

# Go Bus: A Job Access Link

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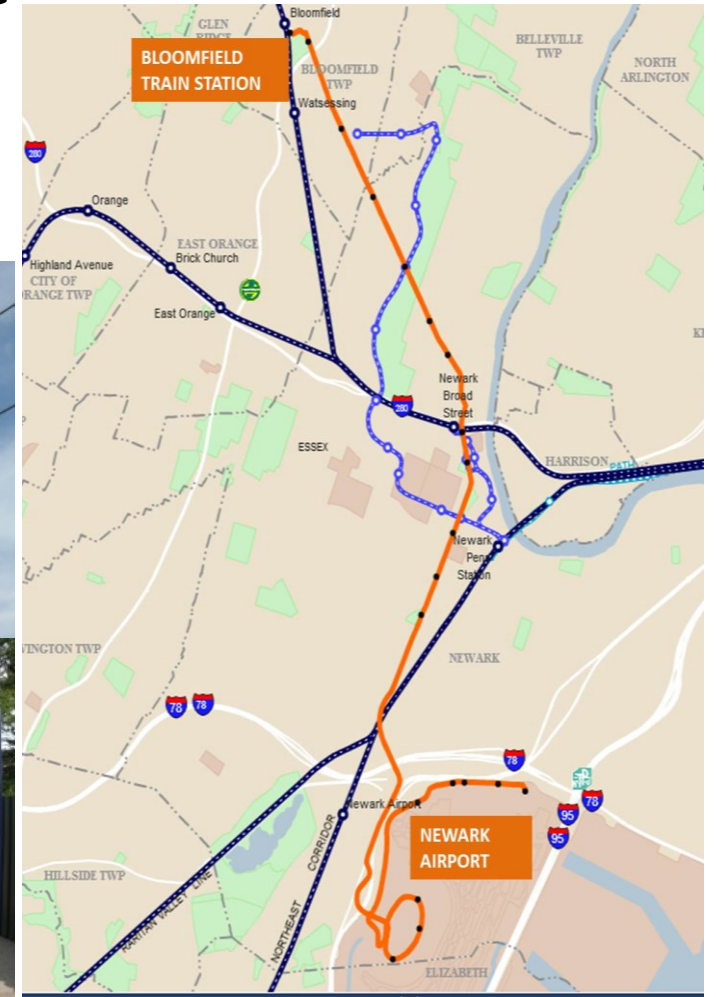
Department of Civil and Environmental Engineering

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# Background

- Go Bus Route 25 launched at April 2008, 4.8 mile
- Go Bus Route 28 launched at October 2009, 12.1 mile



# Bus service patterns

Route	Average Weekday Ridership (9AM-3PM)	Number of Stops	Headways			Locations Served
			AM/PM Peak	Midday Service	Evening Service	
GO 25	460	11	15 min	No service	No service	Newark, Irvington, Maplewood
25	7194	67	3-15 min	5-10 min	15-30 min	
GO 28*	1763	25	15-20 min	15-20 min	15-20 min	Bloomfield, Newark
11	1862	73	10-30 min	20-40 min	20-60 min	Wayne, Little Falls, Cedar Grove, Verona, Montclair, Glen Ridge, Bloomfield, Newark
28	1666	55	20-30 min	30-50 min	50-80 min	
72	2501	82	20-30 min	20-30 min	60-120 min	Paterson, Clifton, Bloomfield, Newark

GO 28 service changed in September 2012. The University Branch was eliminated, reducing the number of stops to 20. Headways are now 30 minutes all day.

# Research Approach

- Conduct and analyze an onboard survey at the GO Bus corridors.
- Design and perform focus groups and a stated preference survey.
- Identify and understand travel pattern shifts.
- Highlight the impact of various transit attributes on ridership and customer satisfaction.
- Provide data to support GO Bus business planning activities and marketing programs.

# Research Team

- Project Manager: Paul Thomas, (NJDOT)  
Janice Pepper (NJ TRANSIT)  
Lyndsey Scofield (NJ TRANSIT)
- Principle Investigator: Rongfang (Rachel) Liu (NJIT)  
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Liu (Willow) Lv (NJIT)  
Fangzhou Yang (NJIT)
- Subcontractor: Resource Systems Group (RSG), Inc.



# Key Factors for Transit Service

- **External Factors**
  - *Social Economic Factors*
    - Employment
    - Income levels & auto ownership
  - *Spatial Factors*
  - *Public Finance*
- **Internal Factors**
  - Pricing Factors
  - Service Quantity Factors
  - Service Quality Factors

# On Board Survey

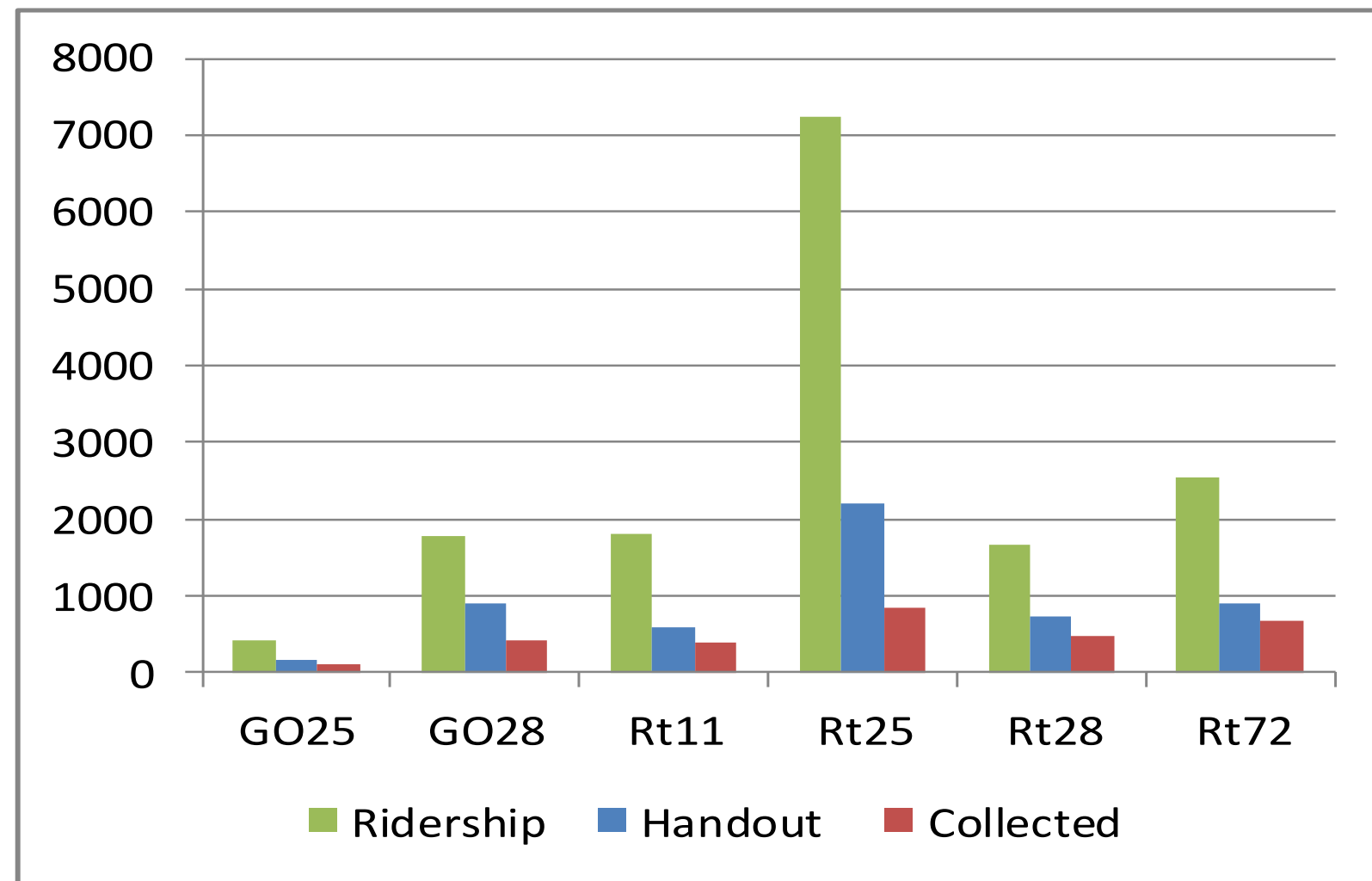
- **Two different Questionnaires:**
  - The questionnaires contain 27 questions for local bus and 29 for GO Bus.
- **Four aspects**
  - awareness and use of GO Bus;
  - travel patterns;
  - satisfaction with the bus service;
  - and socio-economic and demographic information.

# On Board Survey Steps

- **Training**
  - Graduate students from NJIT
- **Pretest**
  - 50 questionnaires
  - Make sure no error, business reply work
- **Survey**
  - Corridor 25: GO 25 and Route 25
  - Corridor 28: GO 28, Routes 11, 28, and 72.
  - 6 AM - 3 PM on April 16, 17 and 18, 2012.
  - The approximate ridership: 15,400.



- Of the 15,428 total riders during the survey period, 5,438 questionnaires were distributed and 2,925 surveys were returned
- Overall response rate is 19%.



# Stated Preference Survey

- Subcontractor: Resource Systems Group (RSG), Inc.
  - focus groups survey
  - Maximum Difference Scaling (MaxDiff) survey.

In this section, you will see 12 pages, each with a list of 4 features that could be made available for your commute.

On the left, please indicate which one of the features would be **most important to you**.

Then on the right, please indicate which one of the features would be **least important to you**.

Most Important (pick one)		Least Important (pick one)
<input type="radio"/>	Using GO Bus takes 10 minutes less travel time than the local bus	<input type="radio"/>
<input type="radio"/>	GO Bus gets preferential priority signal when coming to a traffic light	<input type="radio"/>
<input type="radio"/>	Using GO Bus takes 5 minutes less travel time than the local bus	<input type="radio"/>
<input type="radio"/>	GO Bus stops have nicer shelters than regular bus routes	<input type="radio"/>

(10 of 12)

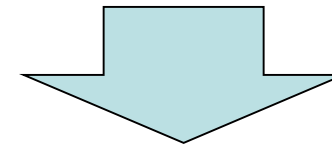
Next Question 

# SP Survey Design

- GO Bus customers who shifted from driving alone or carpooling
- GO Bus customers who shifted from rail modes (commuter rail or light rail, including bus to rail)
- GO Bus customers who started making the trip because of GO Bus
- GO Bus customers who use GO Bus for 1/3-2/3 of their total weekly bus trips
- GO Bus customers who use GO Bus for at least 75% of their trips and at least 3-4 days per week
- GO Bus customers whose origin/destination was one of the stops eliminated from the GO 28 route
- Local bus customers who do not use GO Bus but travel within the GO Bus service area



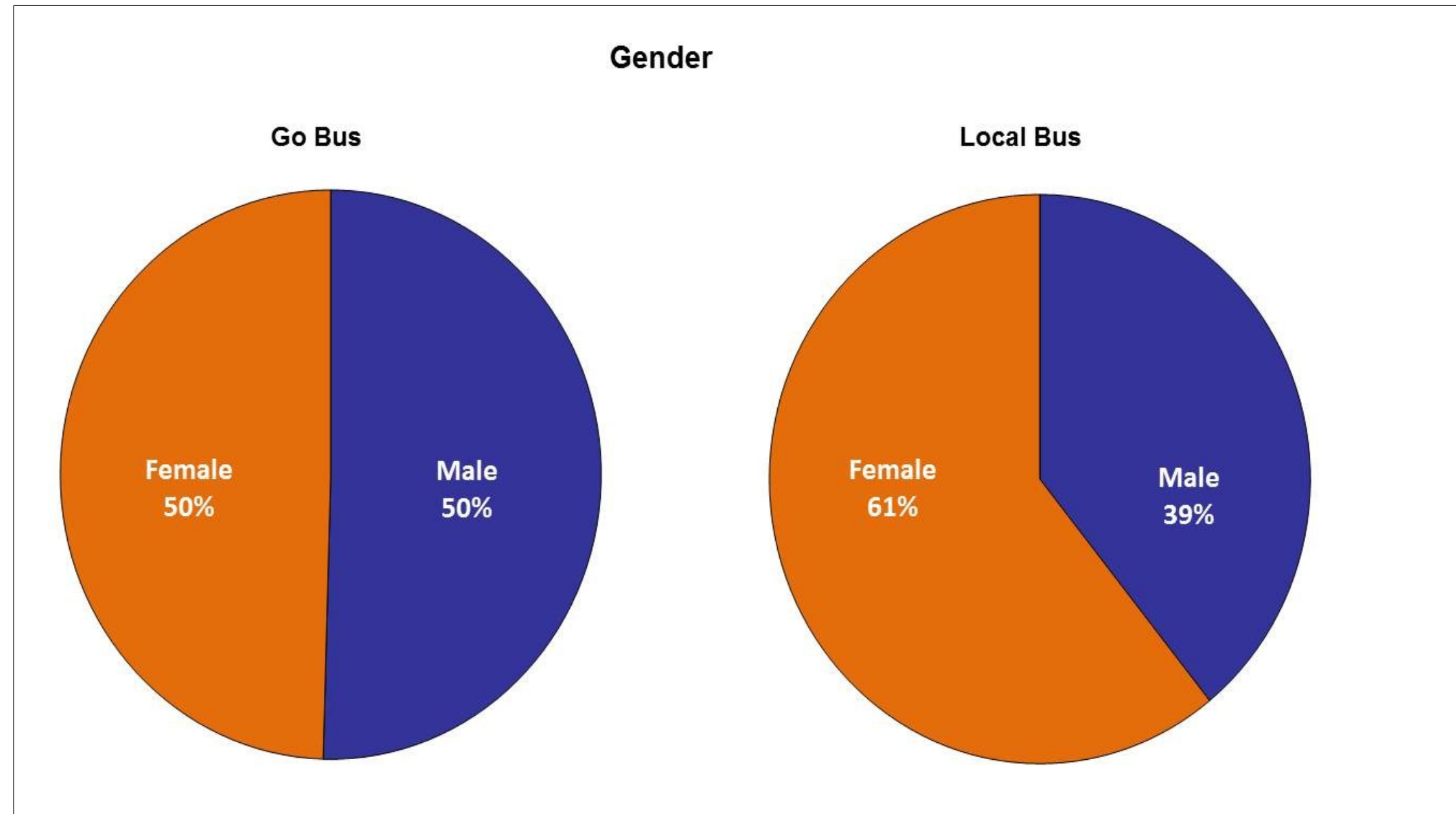
- Customers who primarily use GO Bus
- Customers who primarily use local bus 11, 25, 28, or 72 and travel within a GO Bus service area.



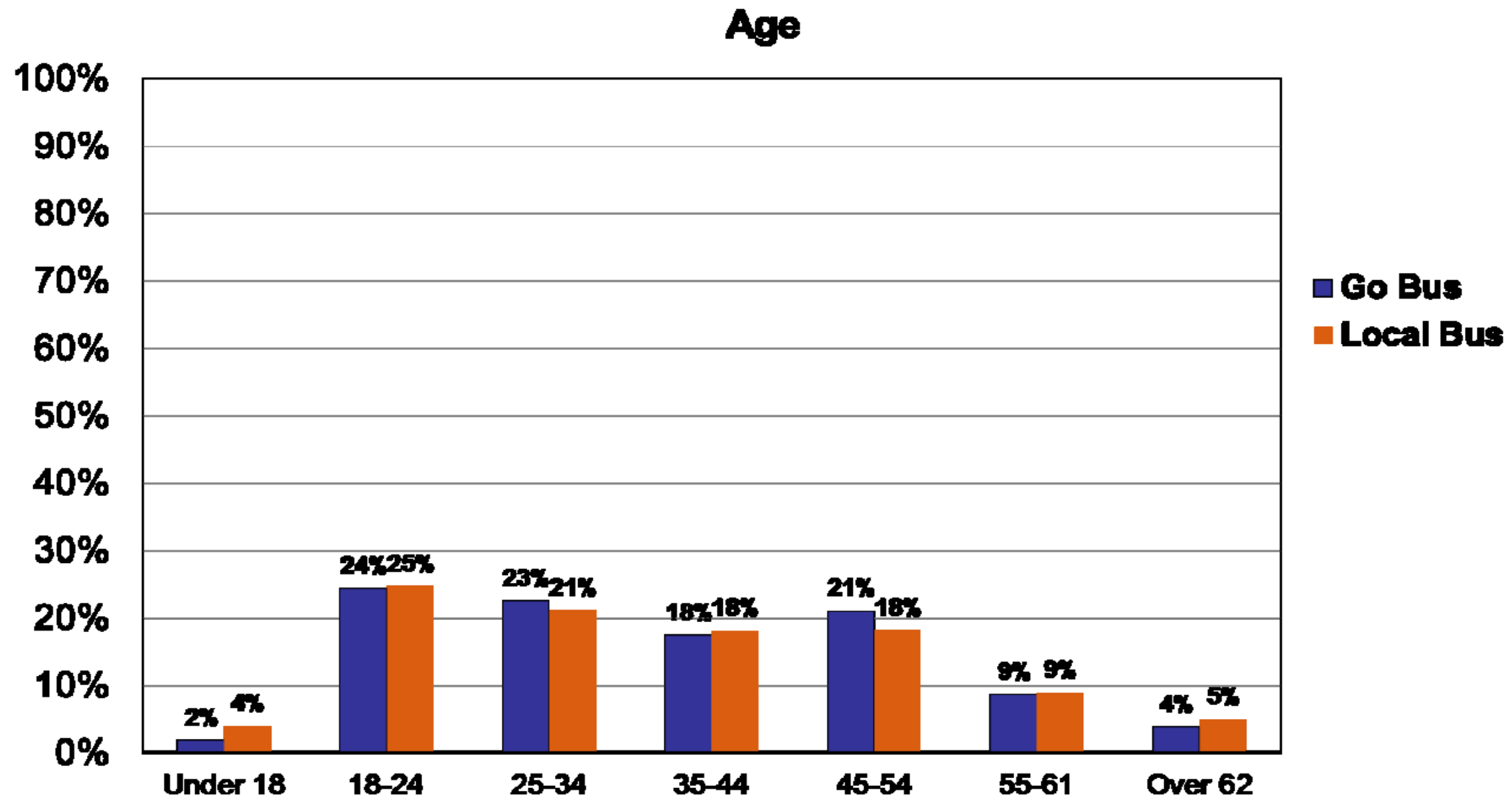
- SP survey held on February 27th and 28th, 2013 at NJ TRANSIT
- 66 people completed the survey, and produced usable data.

# Findings

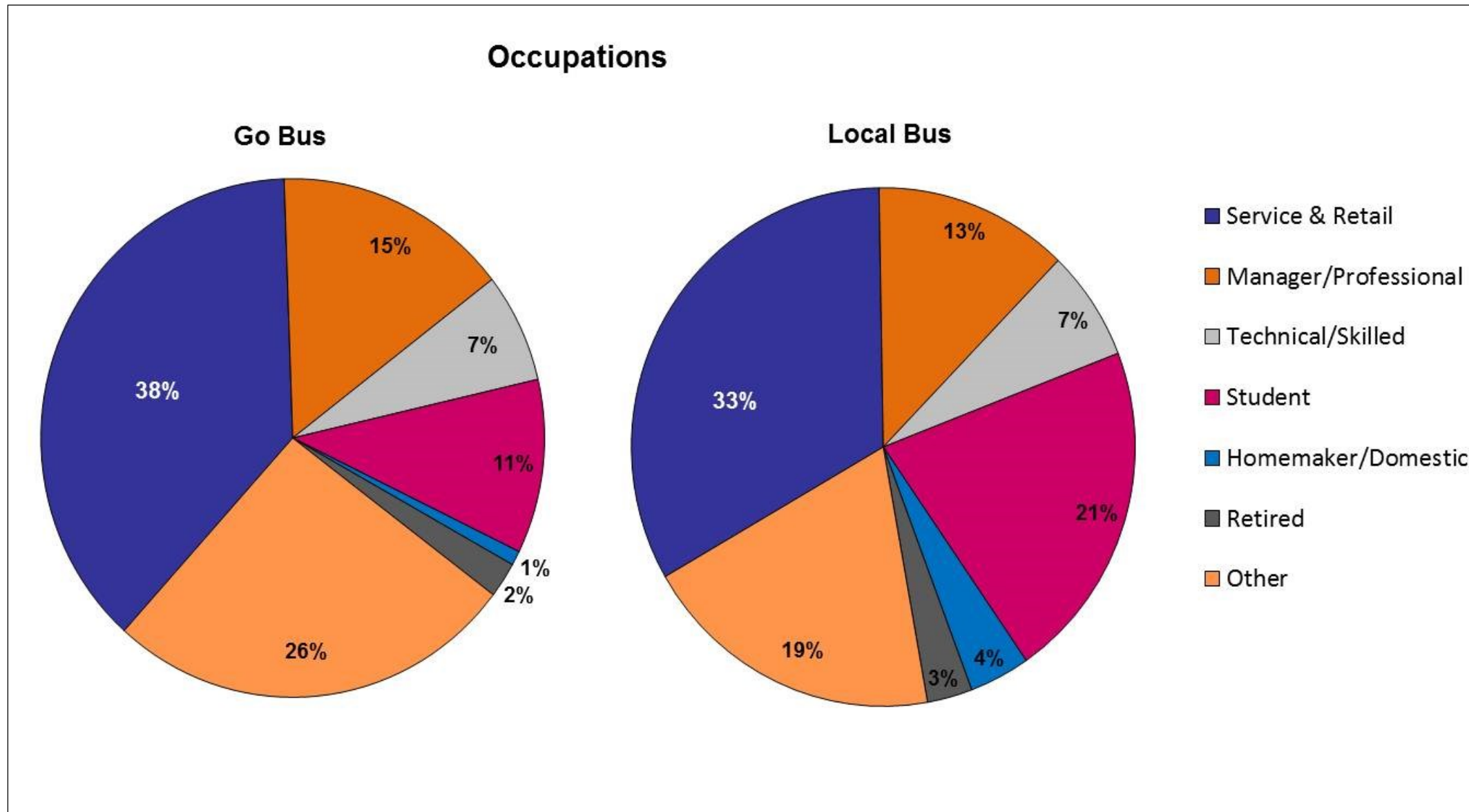
- Gender



# Age

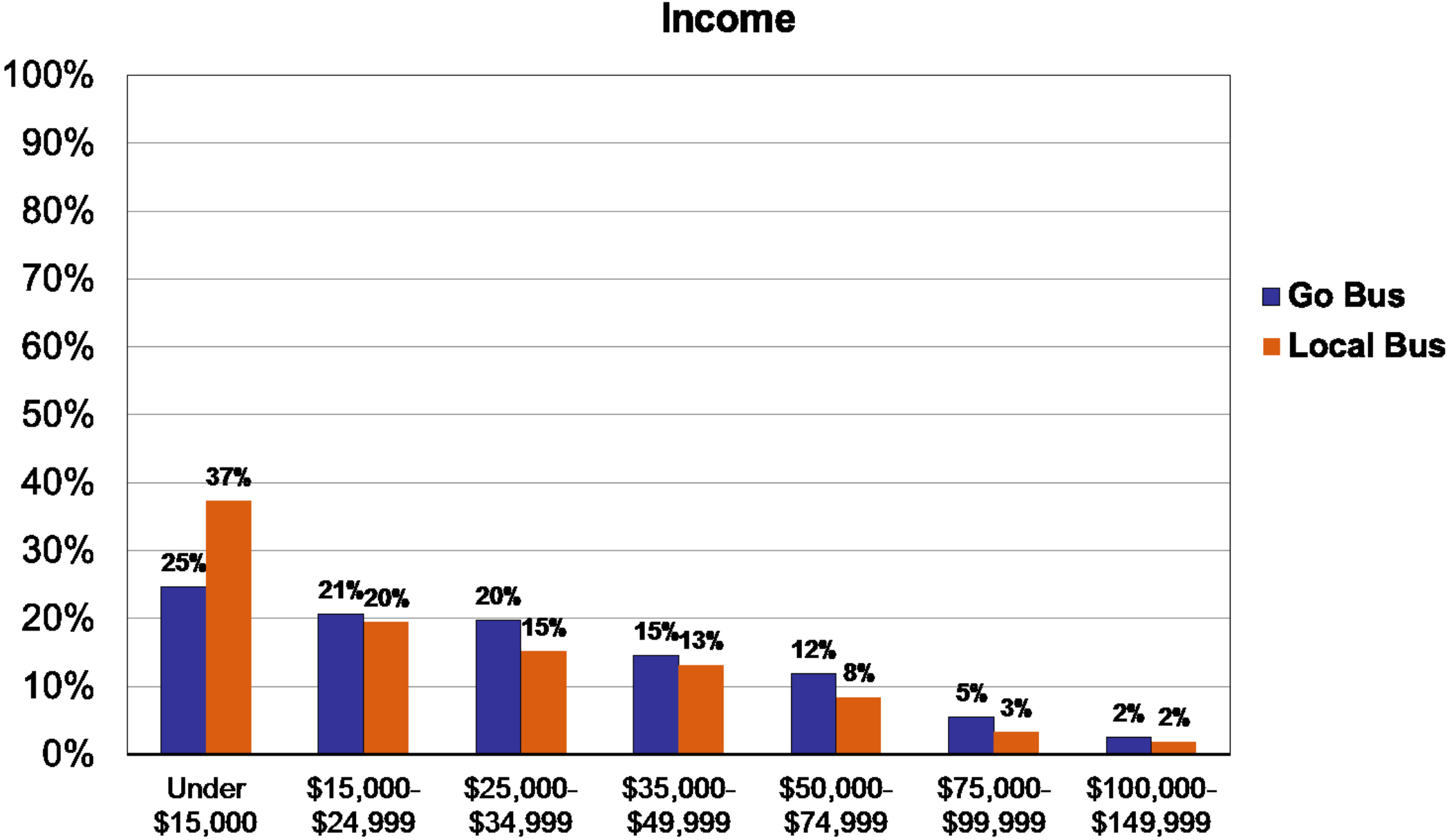


# Occupation



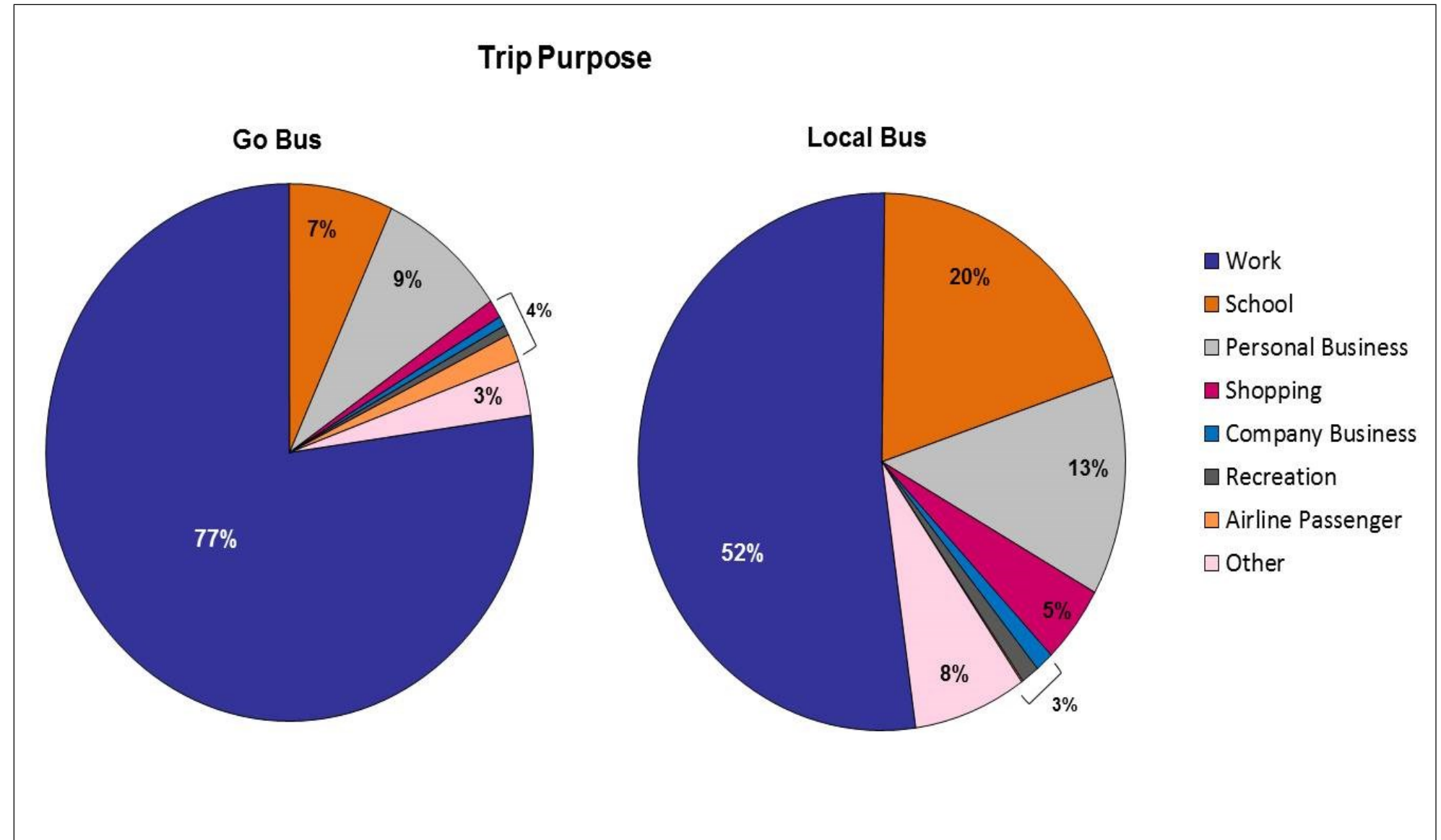


# Income



# Trip Purposes

- 64% GO 28 customers were traveling to or from the airport for work.

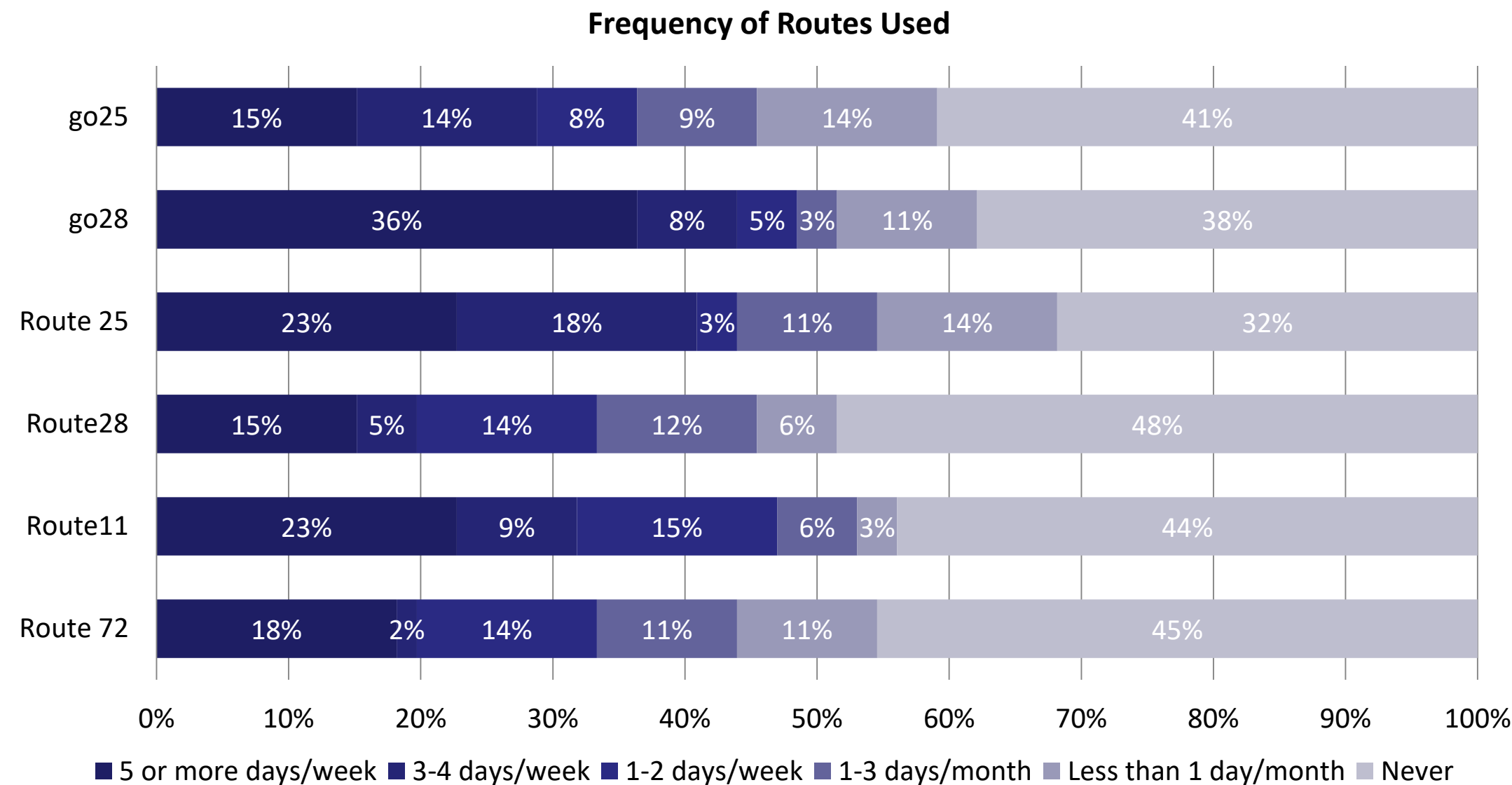


# GO 28 Stops

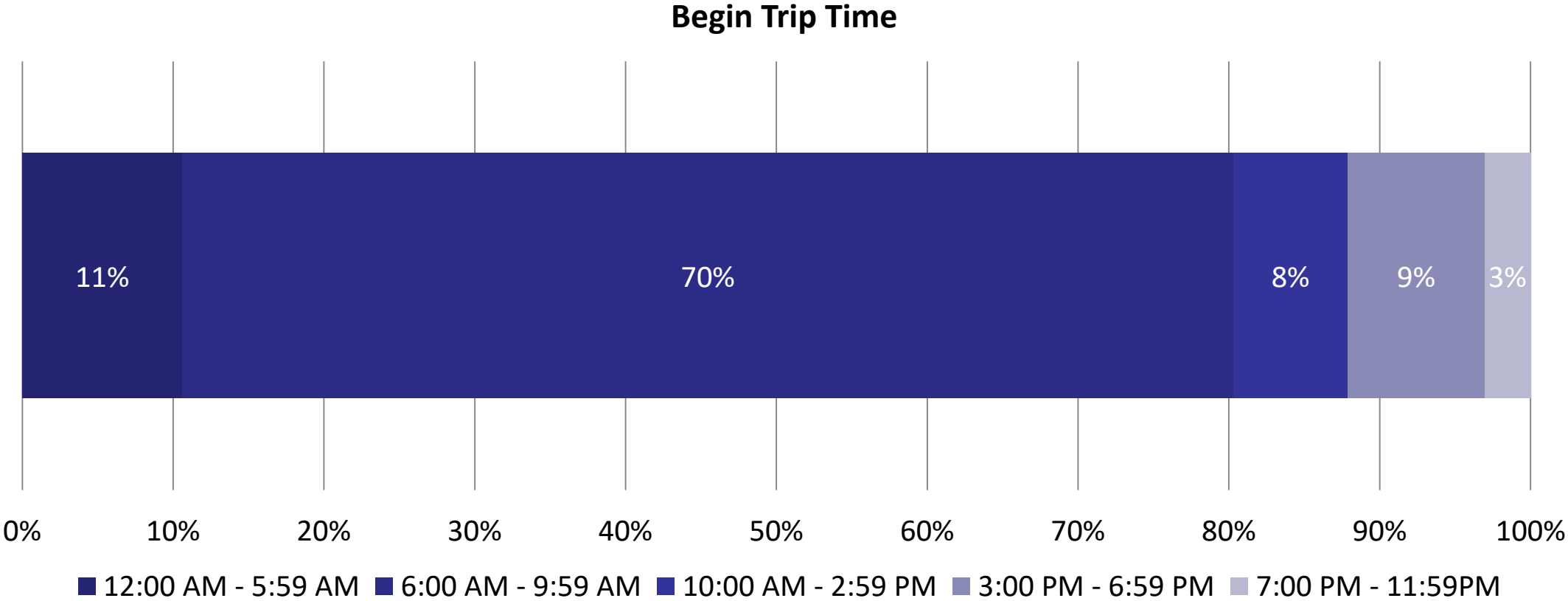
- The most common alight station for go28 is Newark Airport

go28 Bus Stop Name	Board Count	Alight Count
Bloomfield Train Station	4	0
Watsessing Park/Bloomfield Municipal Center	4	1
Grove St.	2	0
11 <sup>th</sup> /12 <sup>th</sup> Streets/Columbus Hospital	2	0
Clifton Ave.	4	1
Summer Ave.	1	1
Market Street/Prudential Center	2	5
Lincoln Park/Newark Symphony Hall	2	1
Newark Airport	0	11
Other	1	2

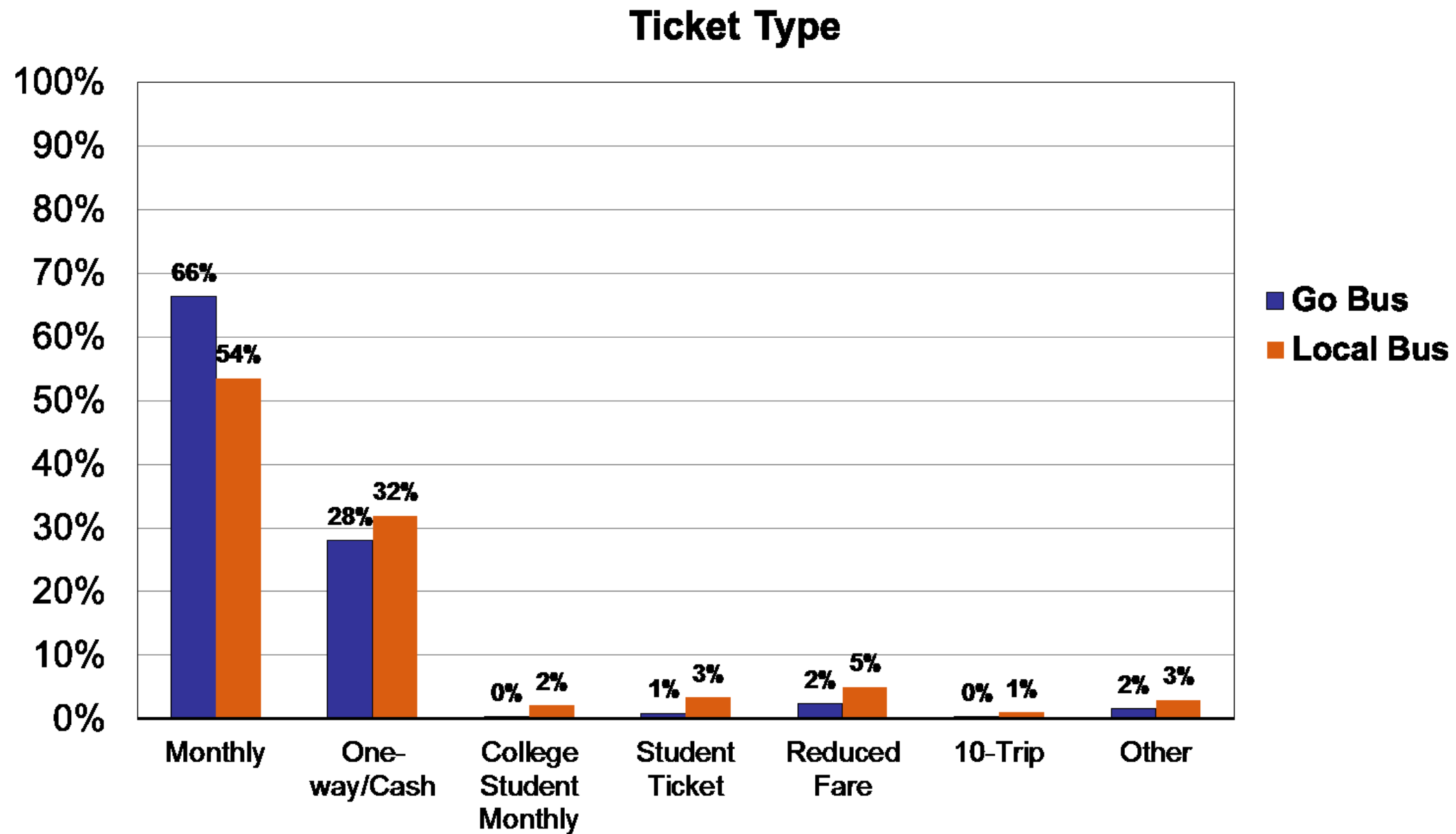
# Trip Frequencies



# Begin Trip Time

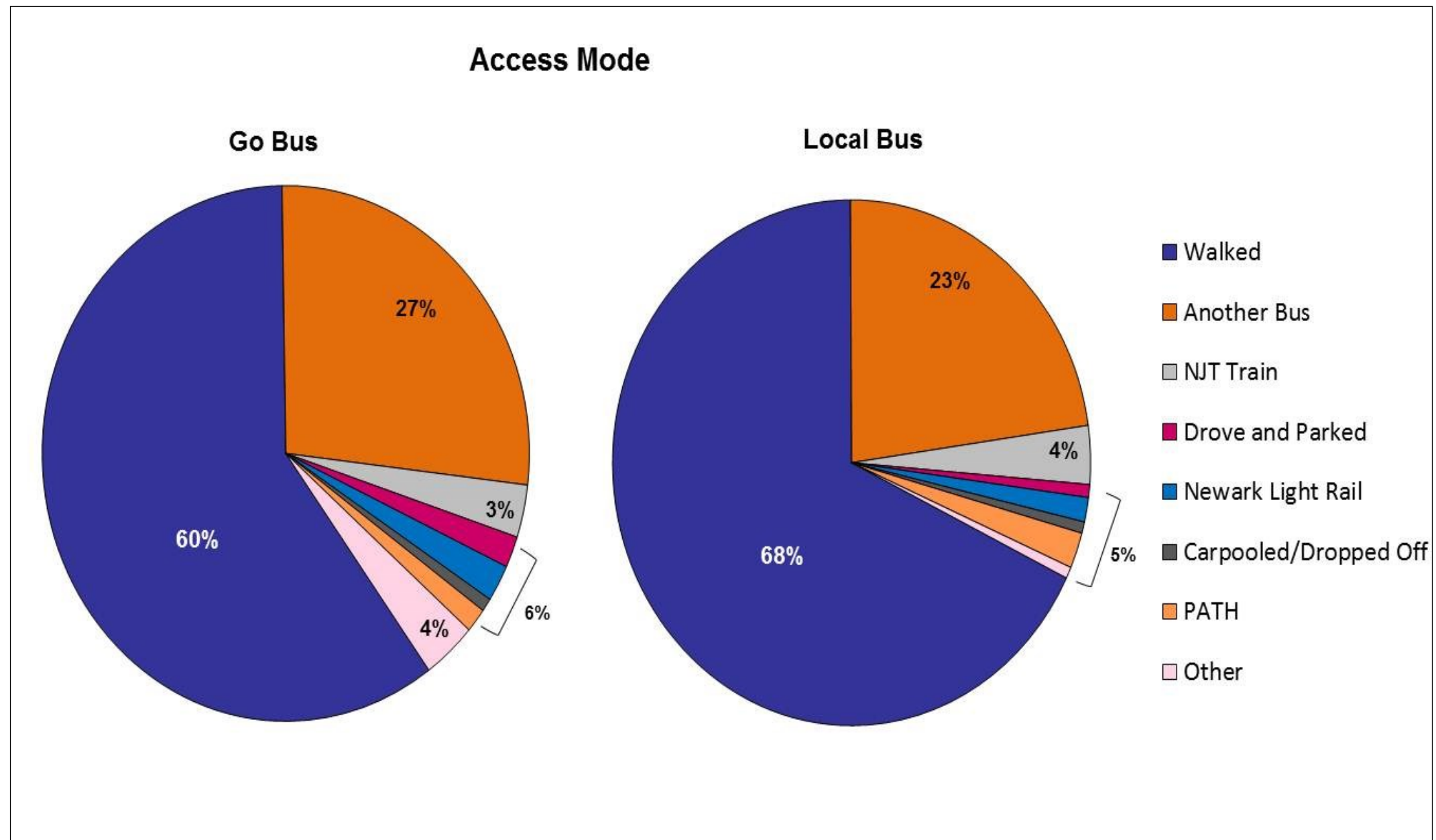


# Ticket types



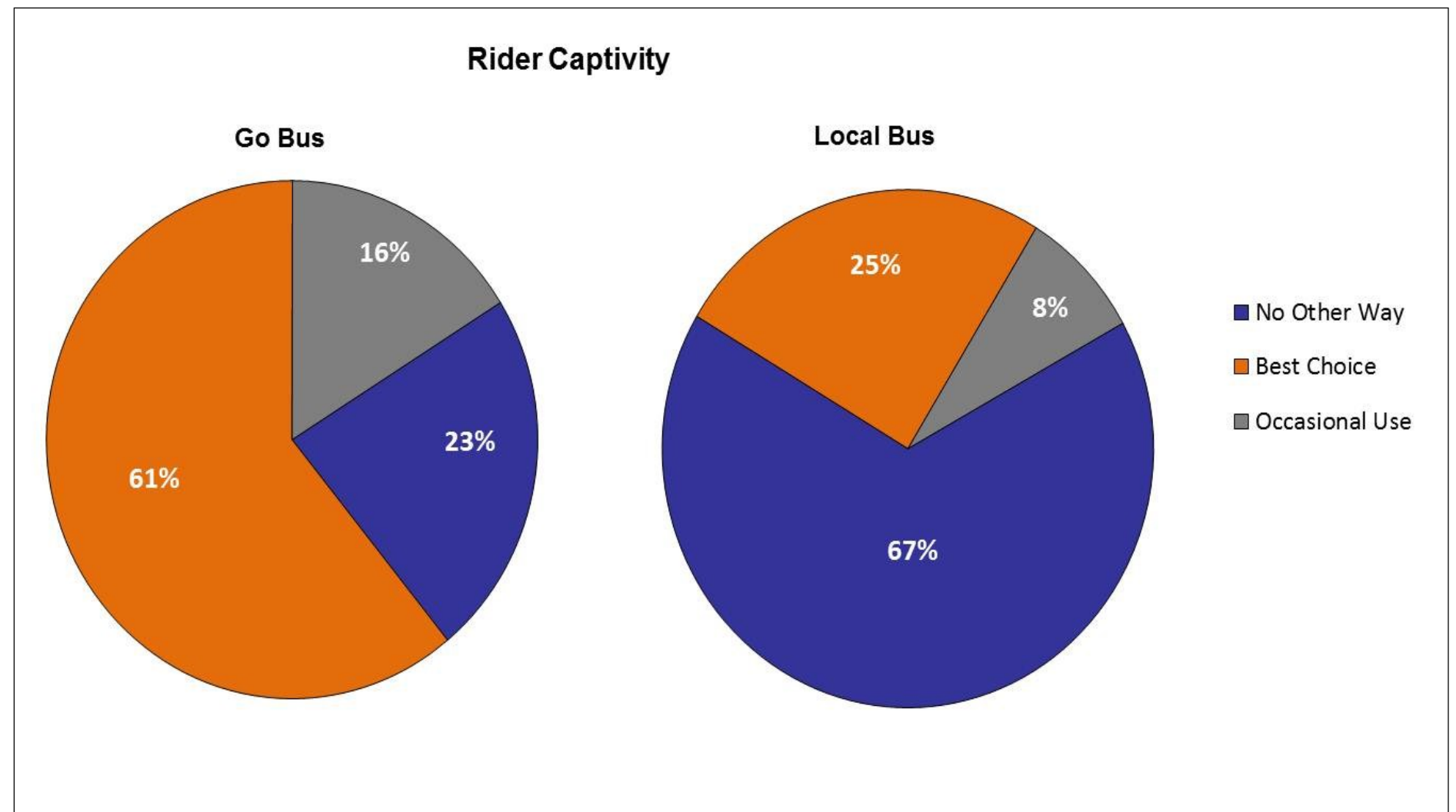


# Access mode



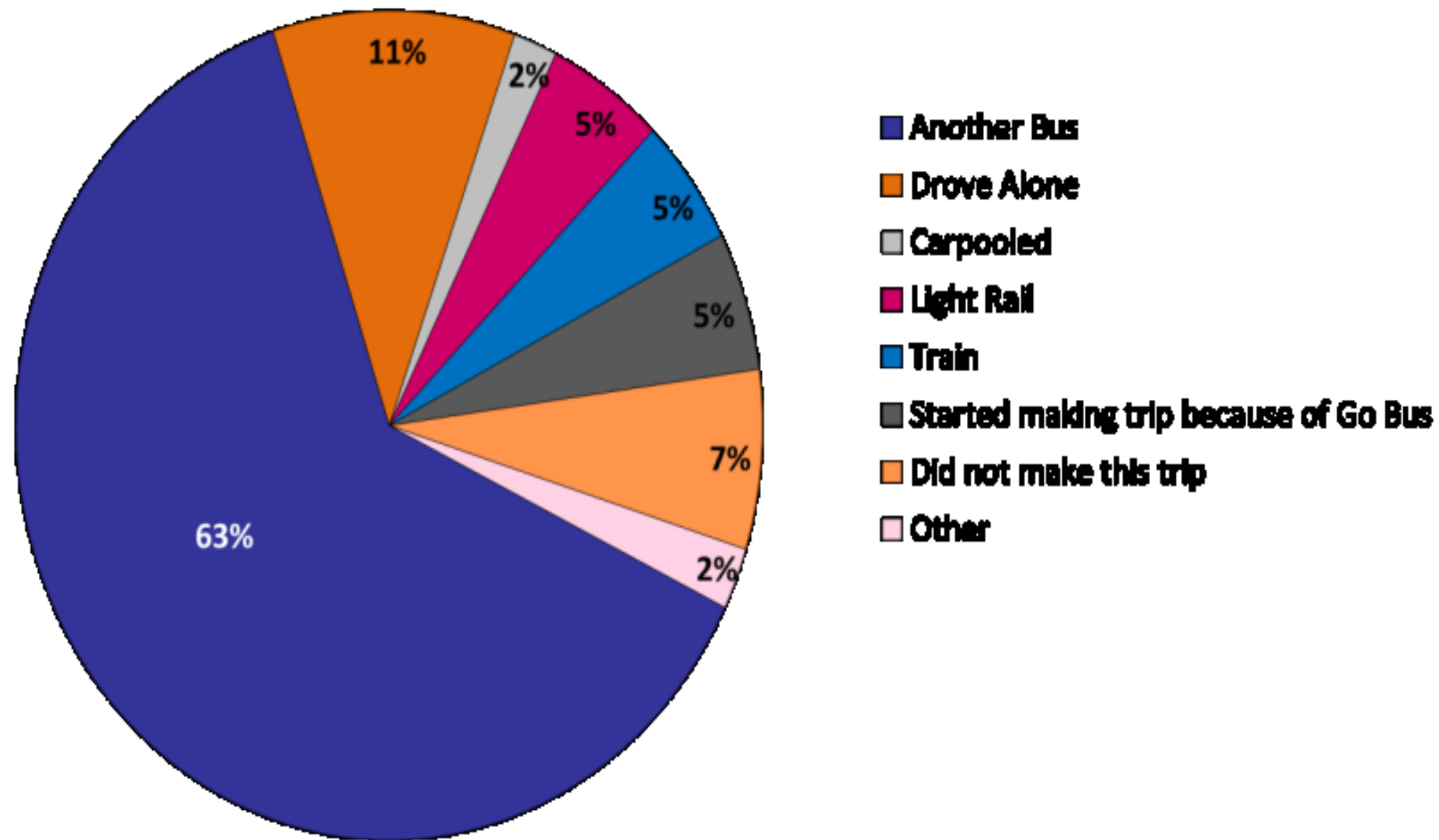
# Mode Shift

- Rider captivity



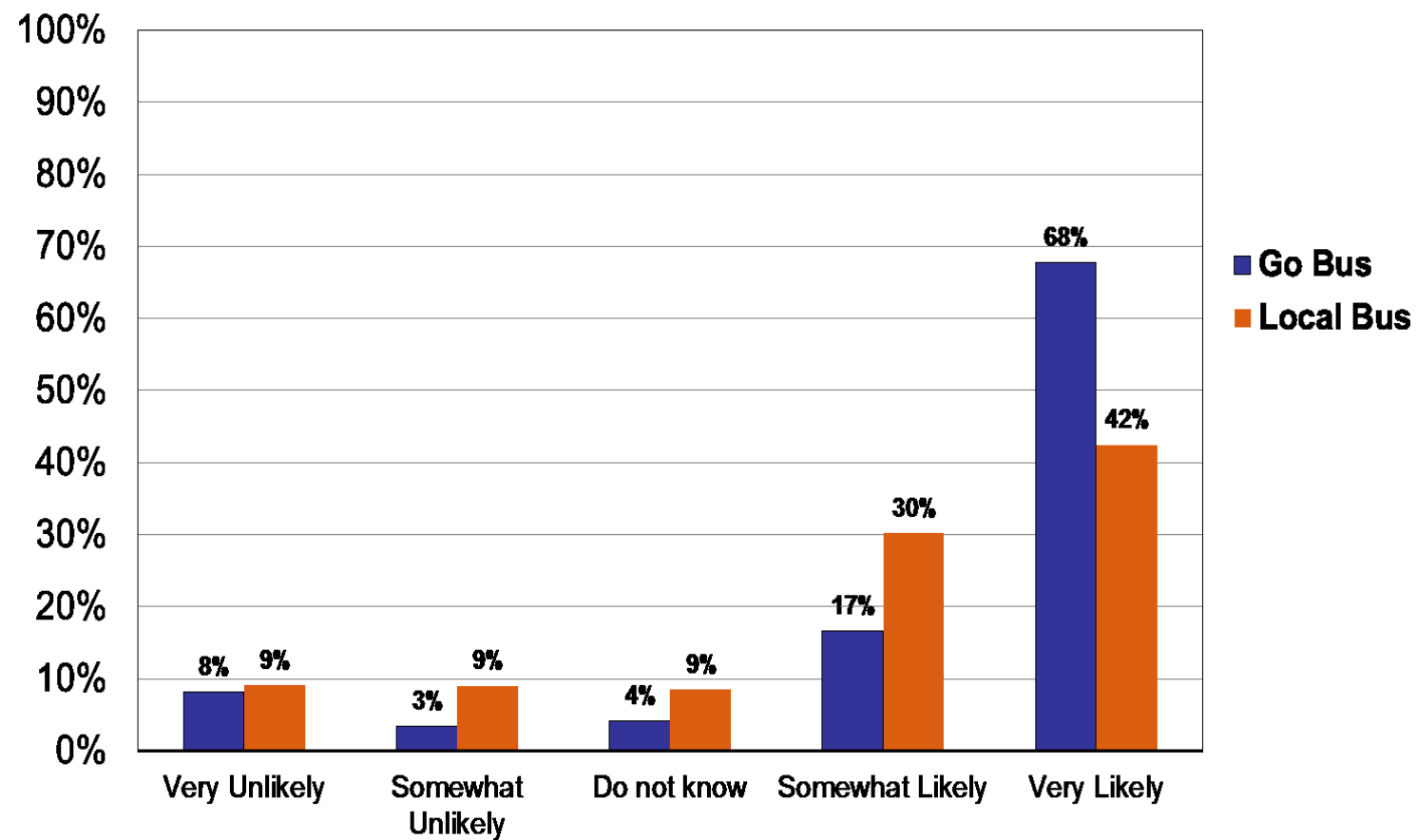
# Mode Shift

**Travel Before Go Bus**

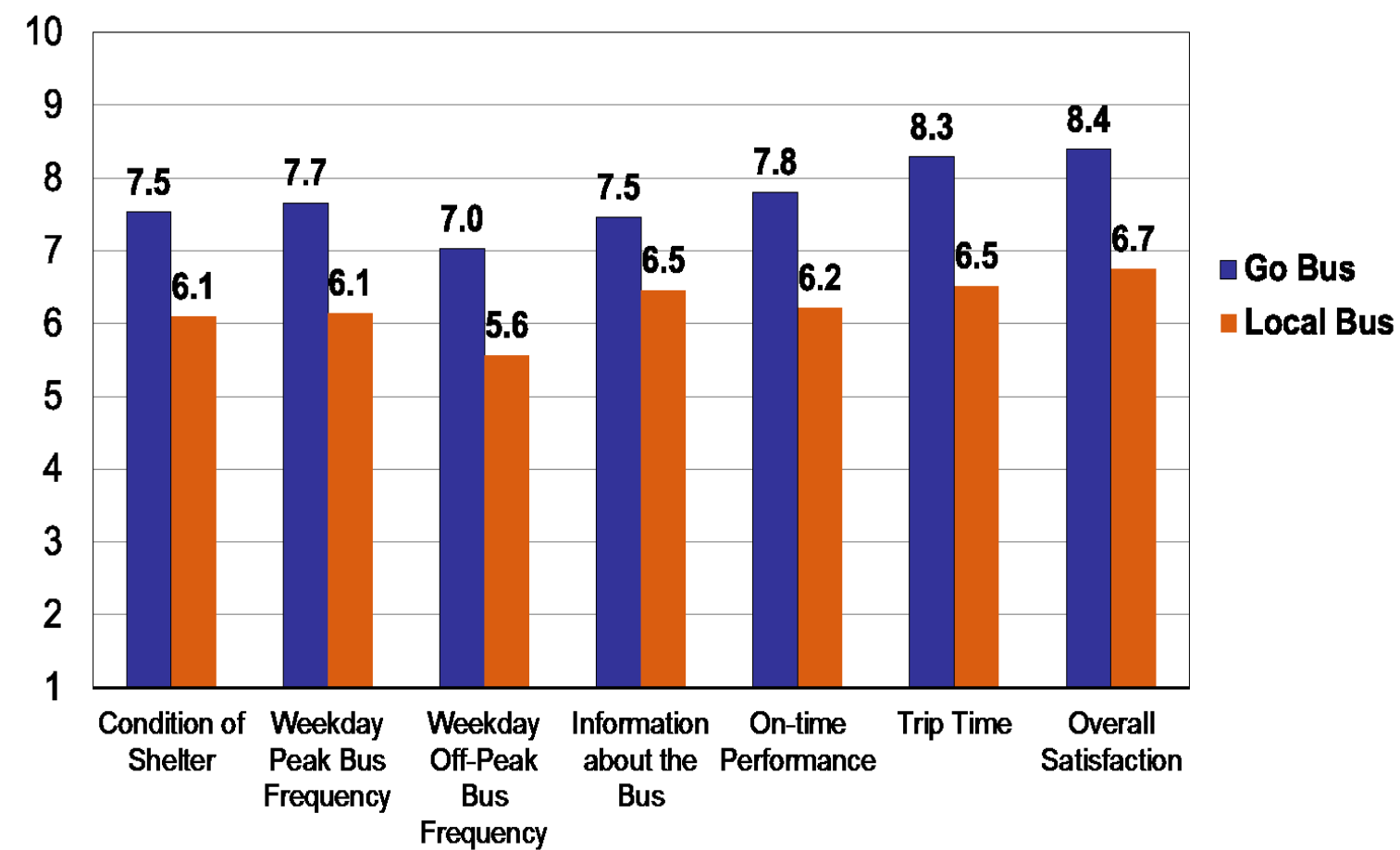


# Customer Satisfaction

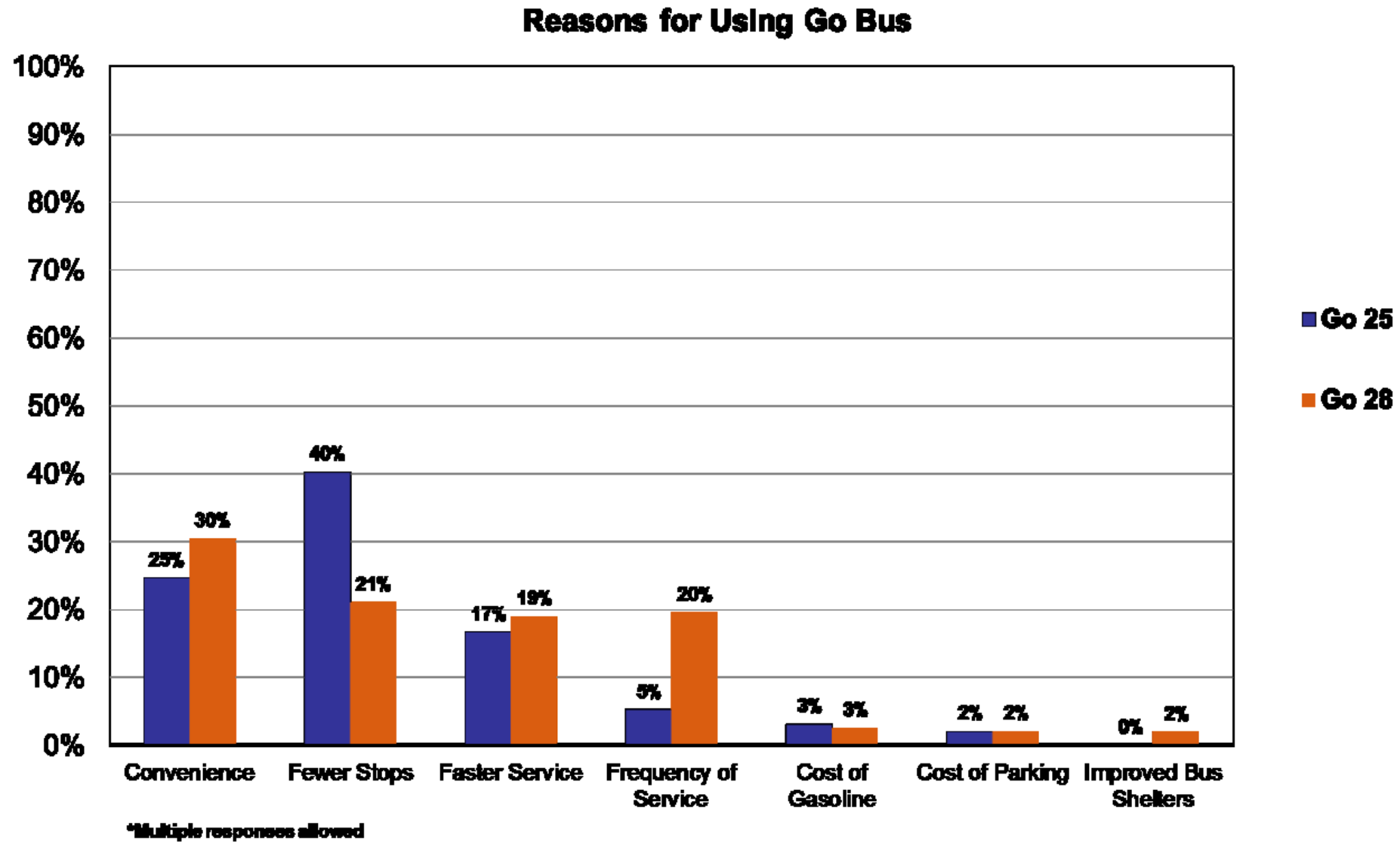
## Willingness to Recommend



## Customer Satisfaction

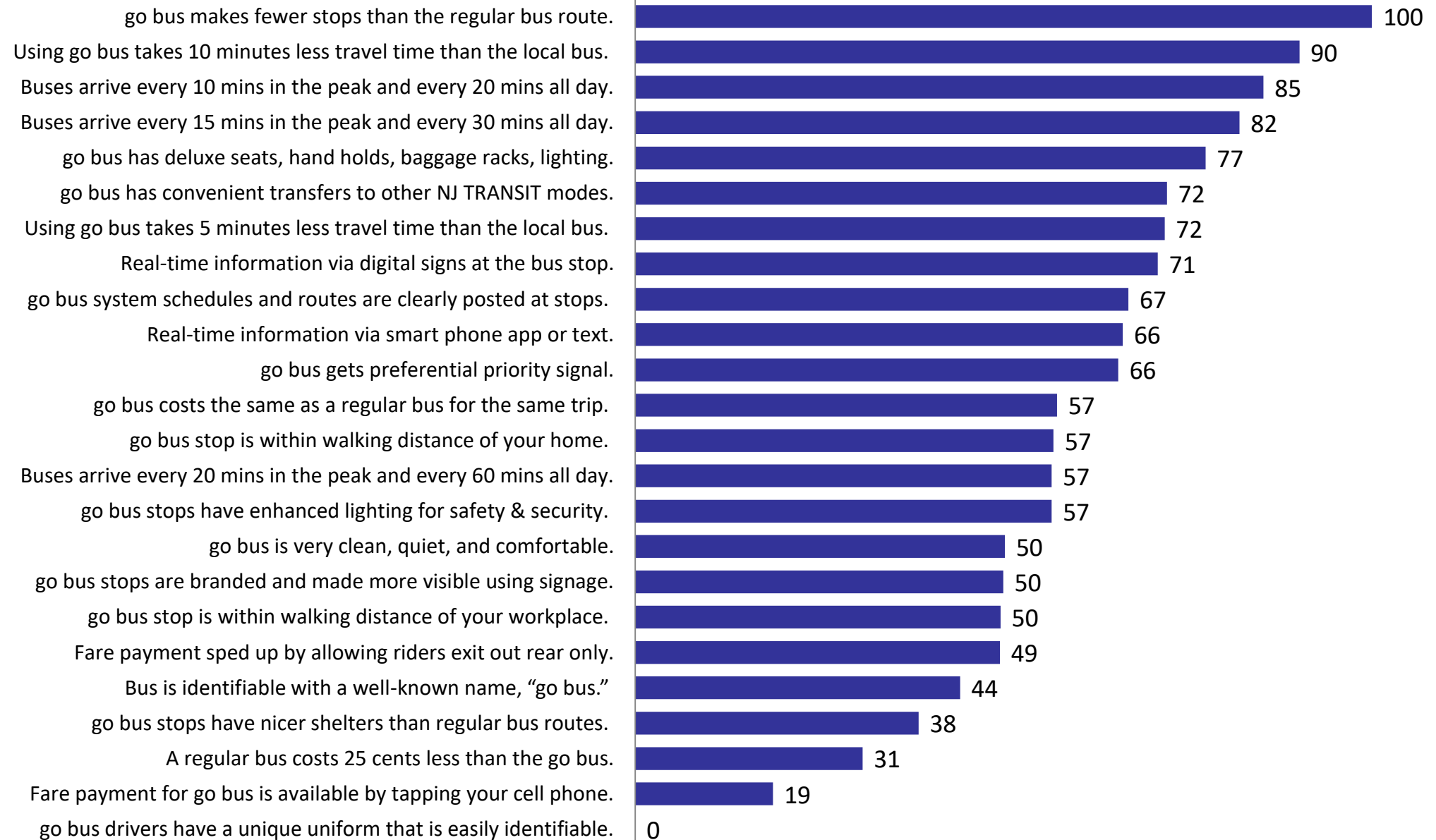


# Mode Shift Reason



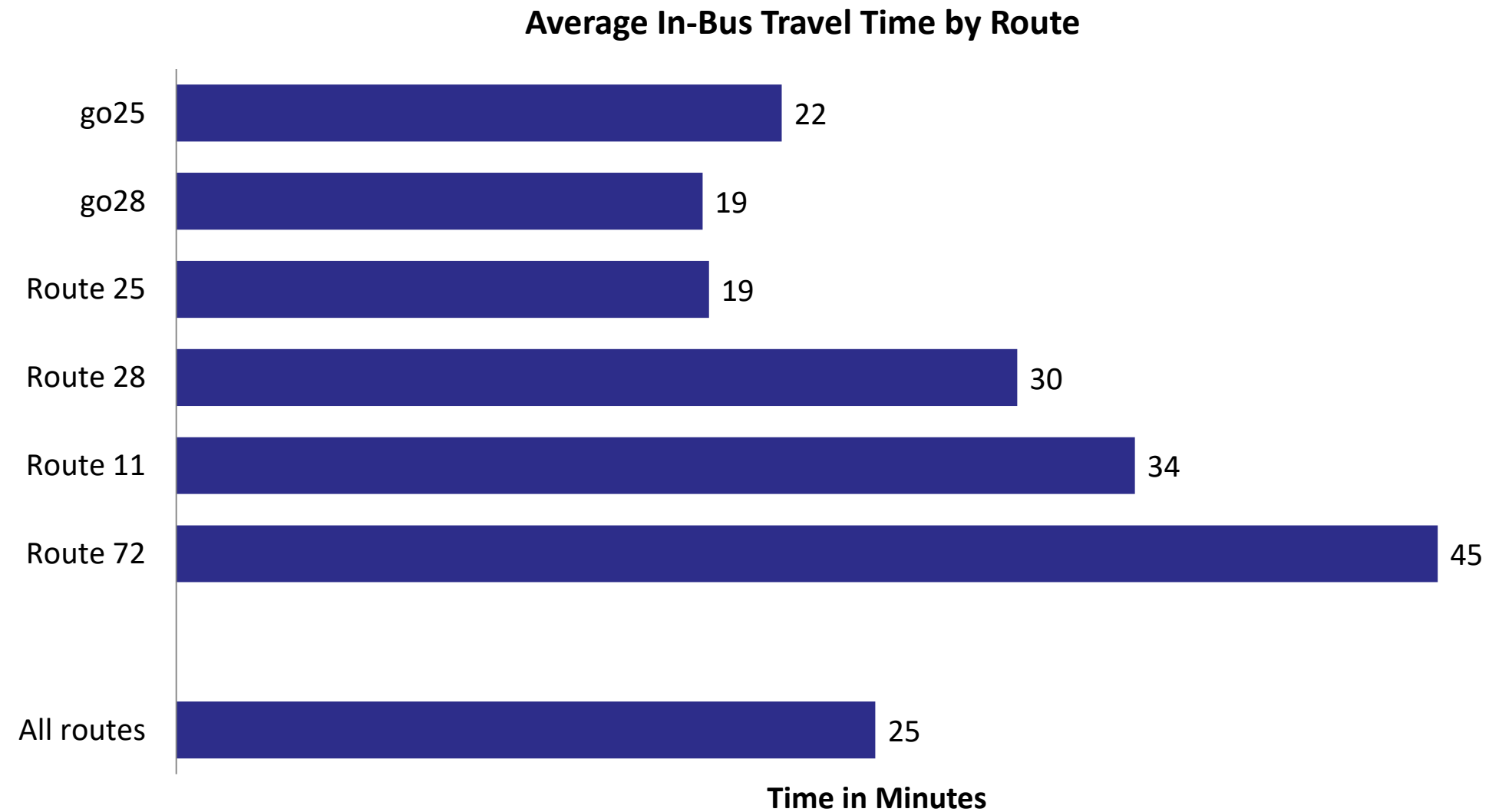
# Ranked Improvements

- Time Saving  
(fewer stops,  
faster service,  
frequency of service)
- information about  
the bus
- on-time performance

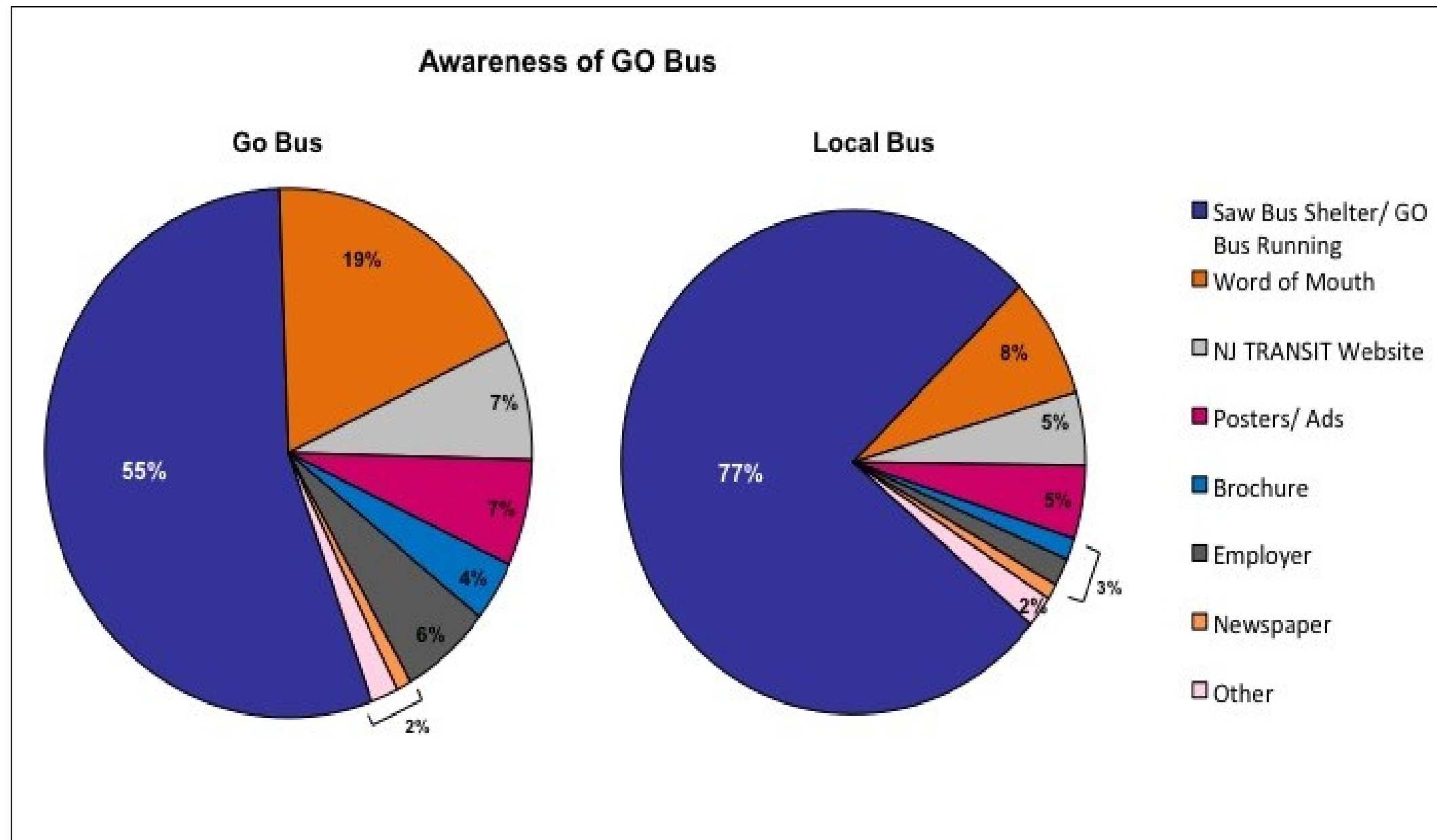




# Travel Time Saving



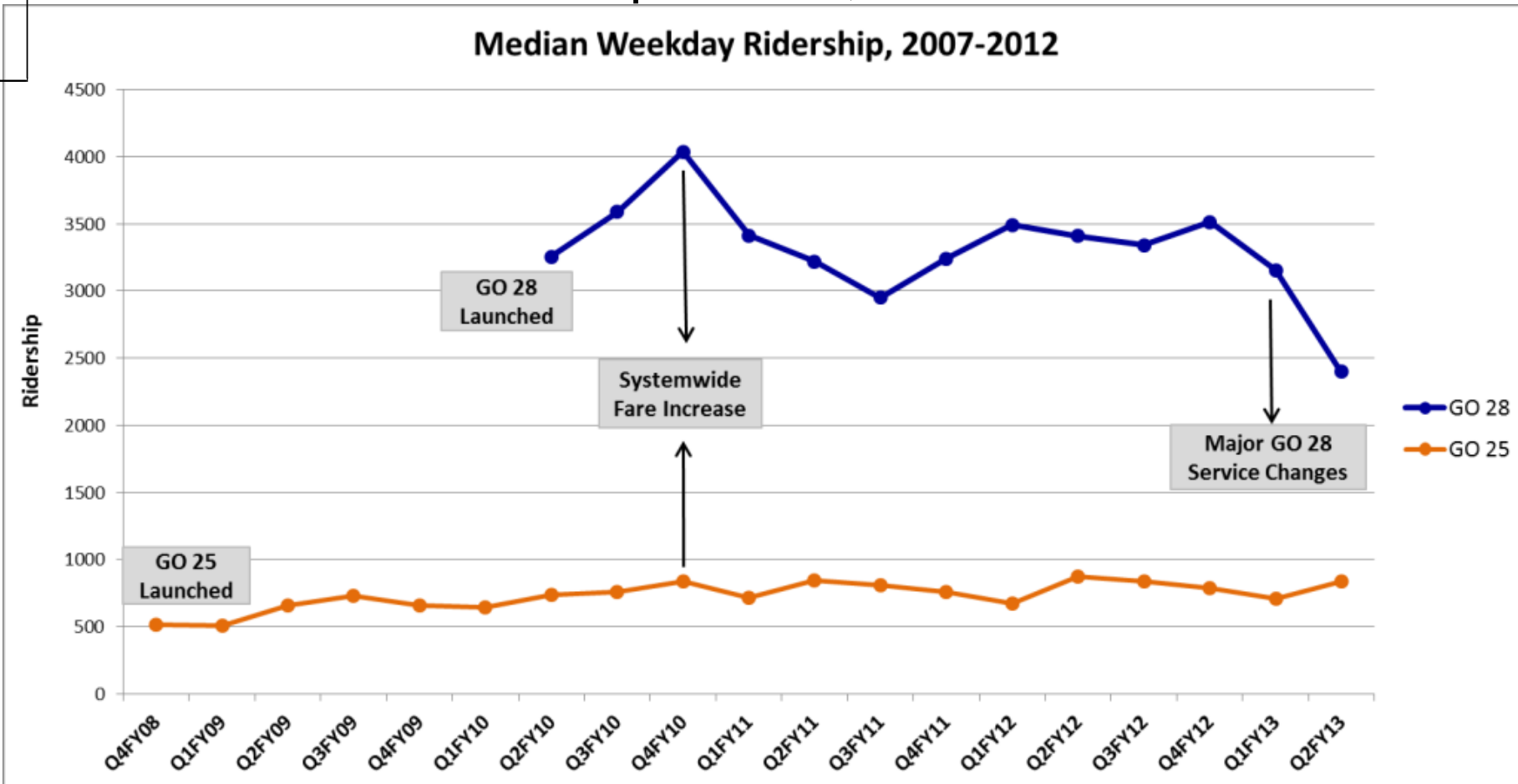
# Awareness



# Ridership Trends

Market Area	Q2FY08 Weekday Ridership	Q2FY13 Weekday Ridership	Percent Change
Bloomfield Ave Corridor (11, 28, 29, 72, GO 28)	15,446	16,821	9%
Springfield Ave Corridor (25, GO 25)	13,447	13,810	3%
Essex/Union/West Hudson Local Bus Market	190,495	185,875	-2%

## A. Ridership Trends, GO 28 and GO 25



# Summary

## GO bus as a enhanced bus service provides better commuter services

- **Strengths**

- **Travel Time Savings**

- Survey finding: 16 mins for GO 25; 20 mins for GO 28

- **Ridership increase**

- ridership grew 9% in Bloomfield Ave Corridor and 3% in Springfield Ave Corridor;

- VS

- 2% decline in weekday ridership and 9% decline in total ridership and Essex/Union/West Hudson market.

# Opportunities

- a potential for reducing congestion on selected Interstate Bus routes

There is a key “trans-Hudson link” ( 25% GO bus transfer to PATH).

- Potential of extending evening service for GO 25

GO 25 evening peak service terminates too early for those commuting from New York, as the last bus leaves Newark Penn Station at 6:05 pm.

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