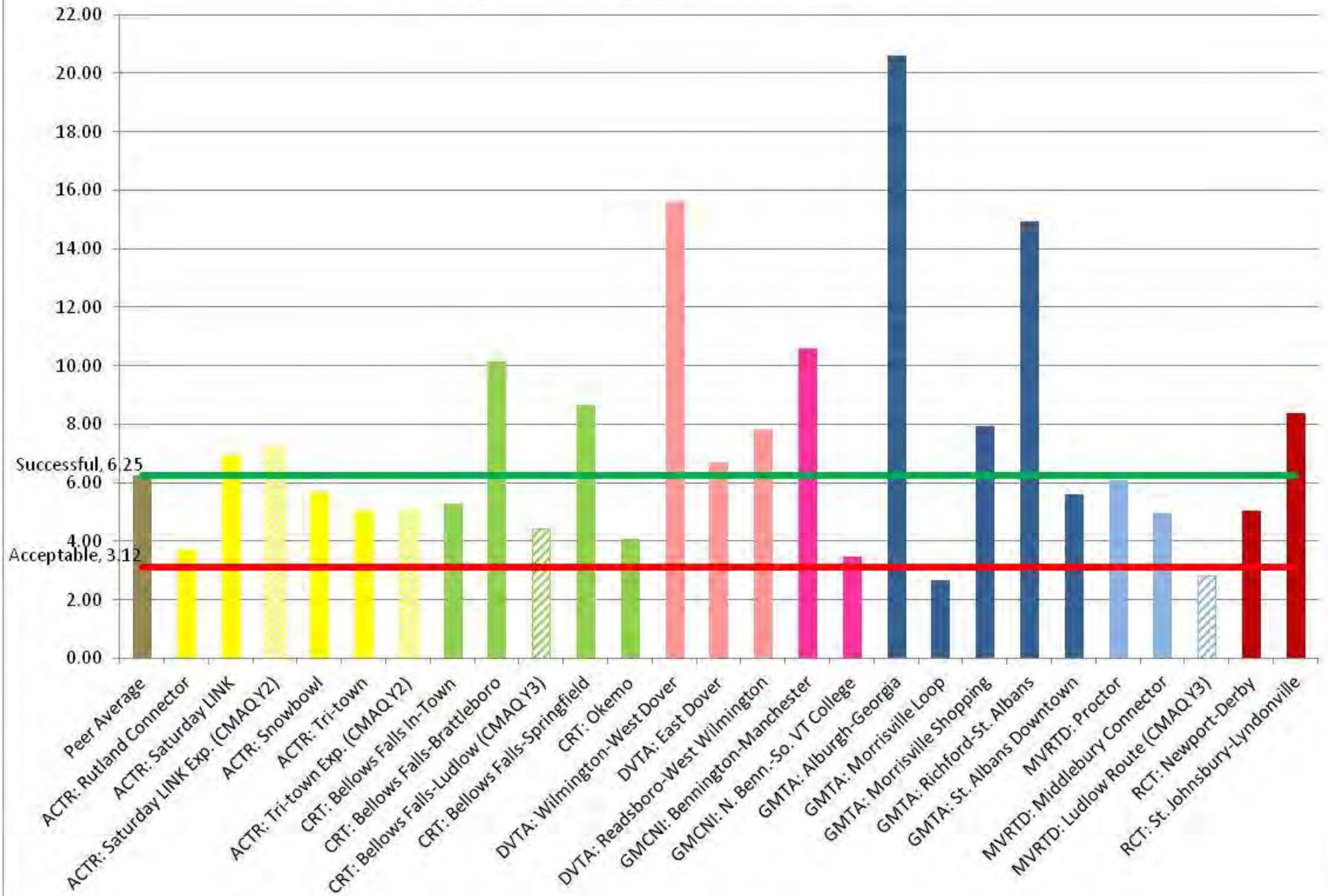
Graph #3: 2011 Small Town Boardings per Hour



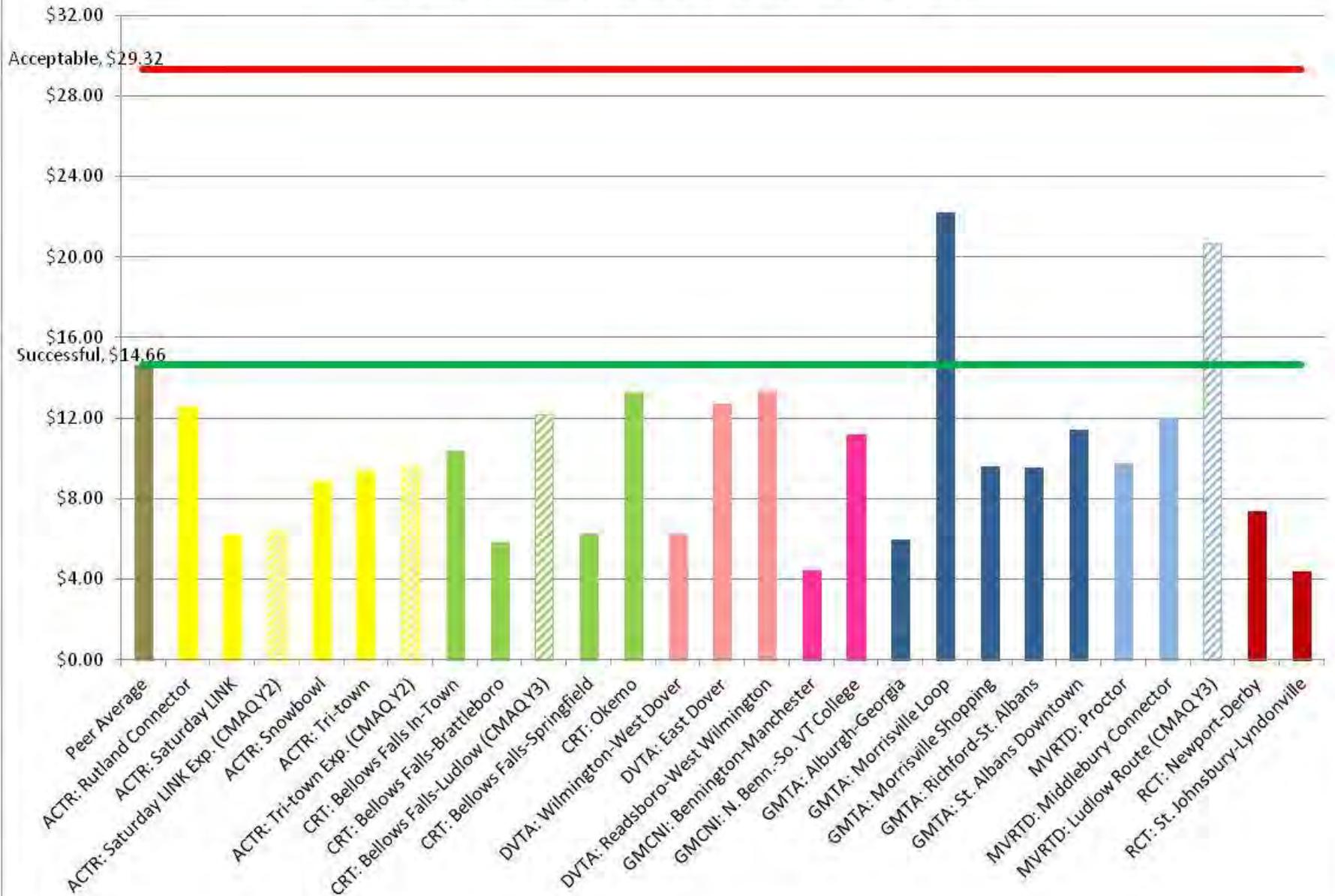
Graph #4: 2011 Small Town Cost per Passenger



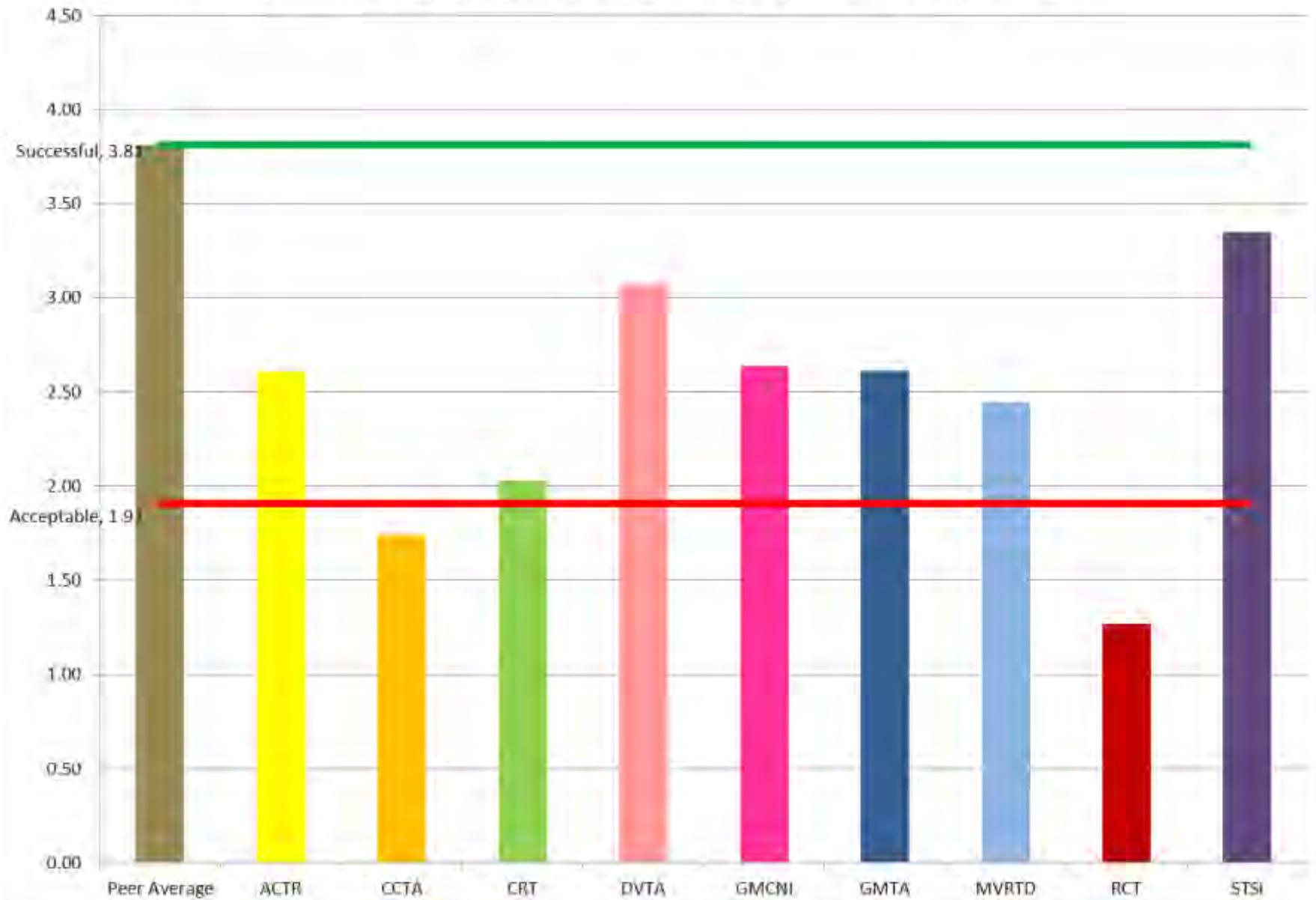
Graph #5: 2011 Rural Boardings per Hour



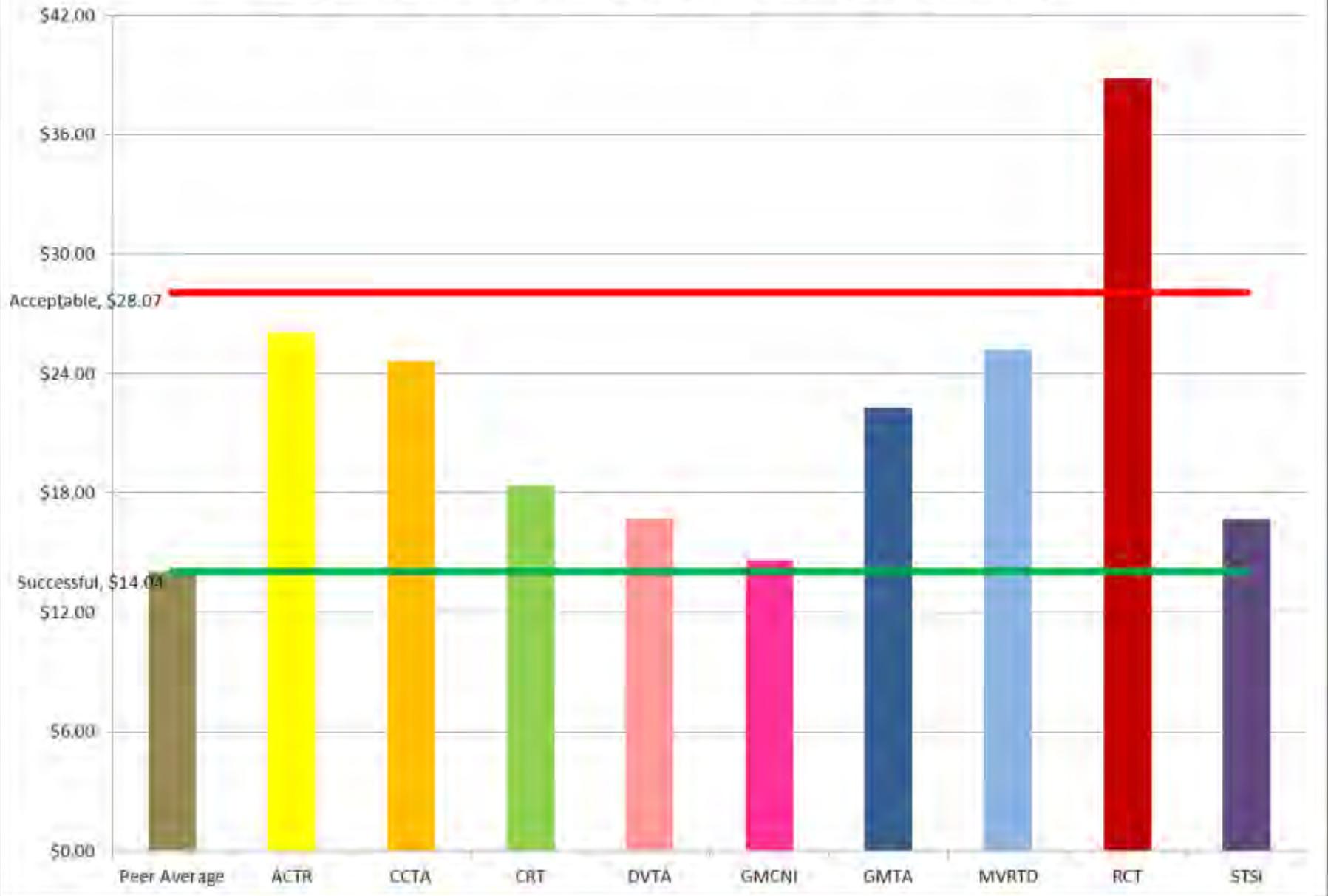
Graph #6: 2011 Rural Cost per Passenger



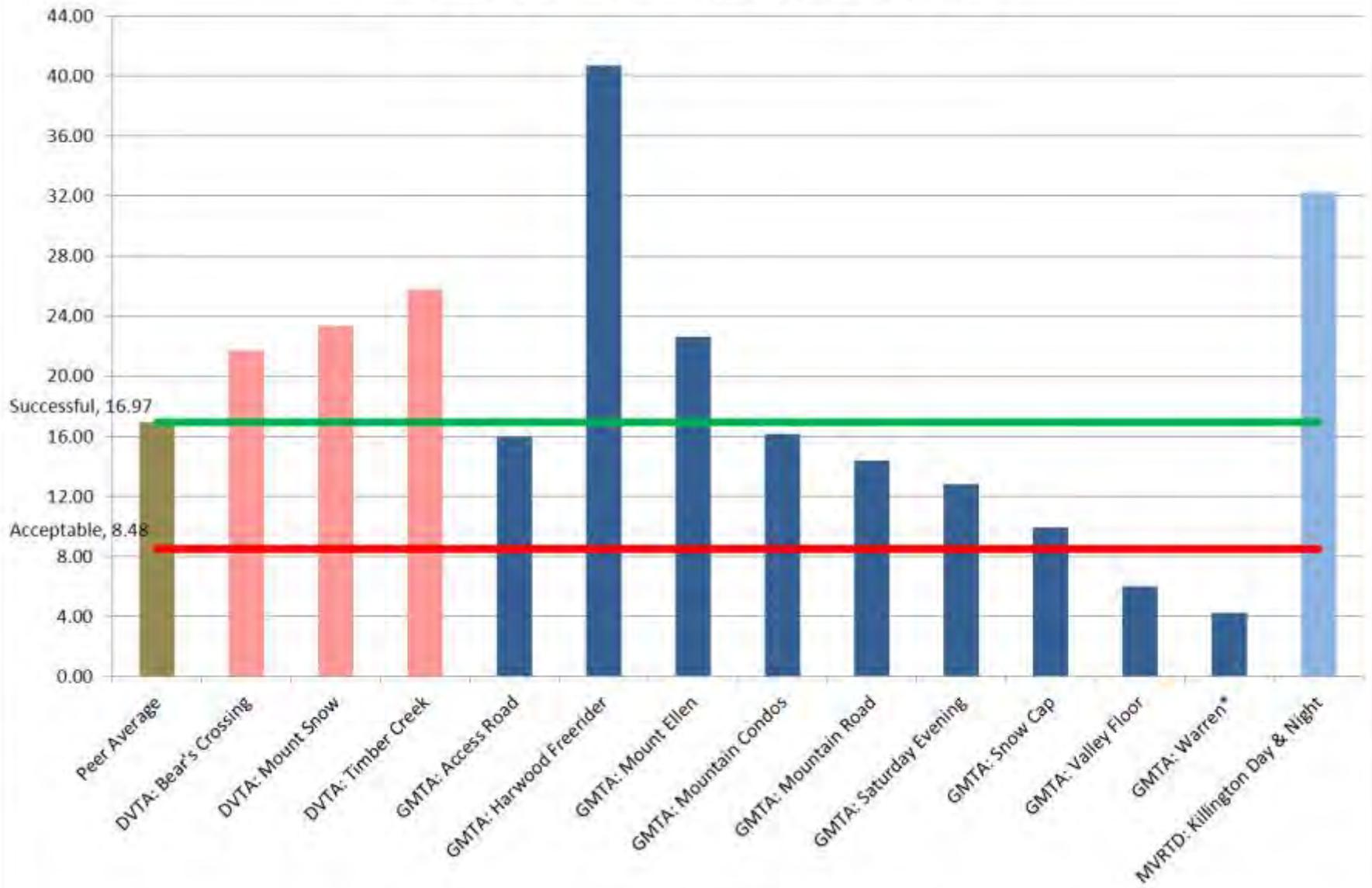
Graph #7: 2011 Demand Response Boardings per Hour



Graph #8: 2011 Demand Response Cost per Passenger

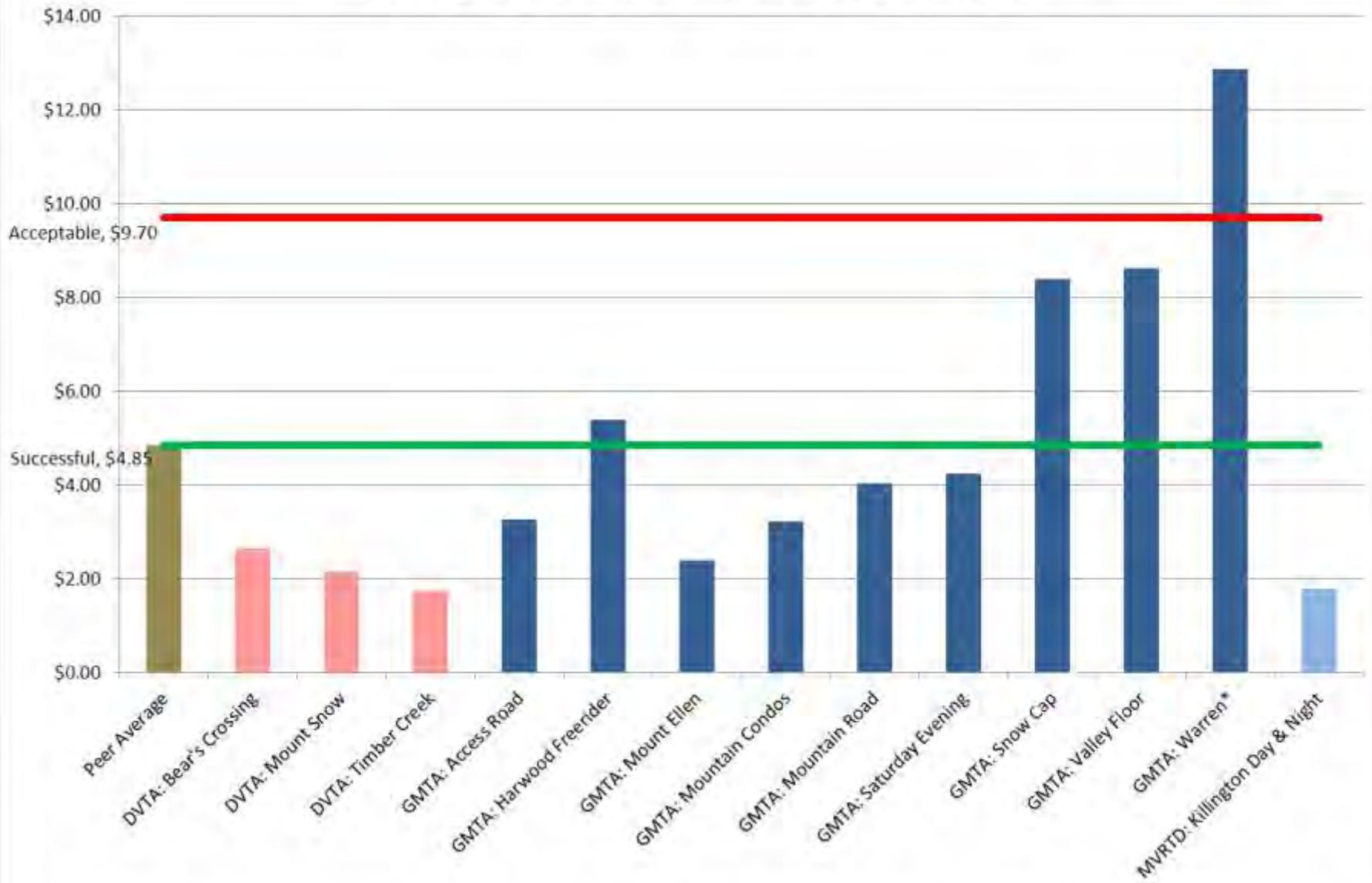


Graph #9: 2011 Tourism Boardings per Hour



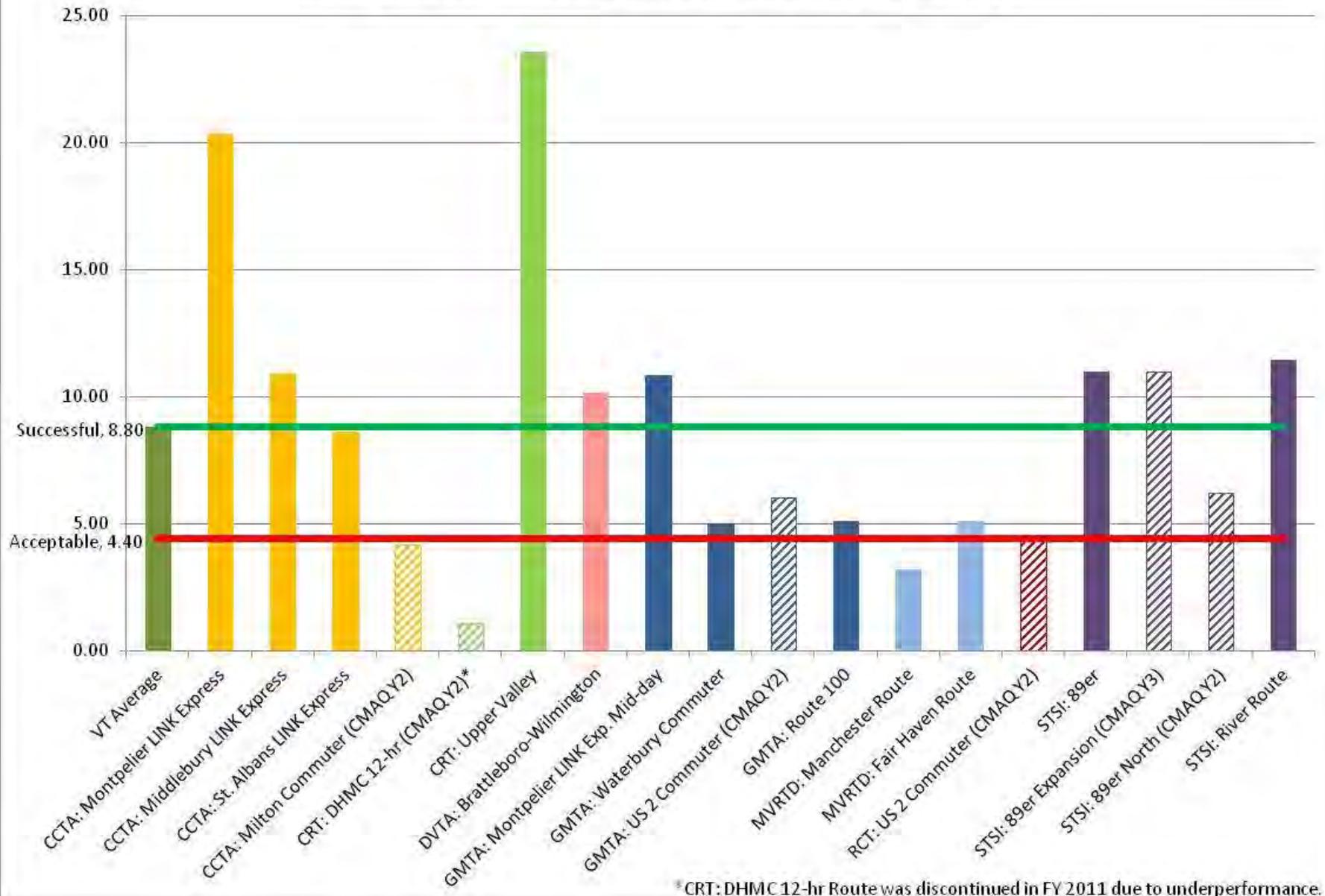
*GMTA: Warren Route was discontinued in FY 2011 due to underperformance.

Graph #10: 2011 Tourism Cost per Passenger



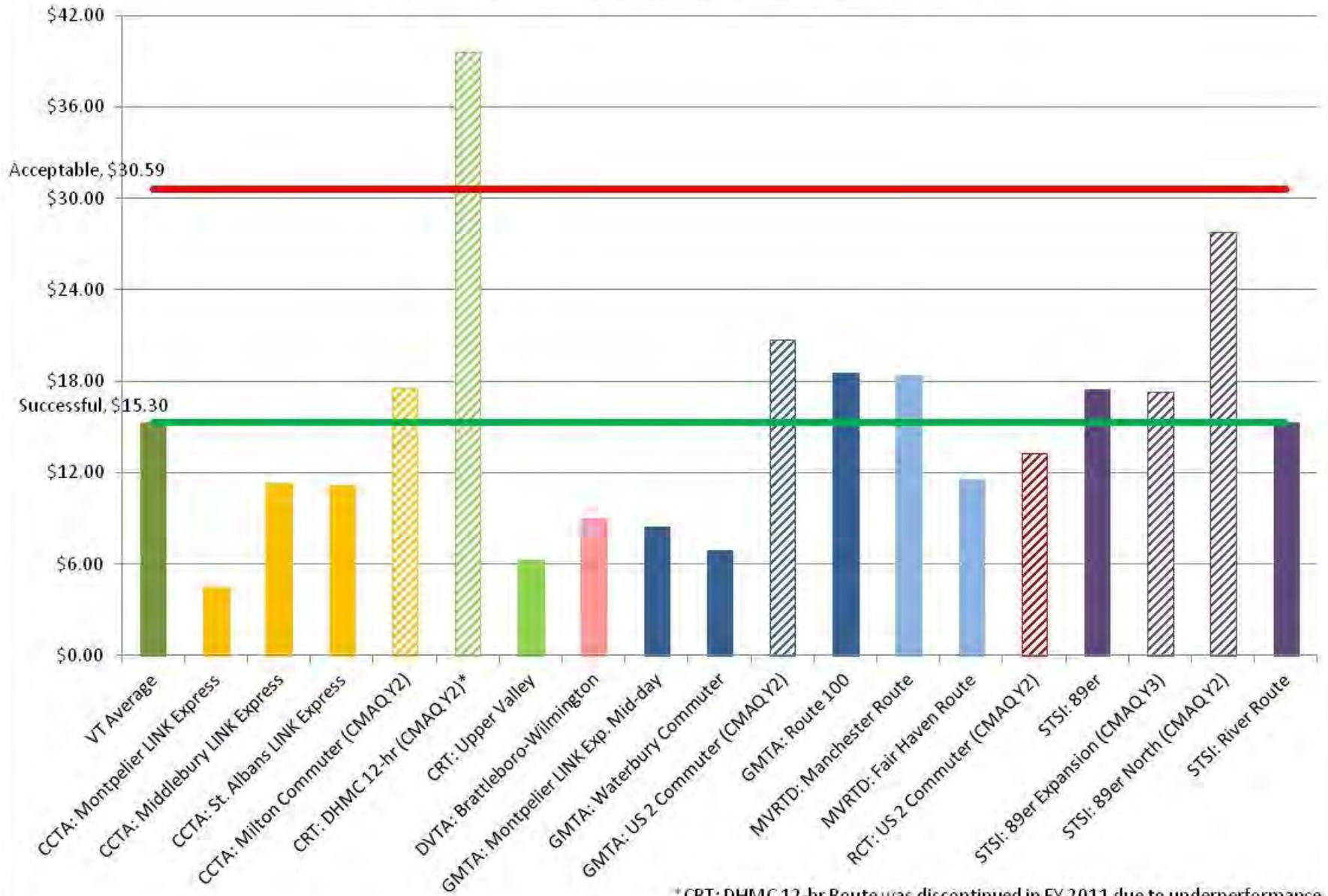
*GMTA: Warren Route was discontinued in FY 2011 due to underperformance.

Graph #11: 2011 Commuter Boardings per Trip



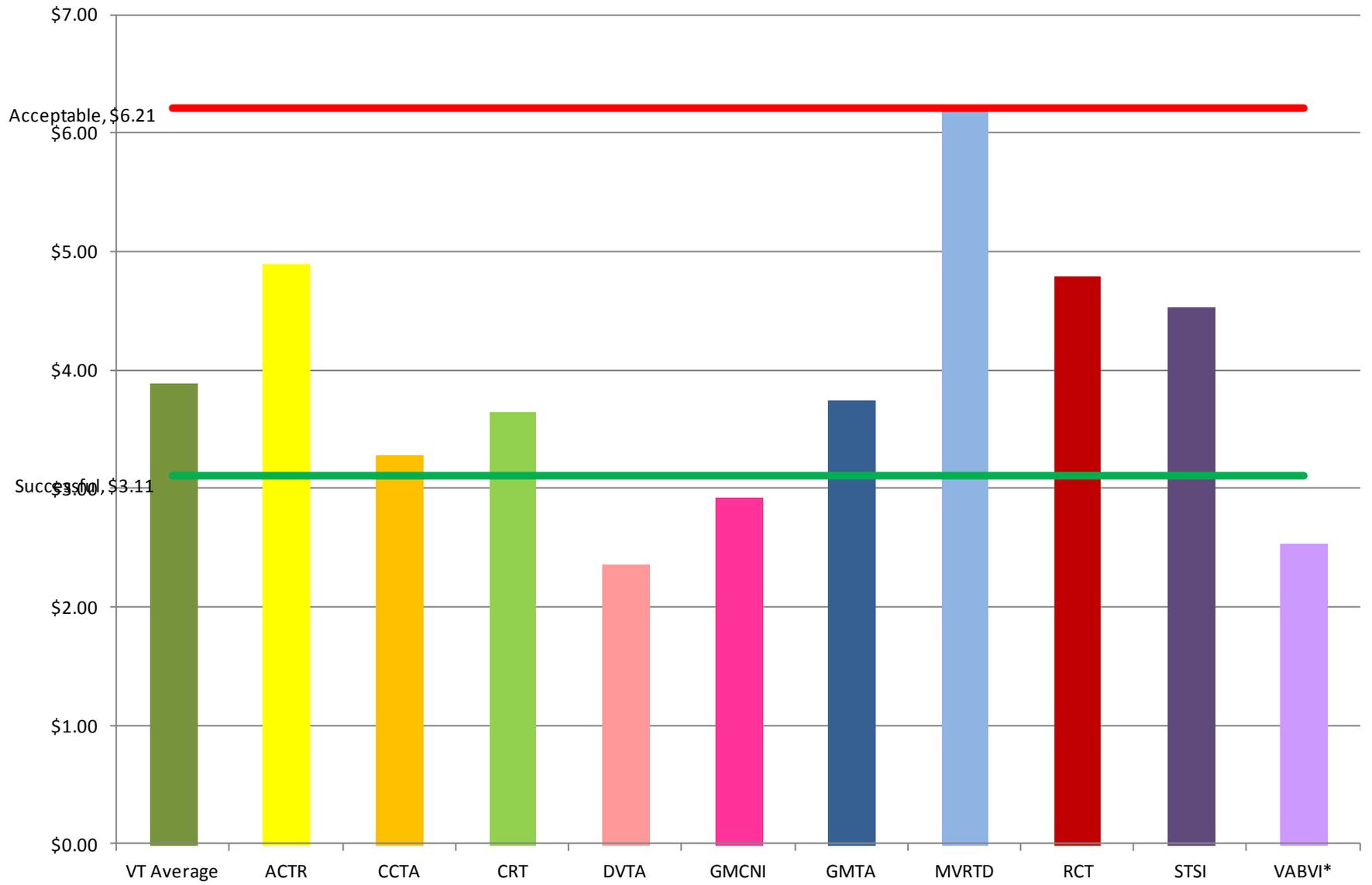
*CRT: DHMC 12-hr Route was discontinued in FY 2011 due to underperformance.

Graph #12: 2011 Commuter Cost per Passenger



*CRT: DHMC 12-hr Route was discontinued in FY 2011 due to underperformance.

Graph #13: 2011 Administrative Cost per Volunteer Trip



*VABVI is the Vermont Association for the Blind and Visually Impaired.