Atlanta I-85 HOT Lane Carpool Survey: Initial Findings

Presented by Yanzhi "Ann" Xu

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HOV to HOT

SE UTC Conference
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NCTSPM
NATIONAL CENTER FOR TRANSPORTATION SYSTEMS PRODUCTIVITY AND MANAGEMENT

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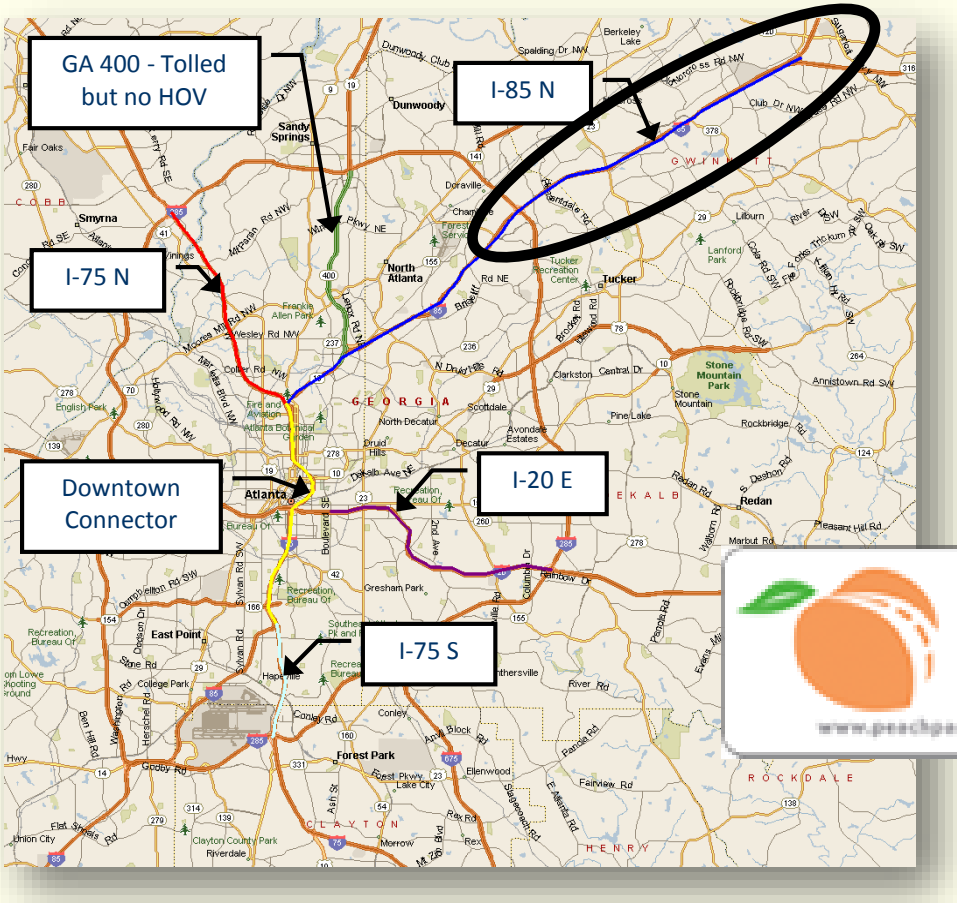
Atlanta's I-85 HOV-to-HOT Corridor Opened October 1, 2011



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I-85 HOV to HOT Conversion

- Approximately 16 miles
- One lane in each direction
- Non-barrier separated
- Zero toll for HOV3+ vehicles
  - Increased from HOV2+
  - HOV lane was congested
- Buses, vanpools, alternative fuel vehicles and MC are free
- All motorists must purchase a transponder to use the lane
- Dynamic toll pricing
  - Goal 45 mph (90% of peak)

www.itsga.org

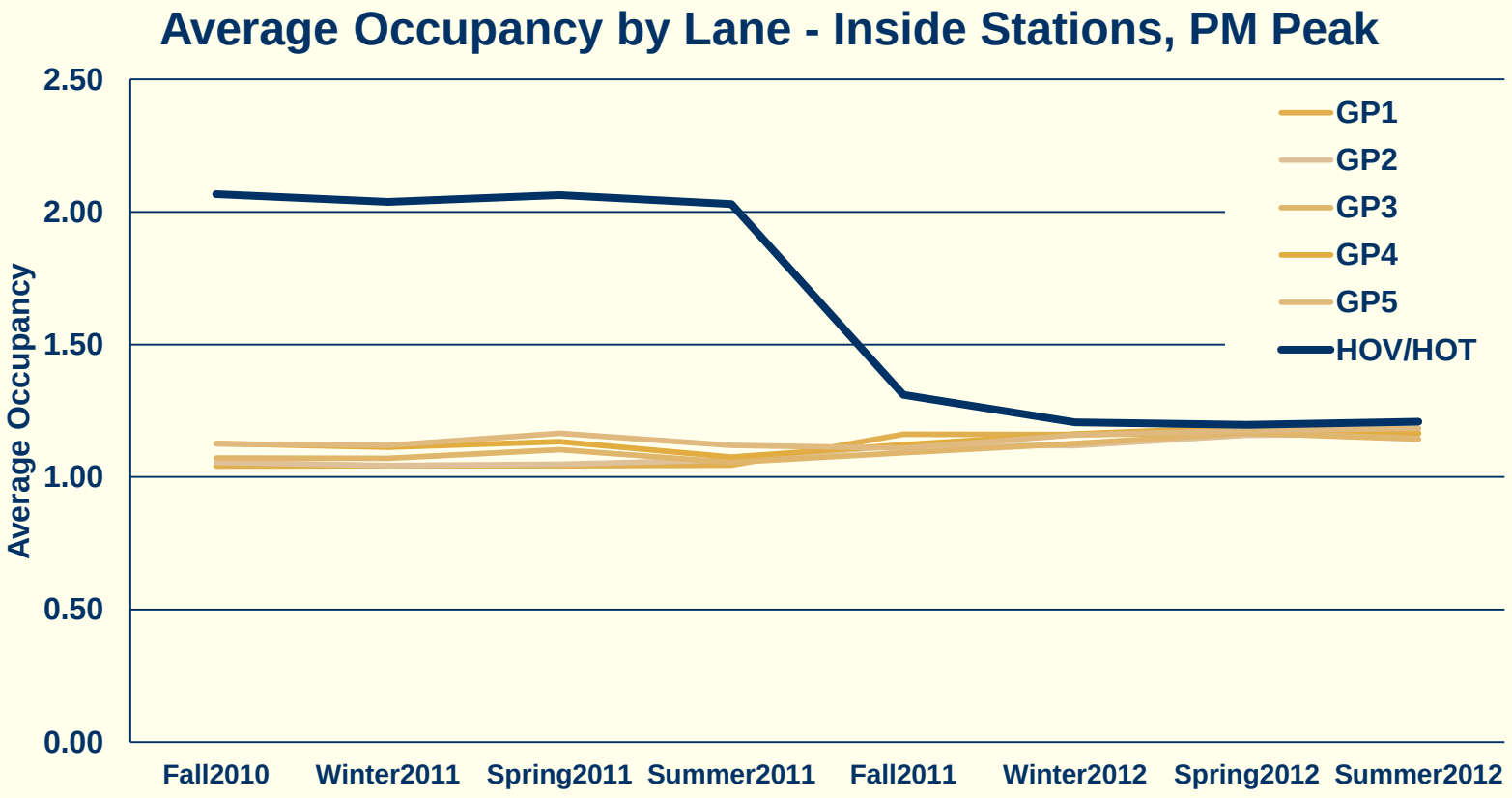
Atlanta HOV-to-HOT Corridor Performance Monitoring

- Collection of pre- and post-HOT-conversion data
- Track changes in I-85 corridor performance:
  - Corridor speed-flow, weaving, effective capacity
  - Vehicle and passenger throughput
  - HOT user and non-user analysis
    - Use frequency
    - Fleet characteristics
    - Household demographics

Monitoring HOT Corridor Occupancy

- Vehicle occupancy (persons/vehicle)
  - Quarterly roadside data collection
  - Netbooks with keypads to record vehicle class and occupancy data for each vehicle in each lane
- Parallel license plate data collection (not paired)

Average Observed Occupancy by Lane Center Stations (I-285 to SR 316) PM Peak



- *Excludes Contribution of Express Buses and Vanpools*

Guensler, et al., 2013

Carpool Survey
November-December 2014

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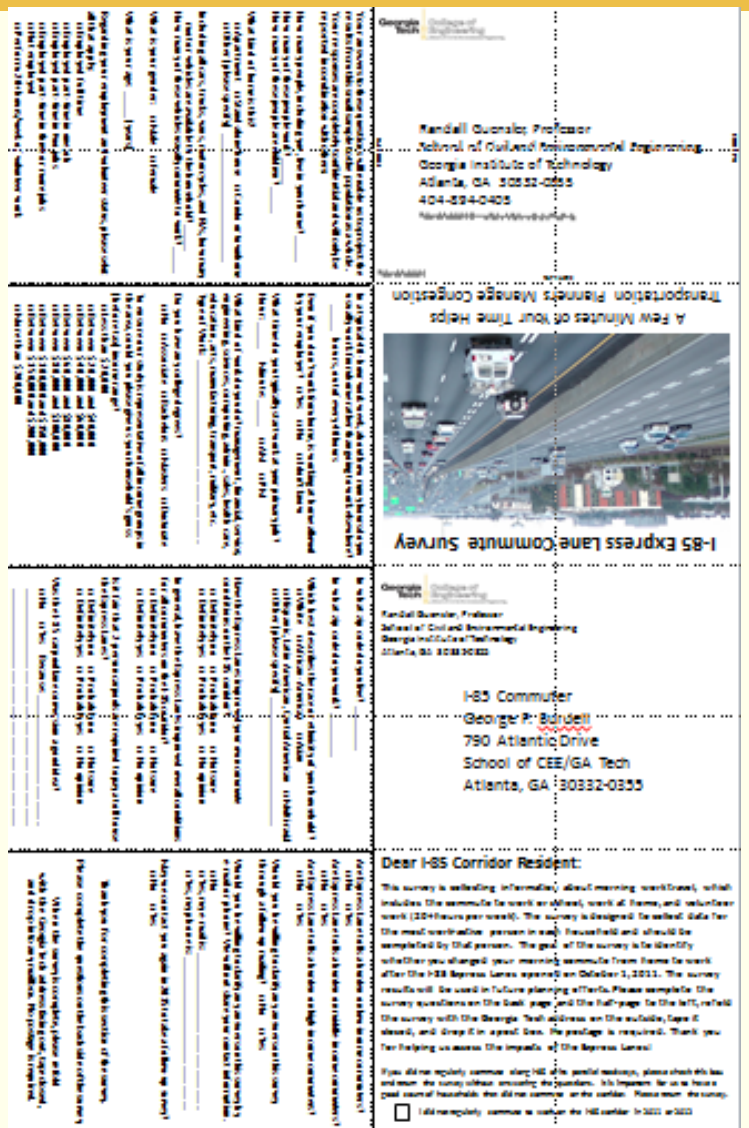
I-85 Commuter
George P. Burdell
790 Atlantic Drive
School of CEE/GA Tech
Atlanta, GA 30332-0355

Survey Mechanism



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A Few Minutes of Your Time Helps Transportation Planners Manage Congestion

I-85 Express Lane Commute Survey

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I-85 Commuter
George P. Bidwell
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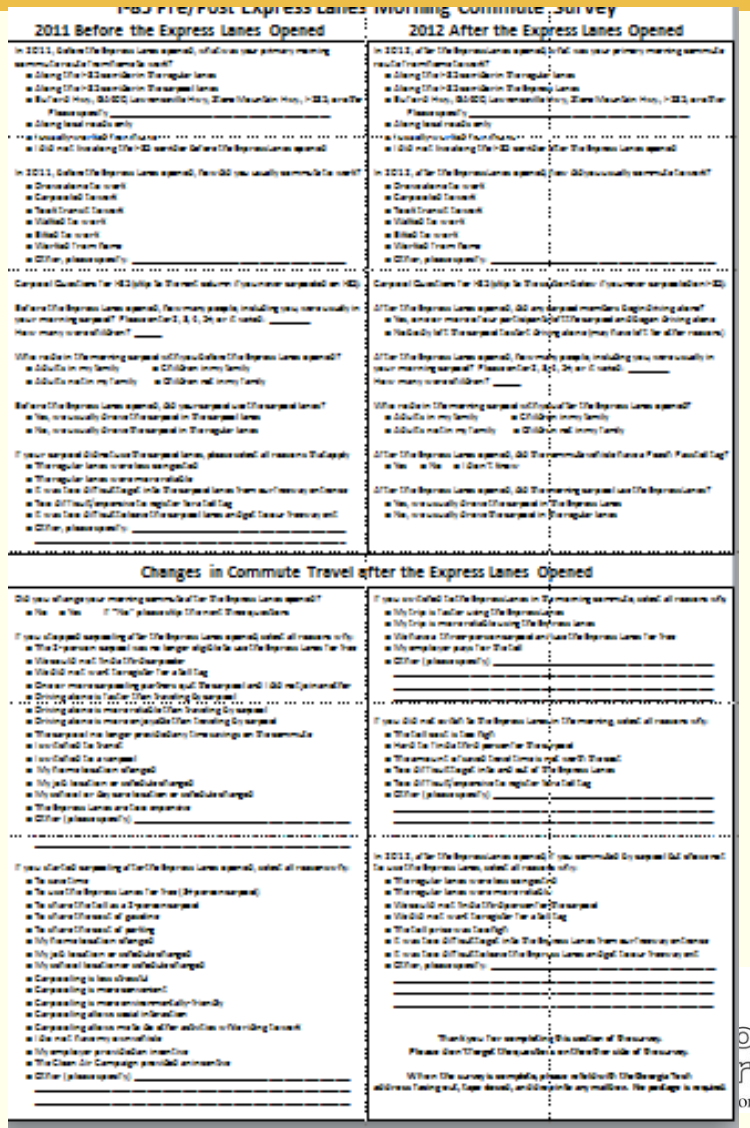
Atlanta, GA 30332-0355

Dear I-85 Corridor Resident:



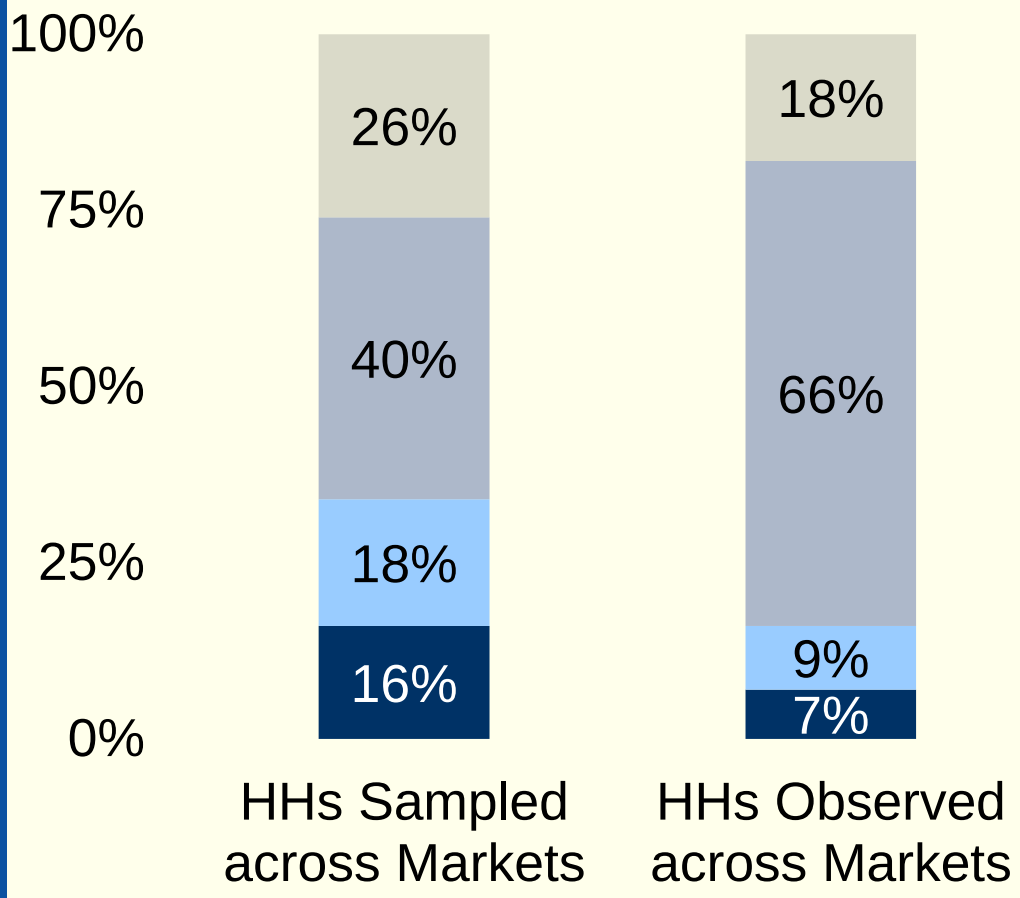
I-85 PTE/Post Express Lanes Morning Commute Survey

2011 Before the Express Lanes Opened

2012 After the Express Lanes Opened

Changes in Commute Travel after the Express Lanes Opened

Survey Sampling



- GP→HOT Market: Commute via HOV <=20% before, but via HOT > 20% after
- GP→GP Market: Commute via HOV <=20% before, and via HOT <=20% after
- HOV→GP Market: Commute via HOV > 20% before, but via HOT <=20% after
- HOV→HOT Market: Commute via HOV >20% before, and via HOT >20% after

10,000 surveys sent out

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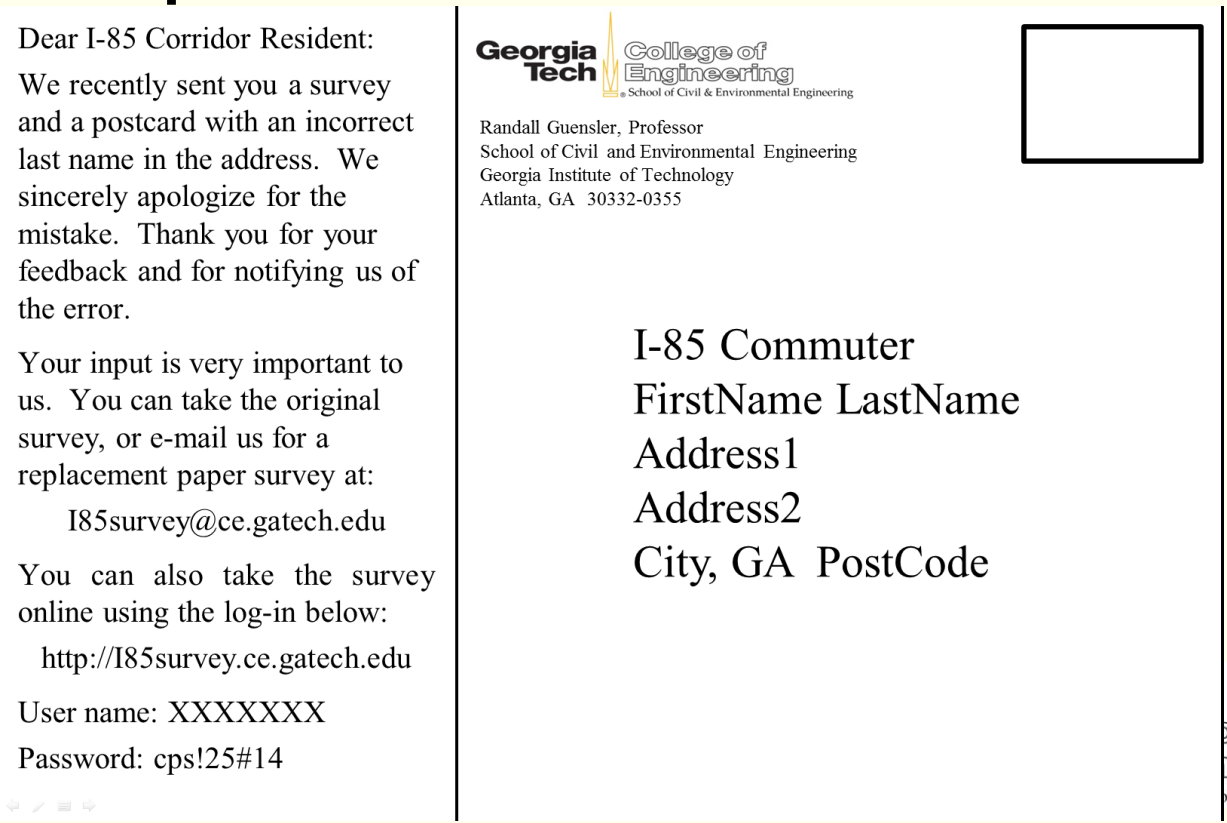
Survey Response

- **348 respondents filled out survey, on paper or online**
- **320 indicated as regular commuters**
- **Reminder postcards to follow**



Dear I-85 Corridor Resident:

We recently sent you a survey and a postcard with an incorrect last name in the address. We sincerely apologize for the mistake. Thank you for your feedback and for notifying us of the error.

Your input is very important to us. You can take the original survey, or e-mail us for a replacement paper survey at:

I85survey@ce.gatech.edu

You can also take the survey online using the log-in below:

http://I85survey.ce.gatech.edu

User name: XXXXXXX

Password: cps!25#14

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School of Civil & Environmental Engineering

Randall Guensler, Professor
School of Civil and Environmental Engineering
Georgia Institute of Technology
Atlanta, GA 30332-0355

I-85 Commuter
FirstName LastName
Address1
Address2
City, GA PostCode

Changes in Morning Commute

n = 297

Did you change your morning commute after the Express Lanes opened?		
Yes	120	40.4%
No	177	59.6%

Changes in Carpool Status

n = 301

		In 2012, after the Express Lanes opened, how did you usually commute to work?	
		Drove Alone	Carpool
In 2011, before the Express Lanes opened, how did you usually commute to work?	Drove Alone	201 (67%)	13 (4%)
	Carpool	26 (9%)	61 (20%)

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Changes in Lane Use

n = 293

		In 2012, after the Express Lanes opened, what was your primary morning commute route from home to work?	
		GP Lanes	HOT Lane
In 2011, before the Express Lanes opened, what was your primary morning commute route from home to work?	GP Lanes	131 (45%)	73 (25%)
	Carpool Lane	55 (19%)	34 (12%)

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Carpool Composition Pre-HOT

n unique = 107

Who rode in the morning carpool with you before the Express Lanes opened?		
Adults in my family	46	43.0%
Adults not in my family	52	48.6%
Children in my family	18	16.8%
Children not in my family	5	4.7%

Fampools ~ 56%

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Carpool Composition Post-HOT

n unique = 89

Who rode in the morning carpool with you after the Express Lanes opened?		
Adults in my family	43	48.3%
Adults not in my family	38	42.7%
Children in my family	17	19.1%
Children not in my family	5	5.6%

Fampools ~ 64%

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Lane Choice Reasons – Switched to HOT Lanes

n unique = 124

If you switched to the Express Lanes in the morning commute, select all reasons why		
My trip is faster using the Express Lanes	71	57.3%
My trip is more reliable using the Express Lanes	44	35.5%
We have a three person carpool and use the Express Lanes for free	9	7.3%
My employer pays the toll	5	4.0%

Lane Choice Reasons – Did not Switch to the HOT Lanes

n unique = 191

If you did not switch to the Express Lanes in the morning commute, select all reasons why		
The toll cost is too high	87	45.5%
The amount of saved travel time is not worth the cost	71	37.2%
Too difficult to get into and out of the Express Lanes	42	22.0%
Hard to find a third person for the carpool	23	12.0%
Too difficult/expensive to register for a toll tag	23	12.0%

Lane Choice Reasons – Carpools not in HOT Lanes

n unique = 86

In 2012, after the Express lanes opened, if you commuted by Carpool but chose not to use the Express Lanes, select all reasons why		
Toll price was too high	57	66.3%
Could not find a third person	16	18.6%
Too difficult to leave the Express Lanes and get to our freeway exit	15	17.4%
Did not want to register for toll tag	13	15.1%
Too difficult to get into the Express Lanes from our freeway entrance	11	12.8%
Regular lanes were less congested	10	11.6%
Regular lanes were more reliable	6	7.0%

Have the HOT Lanes Improved Your Commute Conditions?

n = 296

Have the Express Lanes improved your own commute conditions on the I-85 corridor?		
Definitely No	148	50.0%
Probably No	26	8.8%
Not Sure	12	4.1%
Probably Yes	37	12.5%
Definitely Yes	72	24.3%
No Opinion	1	0.3%

"No" does not necessarily mean that commute conditions worsened

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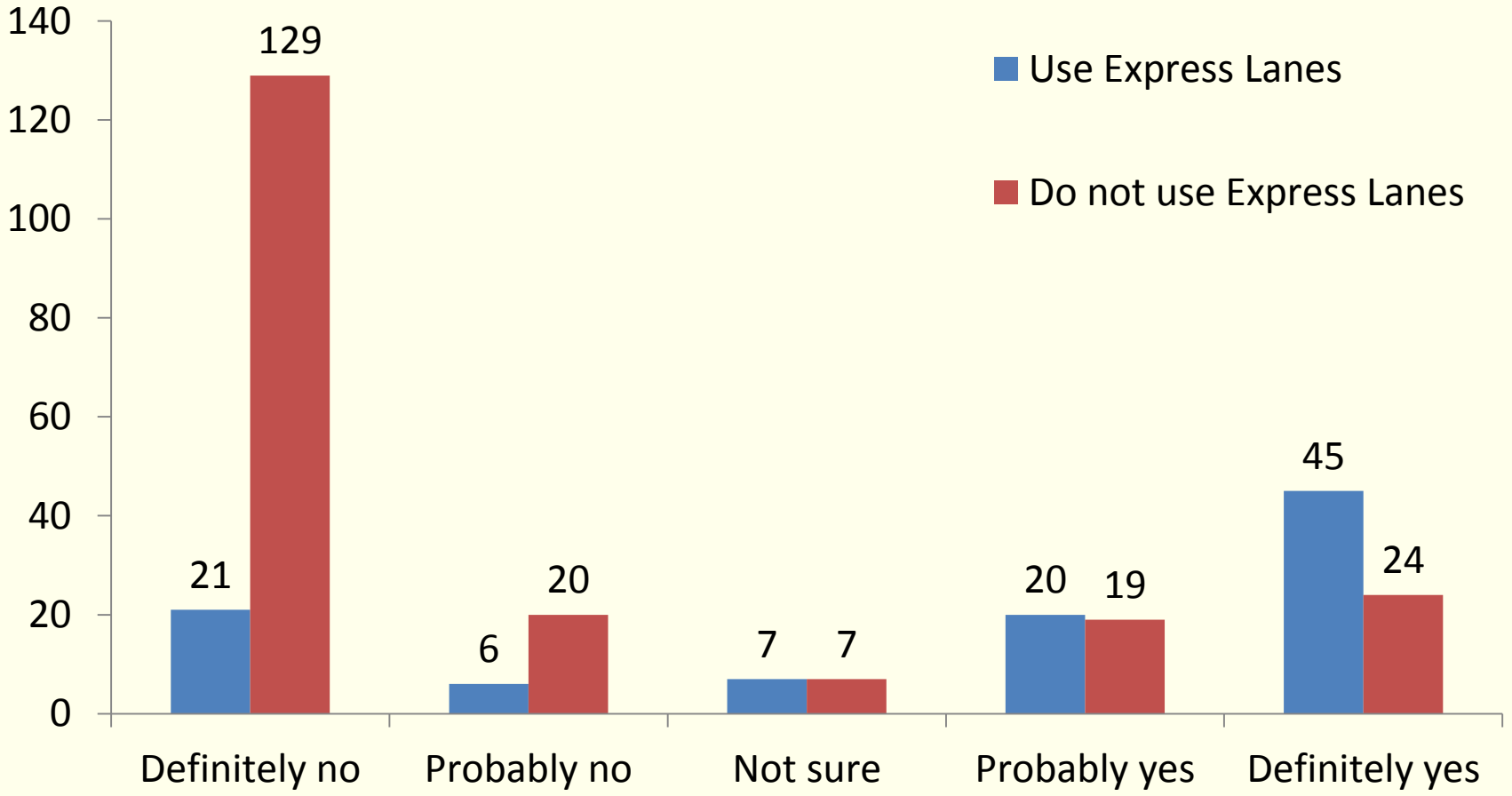
Have the HOT Lanes Improved Your Commute Conditions?

n = 296



"No" does not necessarily mean that commute conditions worsened

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Have the HOT Lanes Improved Corridor Operating Conditions

n = 295

In general, have the Express Lanes improved overall conditions for all commuters on the I-85 corridor?		
Definitely No	136	46.1%
Probably No	73	24.7%
Not Sure	31	10.5%
Probably Yes	34	11.5%
Definitely Yes	16	5.4%
No Opinion	5	1.7%

"No" does not necessarily mean that commute conditions worsened

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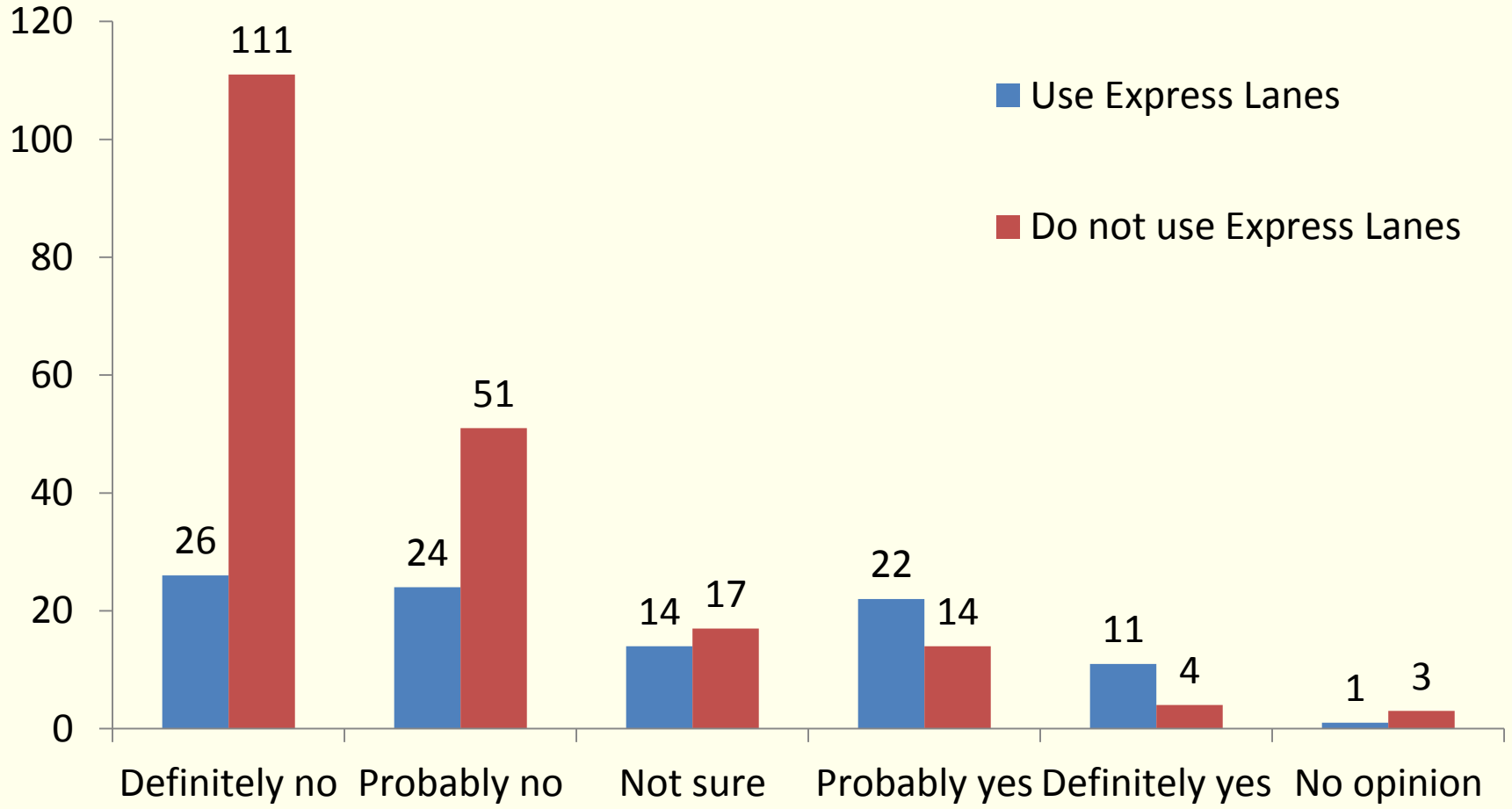
Have the HOT Lanes Improved Corridor Operating Conditions

n = 295



"No" does not necessarily mean that commute conditions worsened

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Q43 - Should 2-Person Carpools Pay a Toll?

n = 296

Is it fair that 2-person carpools are required to pay a toll to use the Express Lanes?		
Definitely No	150	50.7%
Probably No	38	12.8%
Not Sure	23	7.8%
Probably Yes	32	10.8%
Definitely Yes	37	12.5%
No Opinion	16	5.4%

No = 63.5%

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HOV-to-HOT Carpool Survey Single-Question Findings to Date

- 40.4% of respondents changed their commute
- Twice as many commuters abandoned carpools as formed carpools
- More than half of carpools appear to be fampools
- HOT lanes provide faster, more reliable commutes
- Cost was primary reason for not switching, but 22% also indicated that entry/exit was too difficult
- 15% of carpoolers did not want to get a Peach Pass
- Non-HOT users have negative HOT lane impressions
- 64% of respondents don't understand that HOT lanes won't work if 2-person carpools are free

Questions?

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