Finance & Administration Committee

Information Item IV-A

March 14, 2013

Ridership Analysis

Washington Metropolitan Area Transit Authority
Board Action/Information Summary

☐ Action ☒ Information	MEAD Number: 200026	Resolution: ☐ Yes ☒ No

TITLE

Analysis of FY2013 Metrorail Ridership and Revenue

PRESENTATION SUMMARY

This presentation provides an overview of Metrorail ridership and revenue through the first six months of FY2013. Ridership is down in that period compared to both FY2012 actual results and FY2013 budgeted estimates. Rail fare revenue is up in the period compared to FY2012 as a result of the July 2012 fare increase, but fare revenue has fallen short of budgeted levels.

The overall drop in rail ridership year-to-date is approximately six percent, though this figure falls to 4.5 percent after accounting for one-time events (Hurricane Sandy in October and the unanticipated federal holiday on Christmas Eve) that are unrelated to overall ridership trends. The analysis indicates that the causes of the ridership drop depend on the day of the week and time period being considered:

- AM and PM peak ridership is down three percent (approximately 2 million trips) compared to the same period last year as a result of the reduction in the federal transit benefit and the peak fare increase
- Midday and evening ridership on weekdays is down four to five percent (approximately 1.4 million trips total) as a result of the off-peak fare increase
- Weekend ridership is down nine percent (approximately 1.3 million trips) as a result of the off-peak fare increase and the increased intensity of track closures for rehabilitation efforts

PURPOSE

This presentation will provide the Committee with detailed information related to ridership on Metrorail. It will demonstrate relationships between key factors influencing ridership (cause) and the impacts of these factors at a station and system level (effect).

Using Cognos, a business intelligence tool, Metro is now able to “drill down” into its fare and ridership data and transform raw data into actionable information that can be used to inform business decisions or provide deeper insight into current trends. Better understanding the impact of these various factors (e.g., weather, special events, closures, etc.) will allow Metro to provide better, more efficient service. While this

presentation is informational, Metro will be using the analytical tools provided by Cognos to guide future decisions on funding, fare policy, and service planning.

BACKGROUND

The FY2013 approved budget for Metro forecasted that total Metrorail ridership for the year would be essentially identical to ridership in FY2012, at approximately 218 million trips. However, through the first six months of FY2013, Metrorail ridership has not achieved those forecasted levels. There are many potential reasons for this reduction, some of which are station- or line-specific (e.g., relocation of jobs, changes in rail service, etc.), and some of which are broad-based (e.g., weather, fares, economic or demographic changes, etc.). This presentation provides an in-depth review of Metrorail ridership during the first six months of FY2013 and assesses a range of possible explanations for the drop.

DESCRIPTION

The primary findings from the Metrorail ridership and revenue analysis are summarized below:

- Total Metrorail ridership is down approximately six percent in FY2013 compared to the same period in FY2012 (and also compared to FY2013 budget).
- Ridership is down 4.5 percent after accounting for Hurricane Sandy in October (which closed the system for almost two days) and the unanticipated federal holiday on Christmas Eve, both of which are one-time events that are unrelated to overall ridership trends.
- Ridership is down at over 80 percent of Metrorail stations. The stations that are showing ridership growth (e.g., Navy Yard, Rhode Island Avenue) are generally those stations that have the most intense economic development (commercial, residential, etc.) occurring nearby. The stations showing the greatest ridership decline, by contrast, are varied in their reasons – Crystal City ridership declined due to BRAC and the relocation of jobs to the Mark Center in Alexandria, while Dupont Circle ridership declined due to the closure of the southern entrance for escalator replacement (and Farragut North picked up some of those riders).
- Despite the ridership decline, revenue increased at over 95 percent of Metrorail stations as a result of the July 2012 fare increase. The size of the revenue increase at a given station depends on three factors:
    - the total change in ridership
    - the share of riders using paper-magnetic farecards, which now carry a one dollar surcharge per trip
    - the share of riders traveling in the off-peak period, which saw a proportionally greater fare increase than the peak period

- While the share of riders traveling in the off-peak period did not change substantially from last year to this year, the one dollar surcharge has caused a substantial reduction in the share of trips being made using paper-magnetic farecards.
- A number of potential broad-based reasons for the ridership drop have been assessed, including weather, the economy, and service quality, as indicated by both the average and the variance of passenger travel times ("tap in/tap out" times as recorded for all trips in the database). However, none of these factors have changed significantly enough from last year to this year to account for the ridership drop.
- Given the timing of the ridership drop in July 2012, it is clear that the fare increase combined with the reduction in the federal transit benefit is having a larger impact than was anticipated in the FY2013 budget.
- In addition, weekend track closures have been occurring more frequently in these first two quarters than in the same two quarters last year.
- Overall, the analysis indicates the following:
    - AM and PM peak ridership is down three percent (approximately 2.0 million trips) compared to the same period last year as a result of the reduction in the federal transit benefit and the peak fare increase
    - Midday and evening ridership on weekdays is down four to five percent (approximately 1.4 million trips total) as a result of the off-peak fare increase
    - Weekend ridership is down nine percent (approximately 1.3 million trips) as a result of the off-peak fare increase and the increased intensity of track closures for rehabilitation efforts
- Finally, Metro staff members are examining the potential long-term impacts of telework on system ridership. Federal agencies, with support from GSA and OMB, are increasingly offering telework opportunities to their employees, and this could affect peak period ridership and fare revenue, as well as long-term investment requirements.

FUNDING IMPACT

None.

TIMELINE (bullet format)

Board action	None required.
Anticipated actions after presentation	Follow-up presentation on potential impacts of telework in Fall 2013.

ELECTRONIC ATTACHMENTS

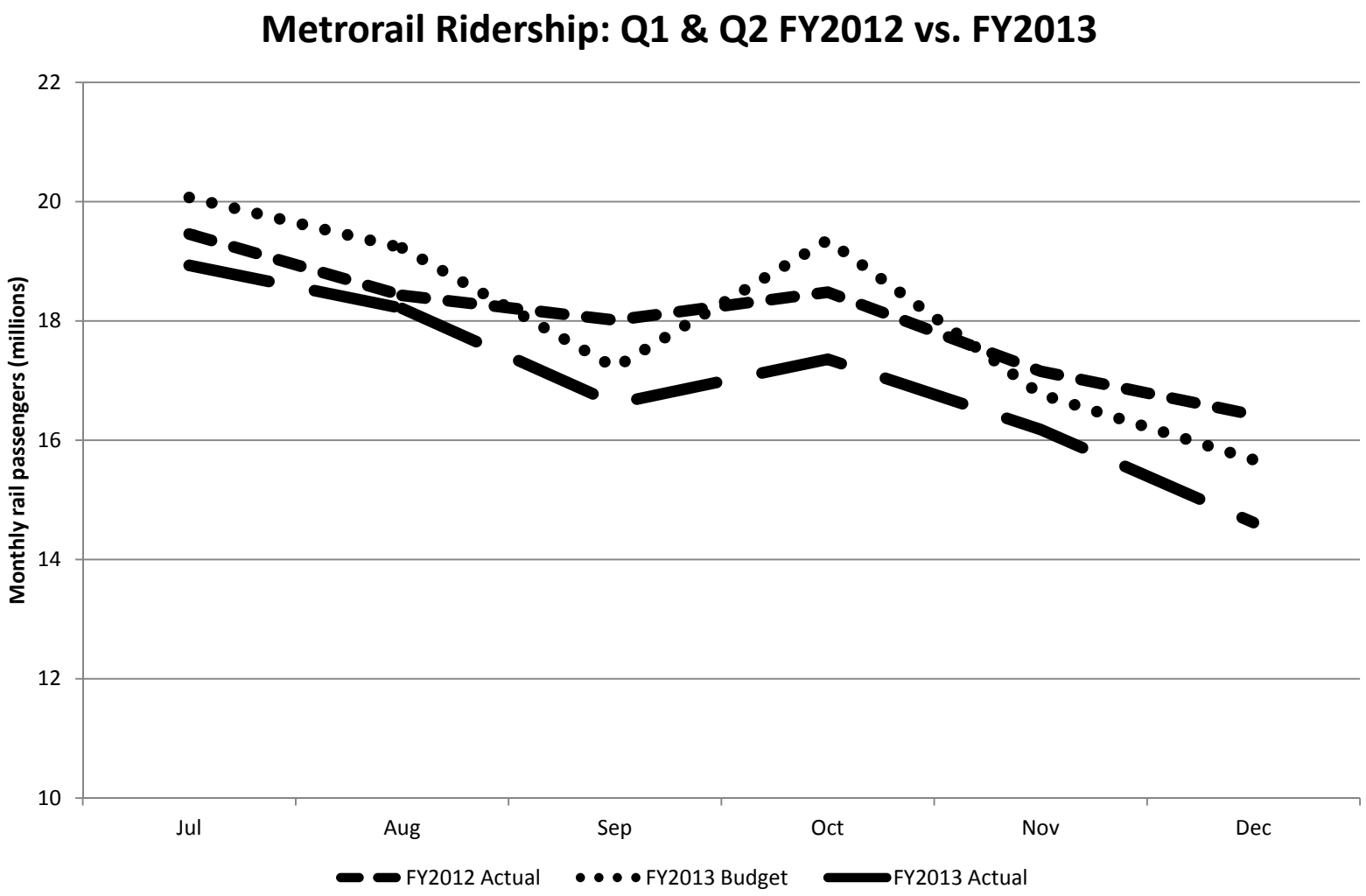
See attached power point presentation for tables and charts detailing ridership and revenue.

Washington Metropolitan Area Transit Authority

Analysis of FY2013 Metrorail Ridership and Revenue

Finance & Administration Committee
March 14, 2013

Rail Ridership Down 6% YTD



What's Going On?

"Peel back the onion":

1. Remove one-time events
2. Identify stations with particularly high or low ridership change – is there an obvious cause?
3. Look at ridership changes by time period and fare media to explain revenue changes
4. Assess potential causes of ridership drop

One-Time Events

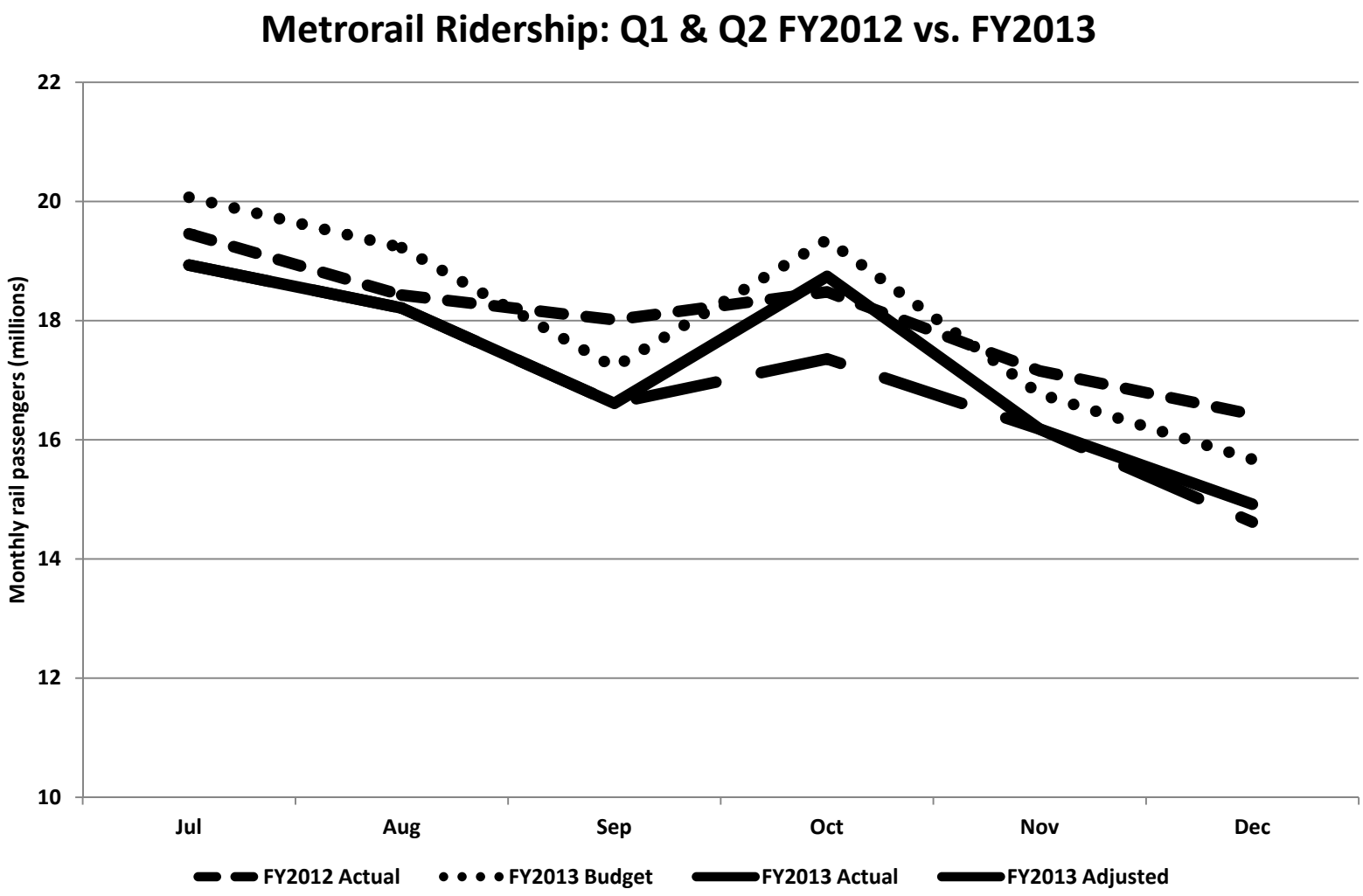
Hurricane Sandy (October 29-30, 2012)

- System closed for two days
- Estimated rail ridership loss: 1.4 million
- Estimated rail revenue loss: $4 million

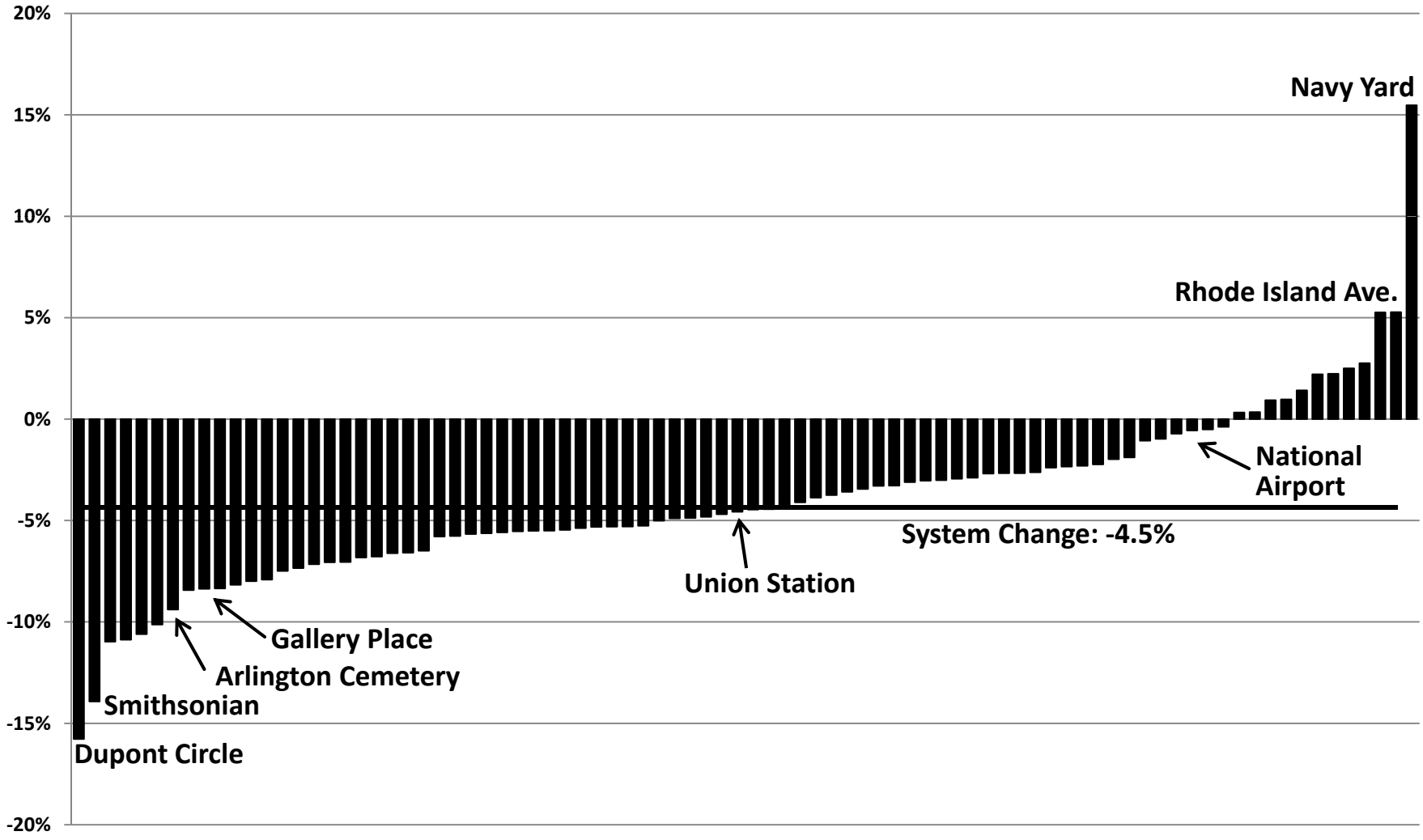
Christmas Eve Holiday (December 24, 2012)

- Unanticipated federal employee holiday
- Estimated rail ridership loss: 300,000
- Estimated rail revenue loss: $800,000

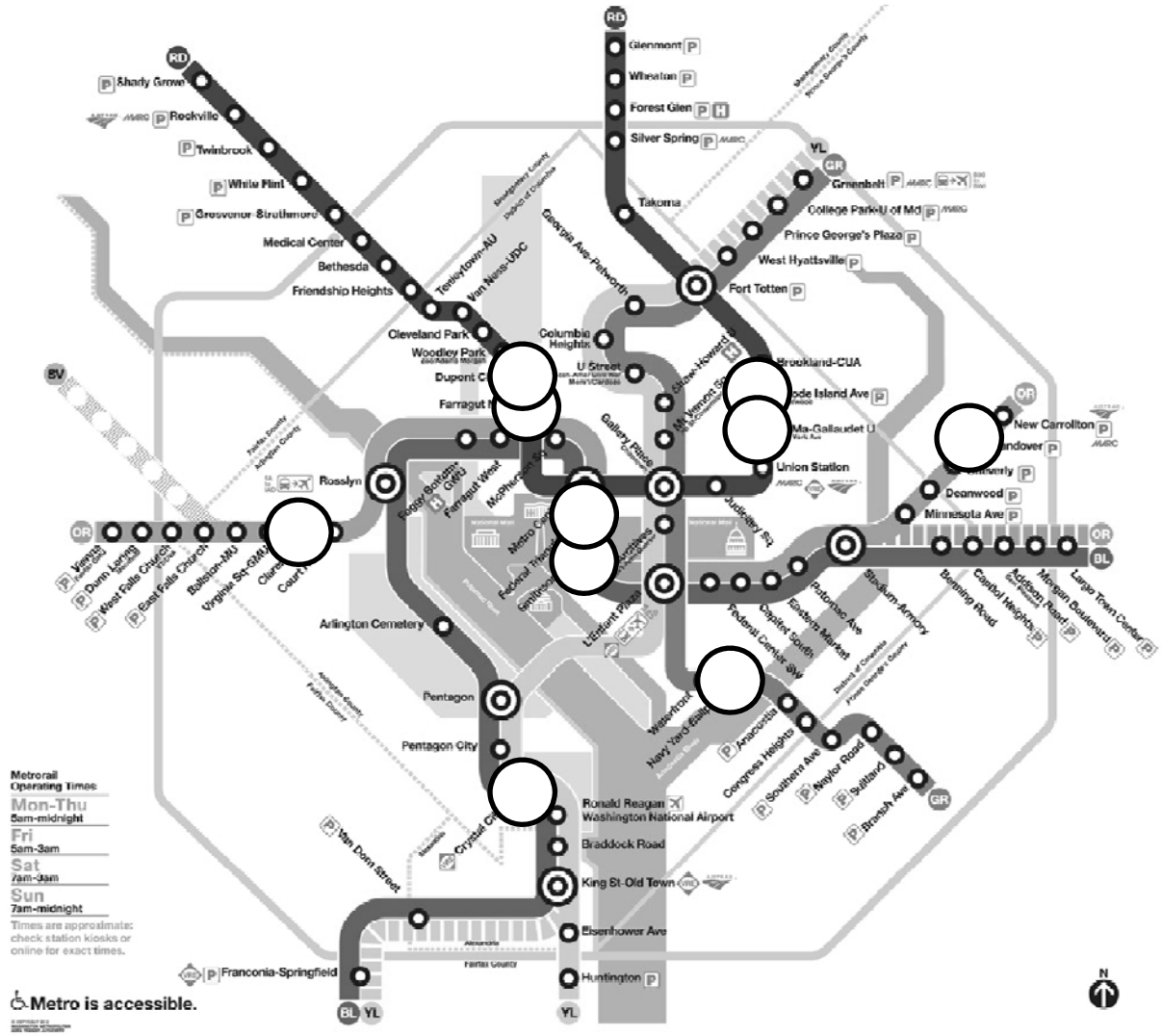
Rail Ridership Down 4.5% YTD After Adjusting for One-Time Events



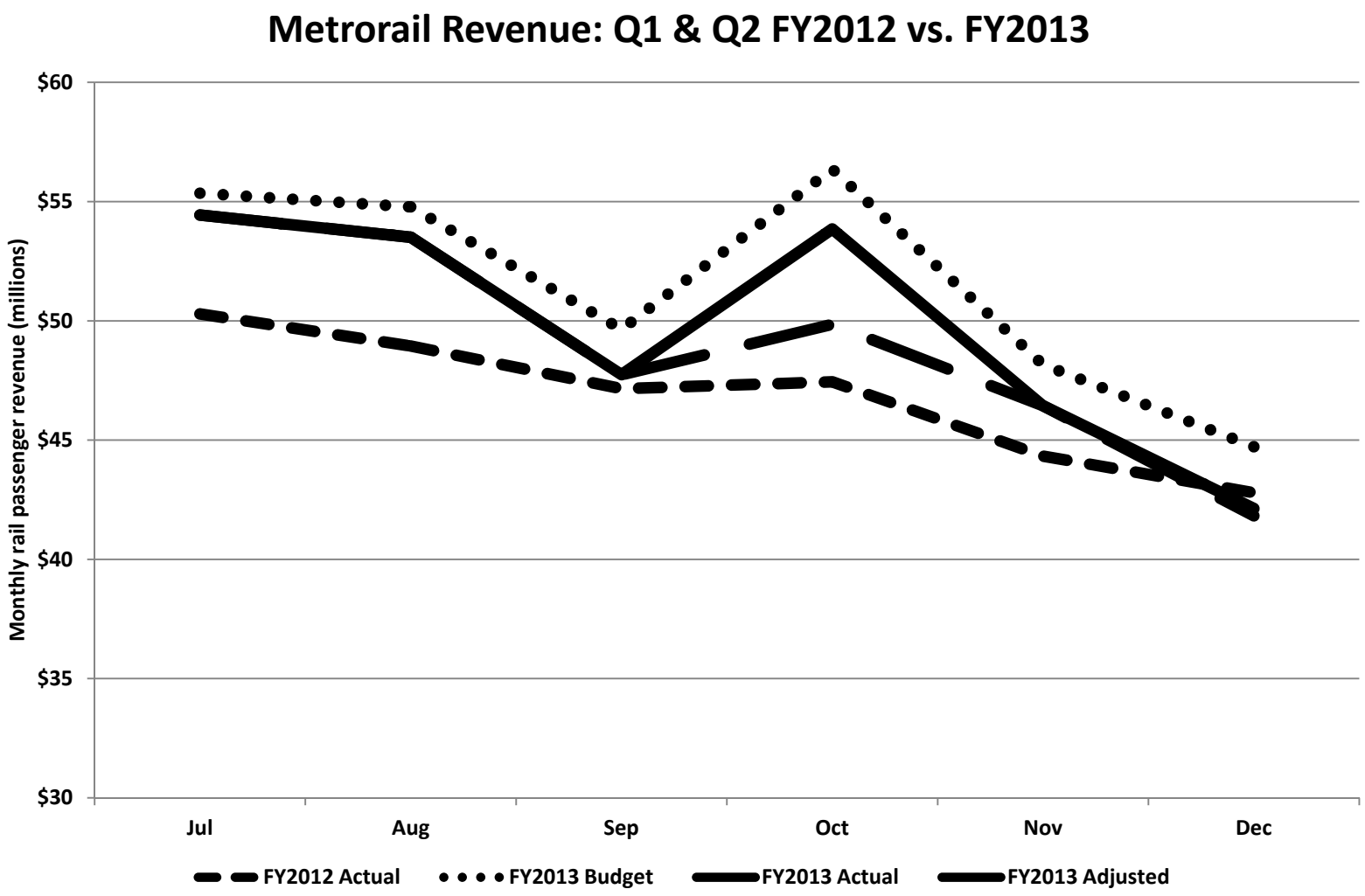
Ridership Change by Entry Station



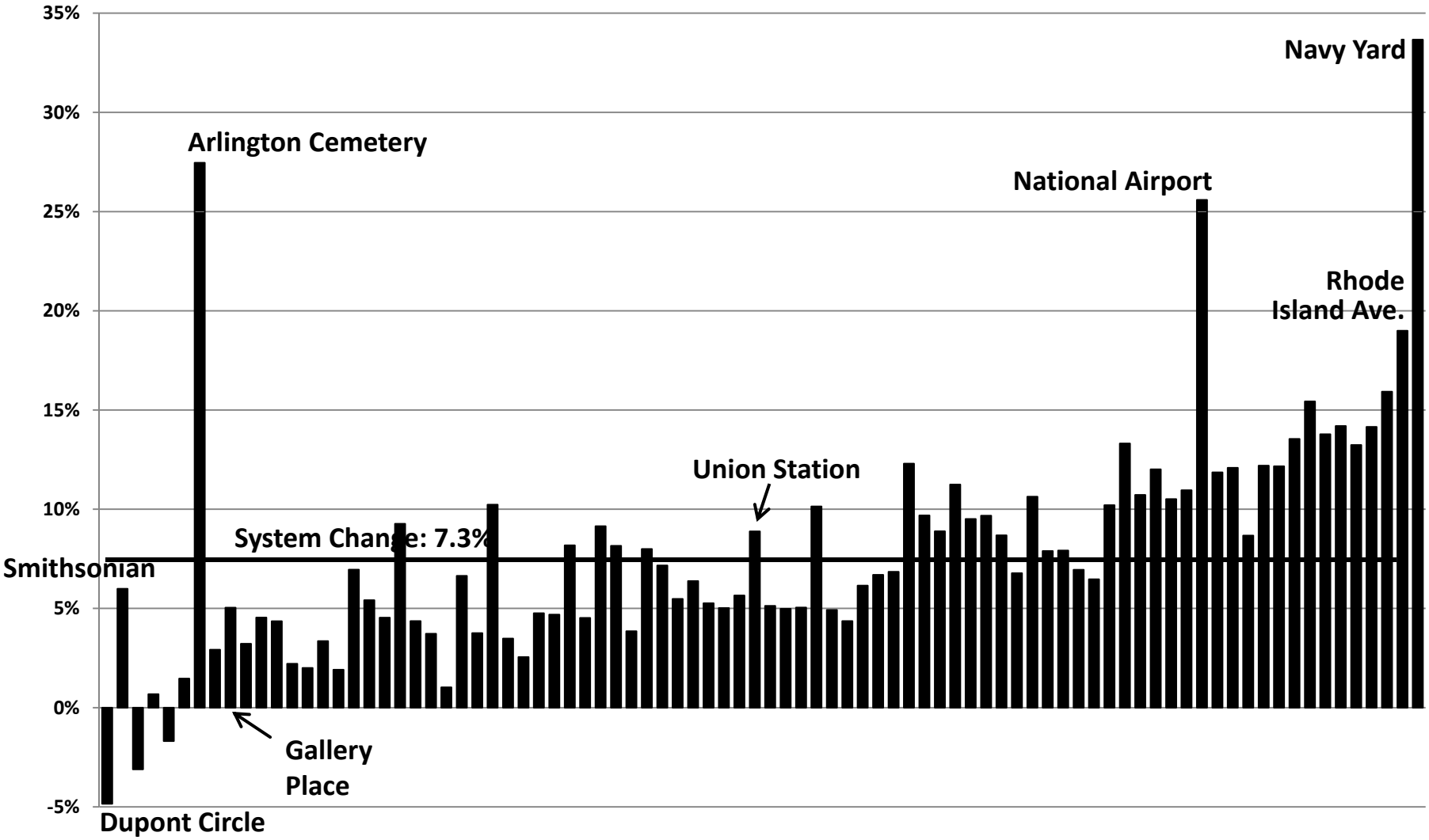
Station-Specific Impacts



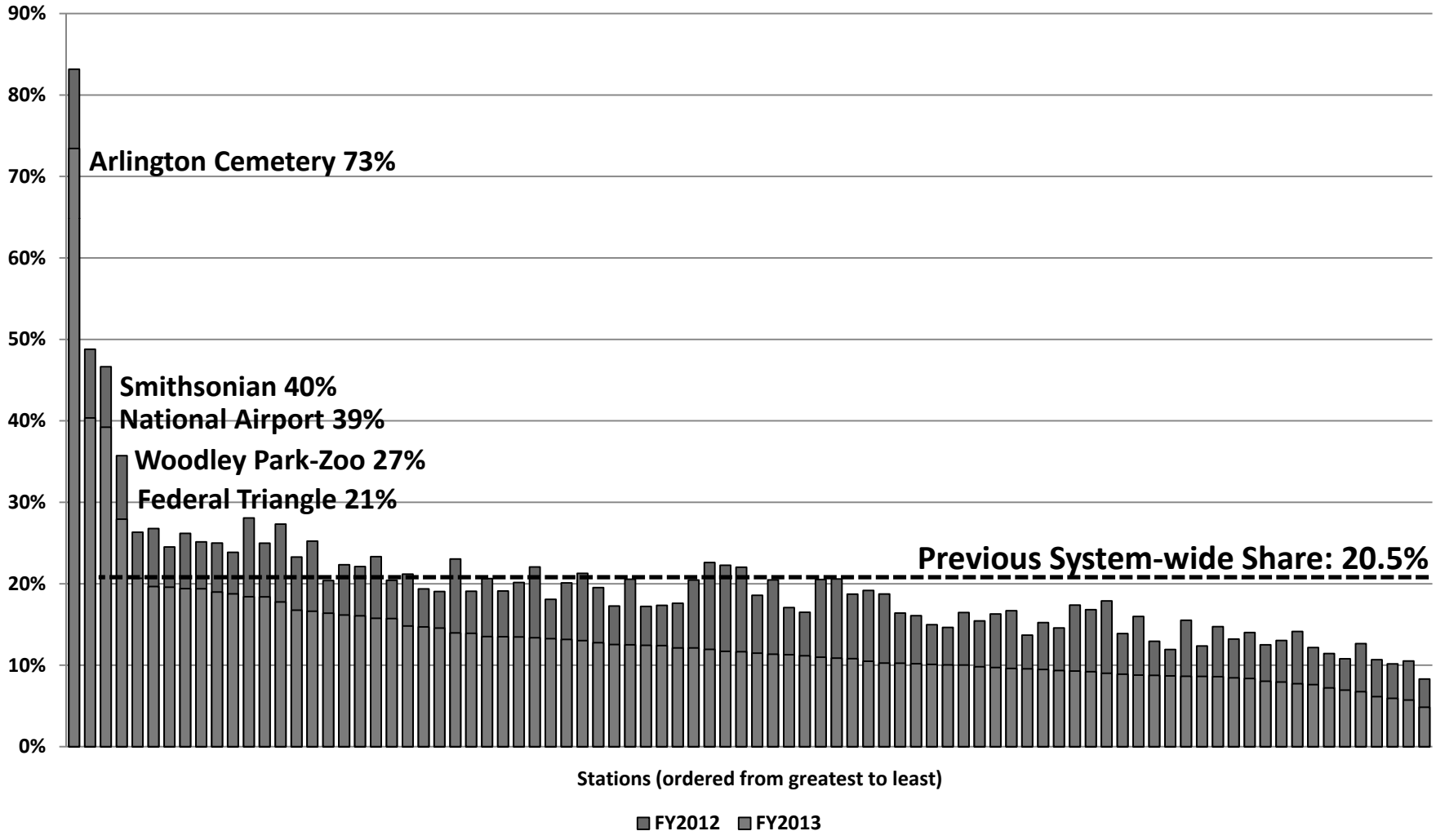
July Fare Increase Raised Revenue But Has Fallen Short of Budget



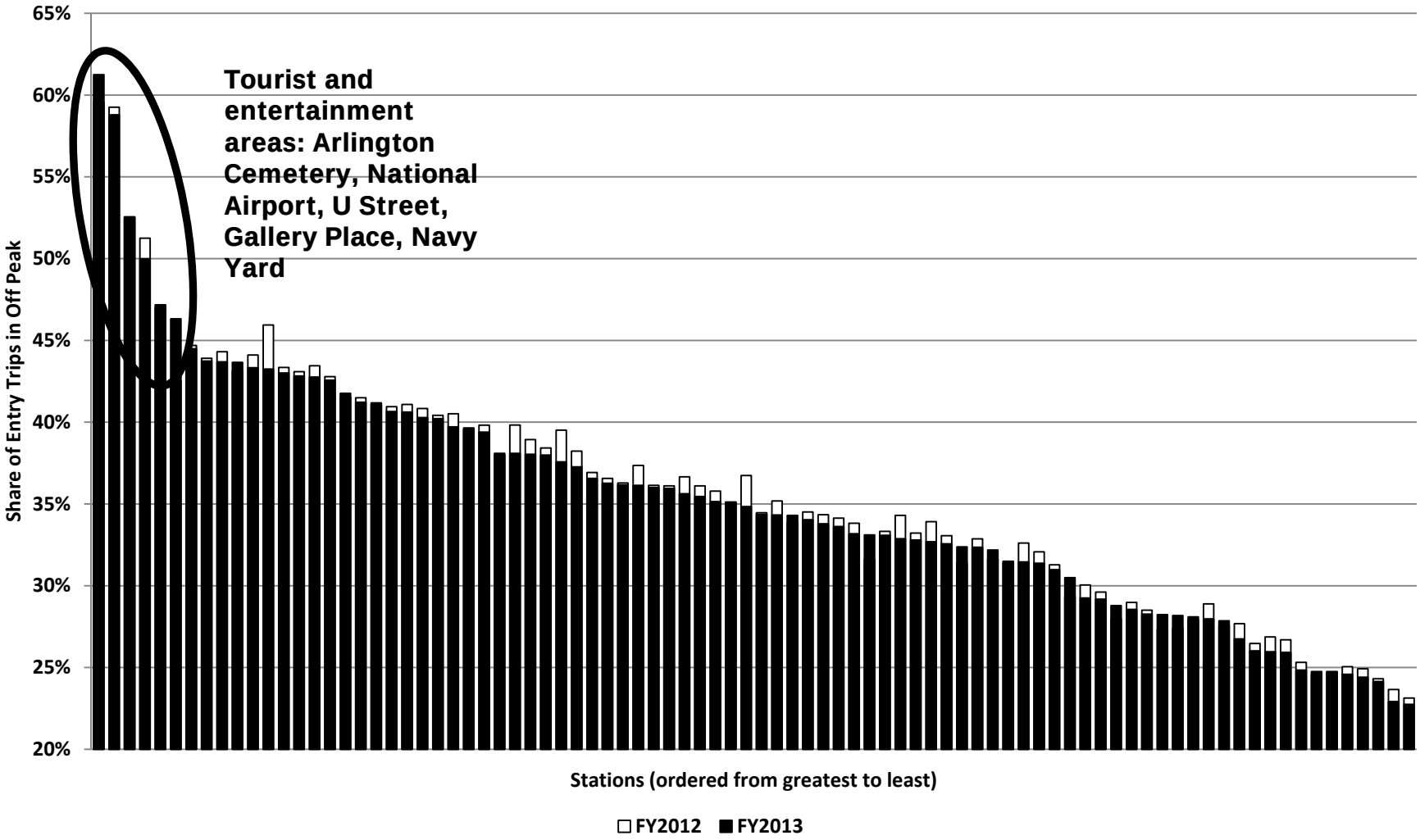
Revenue Change by Entry Station



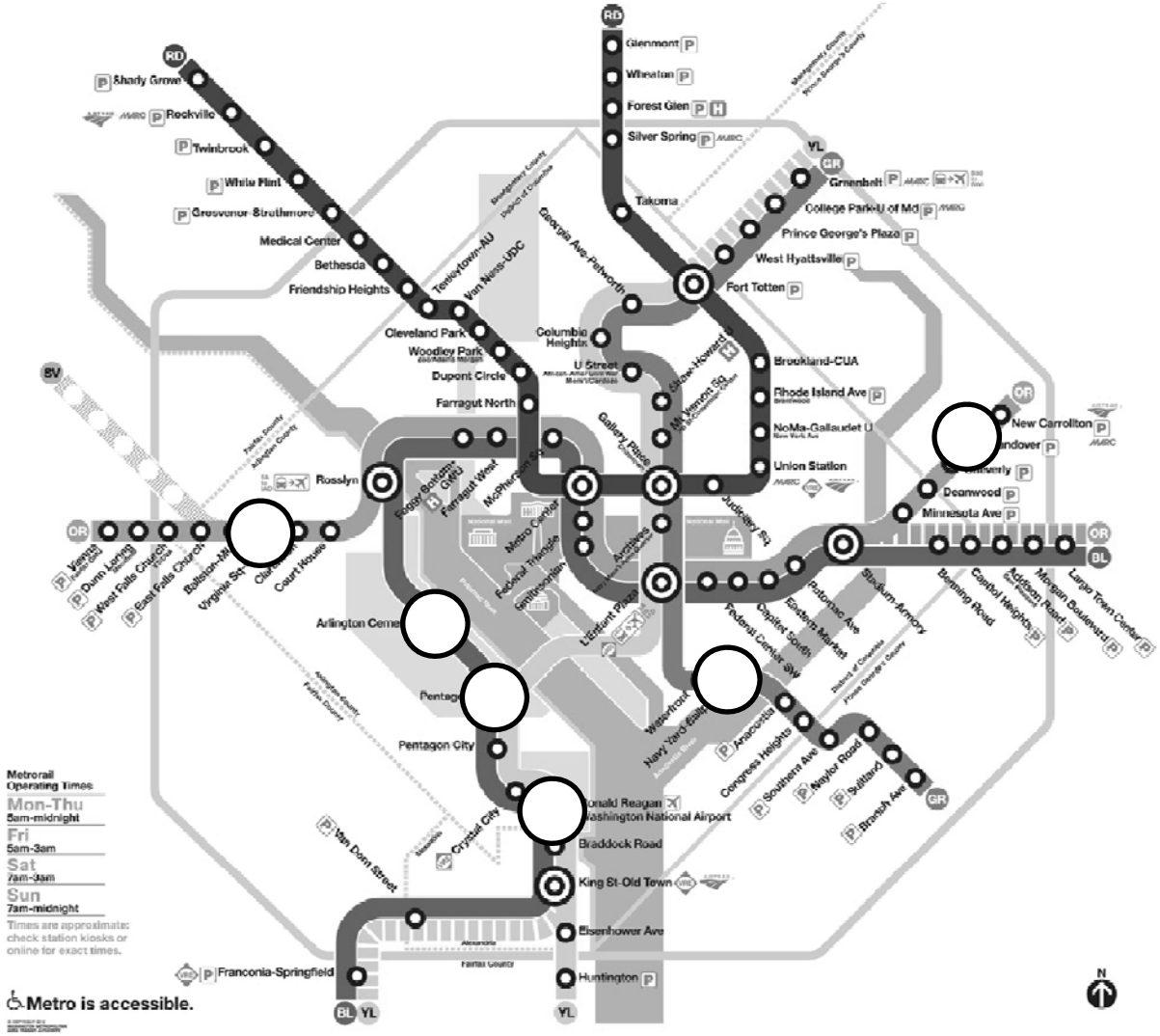
Share of Riders Using Paper-Magnetic Fare Card by Station



Share of Riders Traveling in the Off-Peak by Station



Passenger Mix and Station-Area Activities Are Key to Revenue Change



Ridership Drop Is Broad-Based

- Outliers can be explained, and revenue variation across stations can be explained
- But ridership is down at >80% of stations – the cause(s) must be broad-based
- Potential causes:
  - Weather
  - Economy
  - Service Quality
  - Track closures
  - Pricing and transit benefit
  - Telework

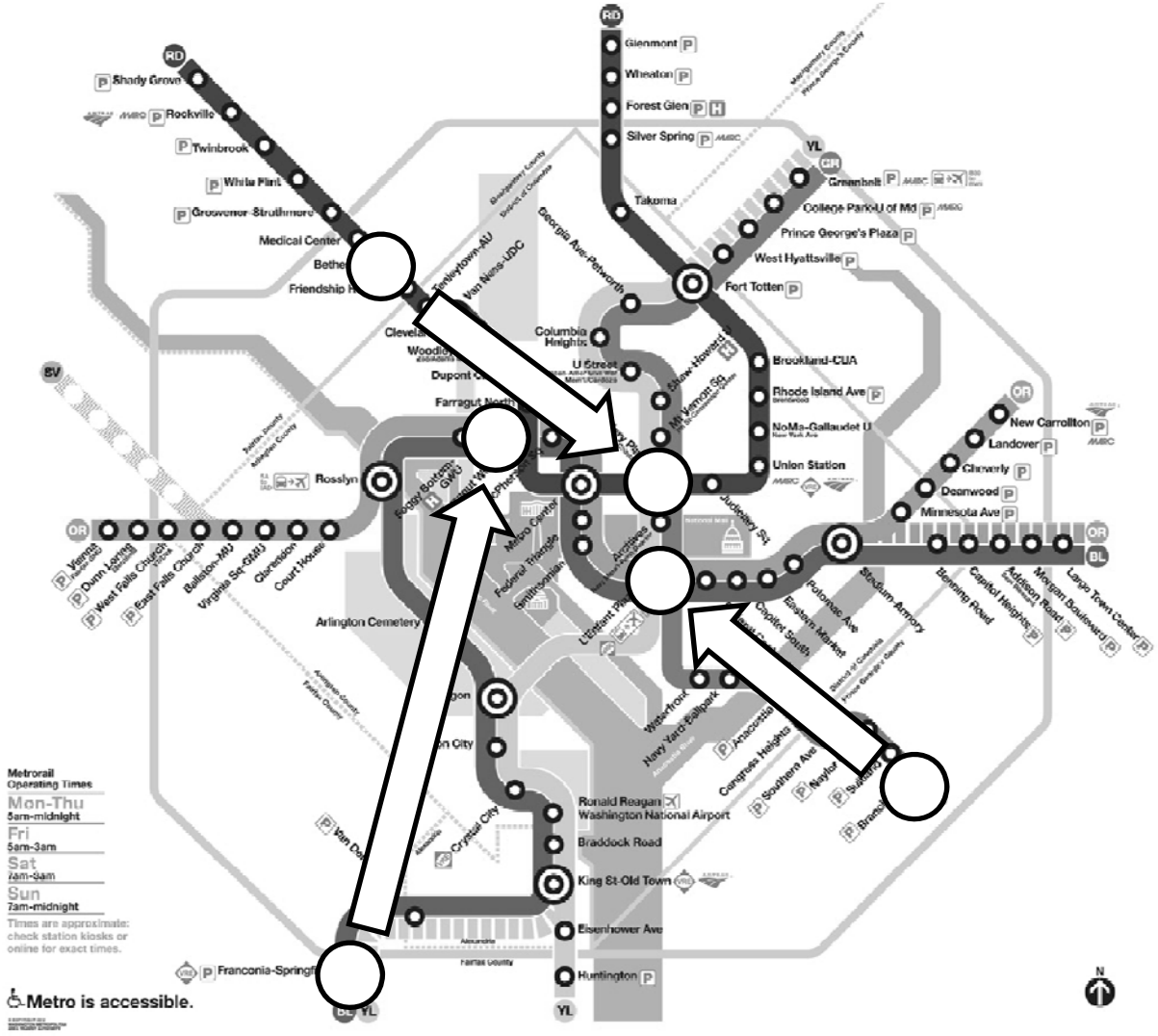
Weather and the Economy

- Weather is very similar to last year; no obvious impacts beyond Sandy
- Macroeconomic indicators for the region are holding steady:
  - Unemployment
  - Population growth
- Other indicators mixed:
  - Housing and construction appear strong
  - Anecdotal evidence of cutbacks ahead of sequestration

Service Quality

- Could riders be leaving Metrorail due to lengthening trips or more erratic trips?
- Cognos allows us to drill down into station-to-station performance
- “Tap-in/tap-out” time is a good indicator
  - Captures platform waiting, delays en route, transfers, etc.
- Look at both average trip time and variance of trip time

Average Passenger Trip Times Have Largely Stayed Constant



Bethesda to Gallery Place

- Ridership down 18%
- Trip time constant at 27 min

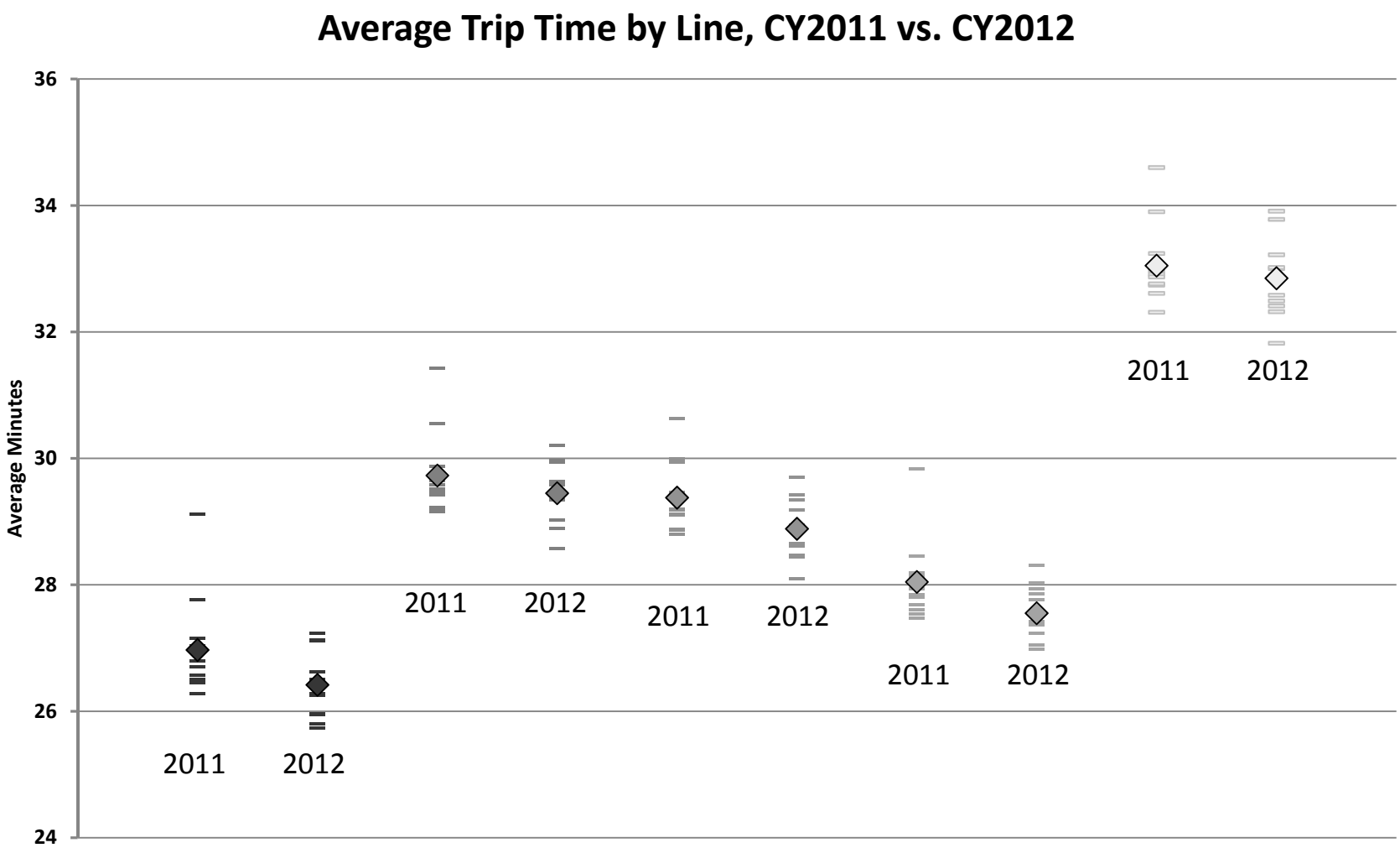
Branch Ave. to L'Enfant Plaza

- Ridership down 7%
- Trip time constant at 28 min

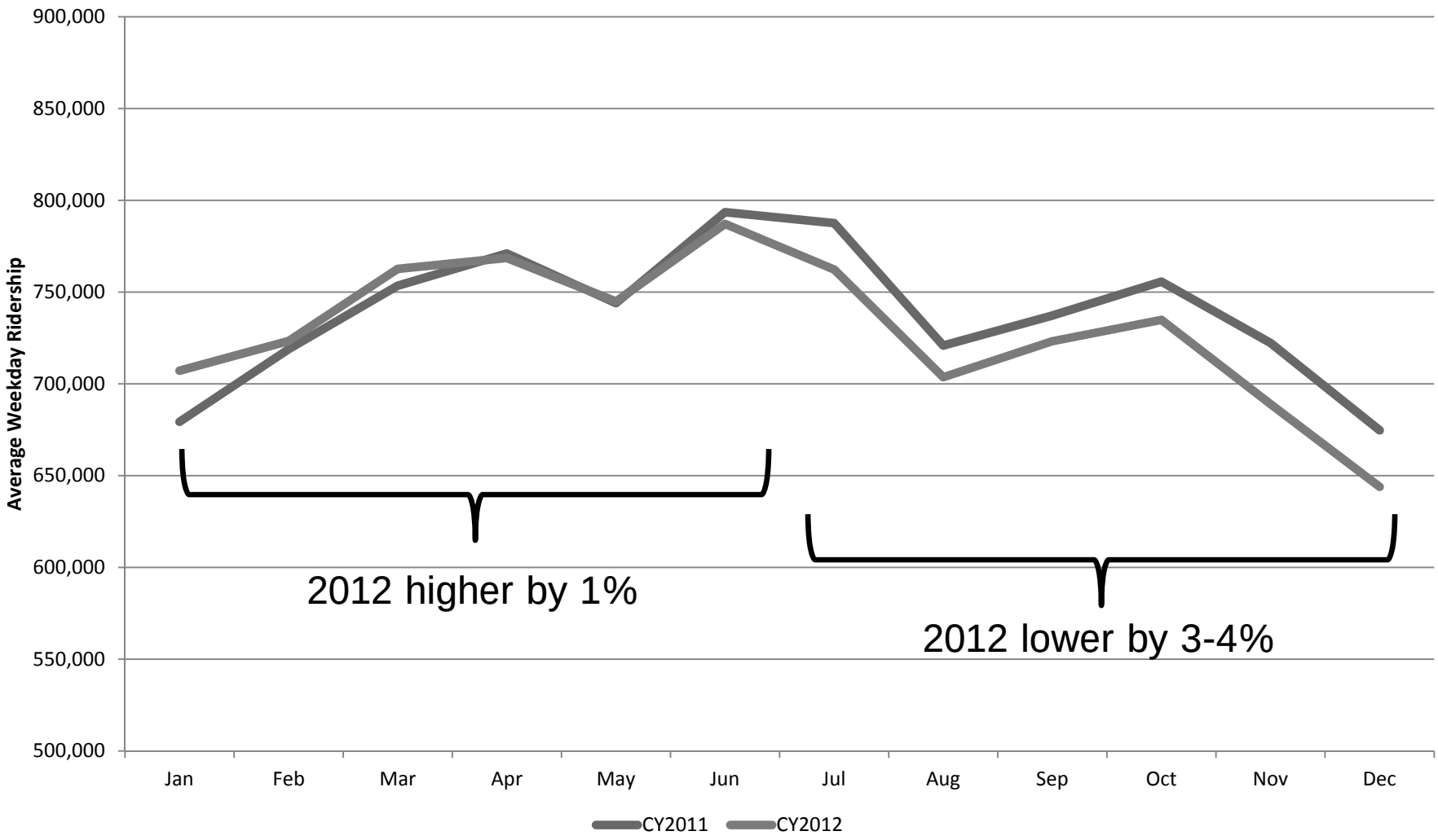
Franconia-Springfield to Farragut West

- Ridership down 12%
- Trip time increased from 42 to 43 minutes

Variance in Passenger Trip Time Has Improved Slightly



Ridership Drop Is Coincident with July Fare Increase



Fare Increase and Transit Benefit

- Response to prior fare increases was modest:
  - Average fare up 20+% after FY11 fare increase
  - Total ridership drop was only 1.3%
- Federal transit benefit changes left riders more "exposed" to increase:
    - Reduced from $230 to $125 per month
    - Parking benefit stayed at $240 per month
    - Unused benefits for federal employees "clawed back"
- Potential impact to both commute trips and discretionary (off-peak/weekend) trips

Impact of Trackwork

- Trackwork in Jul-Dec 2012 has generally been more intense than the same period in 2011:
  - Less single-tracking
  - More closures, particularly major closures (defined as those occurring “inside the diamond” of DC, Arlington, Alexandria)

“Line-Days”	Major Closures	Minor Closures	Single-Tracking
Jul-Dec 2011	20	18	114
Jul-Dec 2012	32	24	98

Different Ridership Impacts Depending on Day and Time

- Rail fare elasticity is now likely closer to -0.2

<u>Weekday AM/PM peak</u>:
Ridership down 3% – 42% of total decline
2% due to transit benefit directly, 1% due to peak fare increase

<u>Weekday midday and evening</u>:
Ridership down 4% evening and 5% midday – 30% of total decline
Nearly all due to off-peak fare increase

<u>Weekends</u>:
Ridership down 9% – 28% of total decline
Due to trackwork on top of off-peak fare increase

Potential Impact of Telework

- Evidence from 2012 OPM survey of federal employees regarding telework:

Telework 3+ days per week	Telework 1-2 days per week	Telework 1-2 times per month	Telework only unscheduled or short-term	Do not telework
2.6%	7.7%	3.8%	9.6%	76.3%

- If federal employee “headcount” were 100,000, then “seatcount” (i.e., employees physically in the office) on an average day would be only 95,400 – reduction of 4.6%
- Trend is increasing as GSA and OMB push to reduce real estate costs

Concluding Thoughts on First Six Months of FY13

- Paper fare surcharge is causing riders to shift to the SmarTrip card
- Future fare increases will not show the same peak/off-peak disparity
- Costs of weekend track closures (in lost ridership and revenue) must be balanced against efficiency gains
- Telework likely will impact long-term trends in ridership, but specifics of implementation will be critical

Initial Thoughts on January and February 2013

- Inauguration Weekend ridership was higher than expected and put January above budget
- But overall trends in January were still similar to prior six months
- February ridership was better, down only 1% from comparable days in 2012. Potential causes:
  - Higher transit benefit
  - Increase in gas prices
  - End of hockey lockout
- Will monitor closely and report back