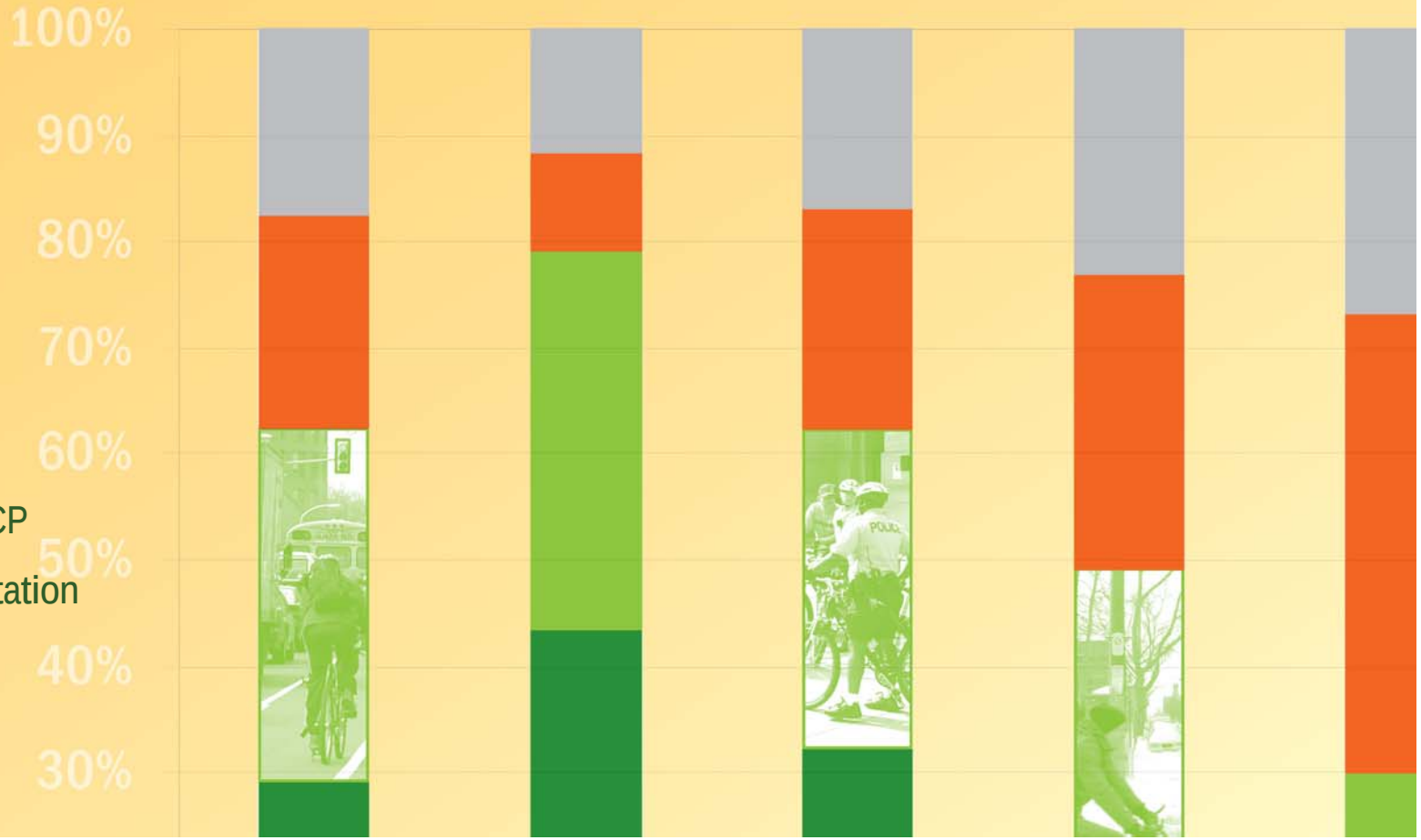
DELAWARE VALLEY
REGIONAL PLANNING
COMMISSION

March 5, 2008

BICYCLING *in the* DELAWARE VALLEY *in* 2005

USE, SAFETY AND DEMOGRAPHICS



John Madera AICP

Senior Transportation Planner

Metropolitan Bicycle Travel Survey

Snapshot of bicycling the Philadelphia metro region

- Bicycle trips
- Bicyclists

What was the survey population?

- Bicycle trips: est. 133,000 daily
- Bicyclists: est. 1 million adults

How was the population surveyed?

- Bicycle trips: intercept interviews
- Bicyclists: intercept distribution of mail-back questionnaire

How was the survey administered?

Sept. 28 - Nov. 6, 2005

- Intercept operations at 35 sites
- 7 a.m. to 7 p.m.
- Weekdays and weekends
- Phase 2 mail-back distribution on parked bikes and at club rides

How were the survey sites selected?

- Roads with history of bike crashes
- Center City, University City, Princeton
- Trails
- Rail stations w/ heavy bike parking
- Balance across counties, area types

SURVEY SITES

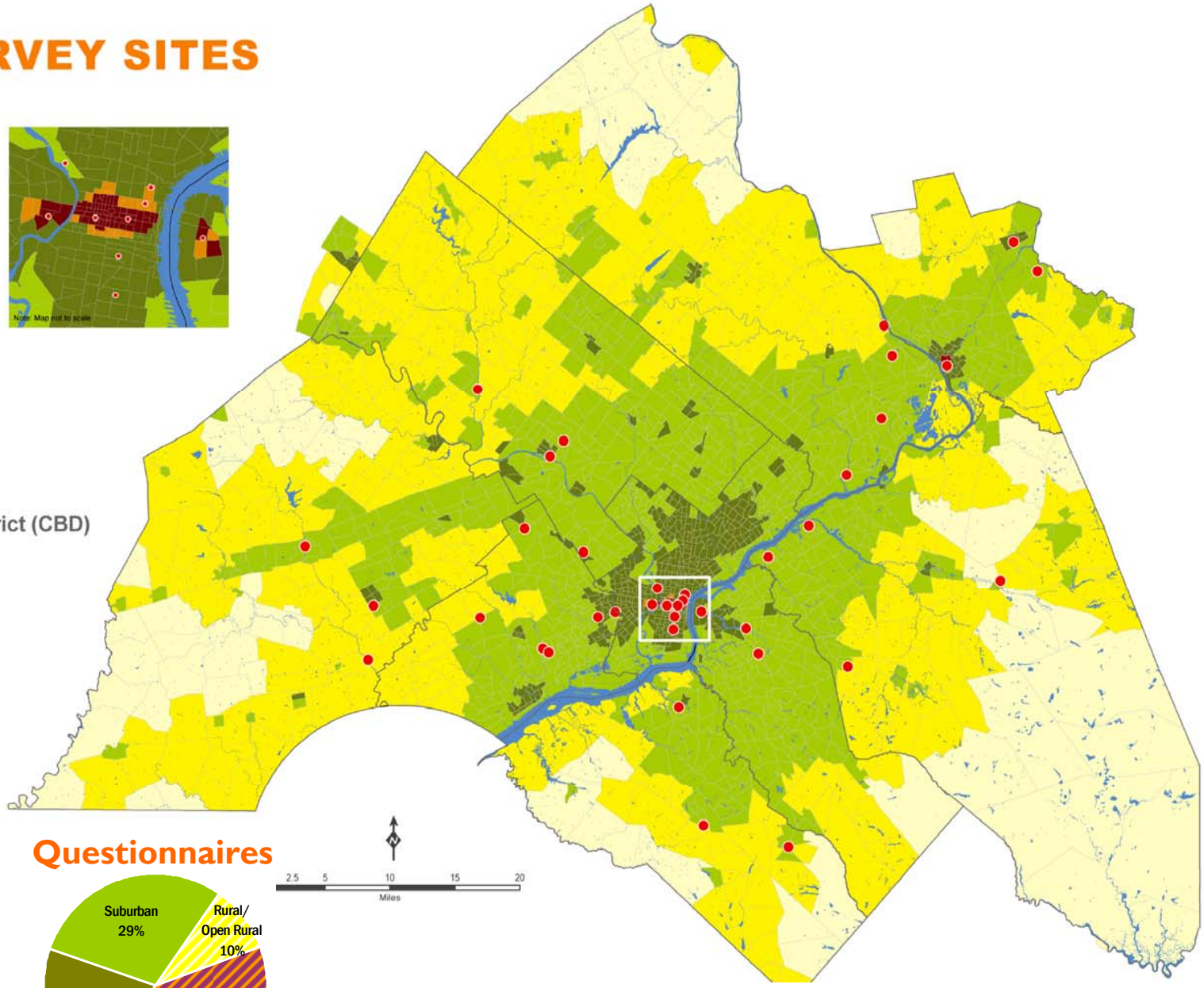
- Bike Survey Location
- Water Body
- County Boundary

DVRPC Area Types

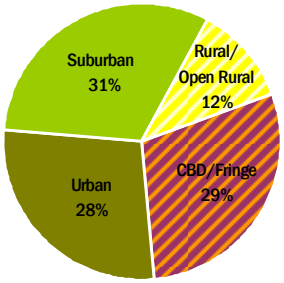
- Central Business District (CBD)
- CBD/Urban Fringe
- Urban
- Suburban
- Rural
- Open Rural

Delaware Valley Regional Planning Commission
March 2007

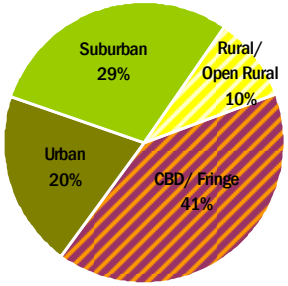
Source: DVRPC, US Census Bureau (2000)



Interviews



Questionnaires



Source: DVRPC, 2007

What data was collected?

BICYCLISTS

- O & D type
- Bicycle use; intermodalism
- Crash experience; safety habits; risk perception
- Policy & infrastructure priorities
- Personal & household characteristics

BICYCLE TRIPS

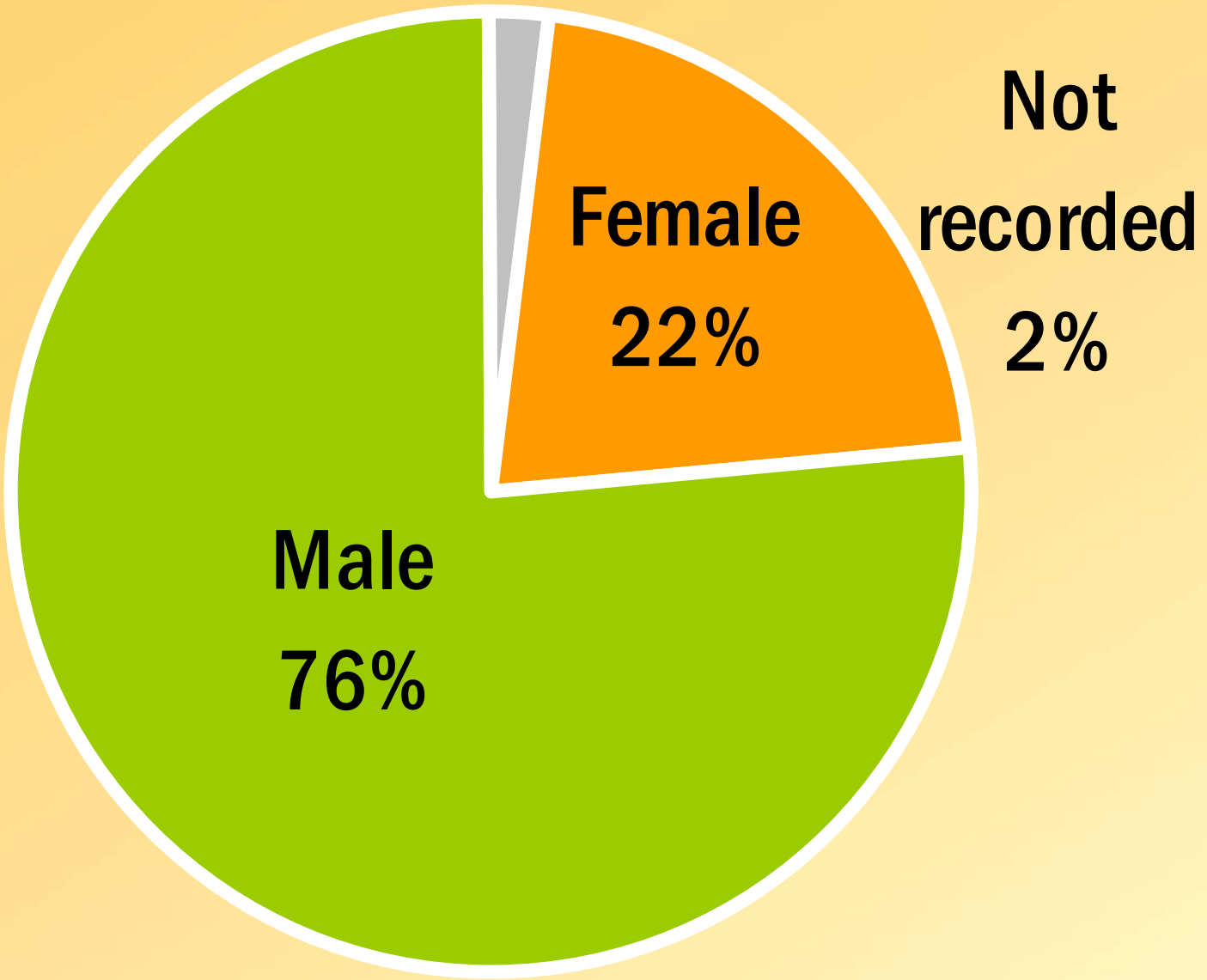
- Trip purpose
- O & D type
- Trip length & duration
- Regularity of trip
- Use of supplemental modes
- Gender; behavior; helmet; bike

Survey response

- Bicycle trips: 372 interviews
- Bicyclists: 1,227 usable returns (27 percent)

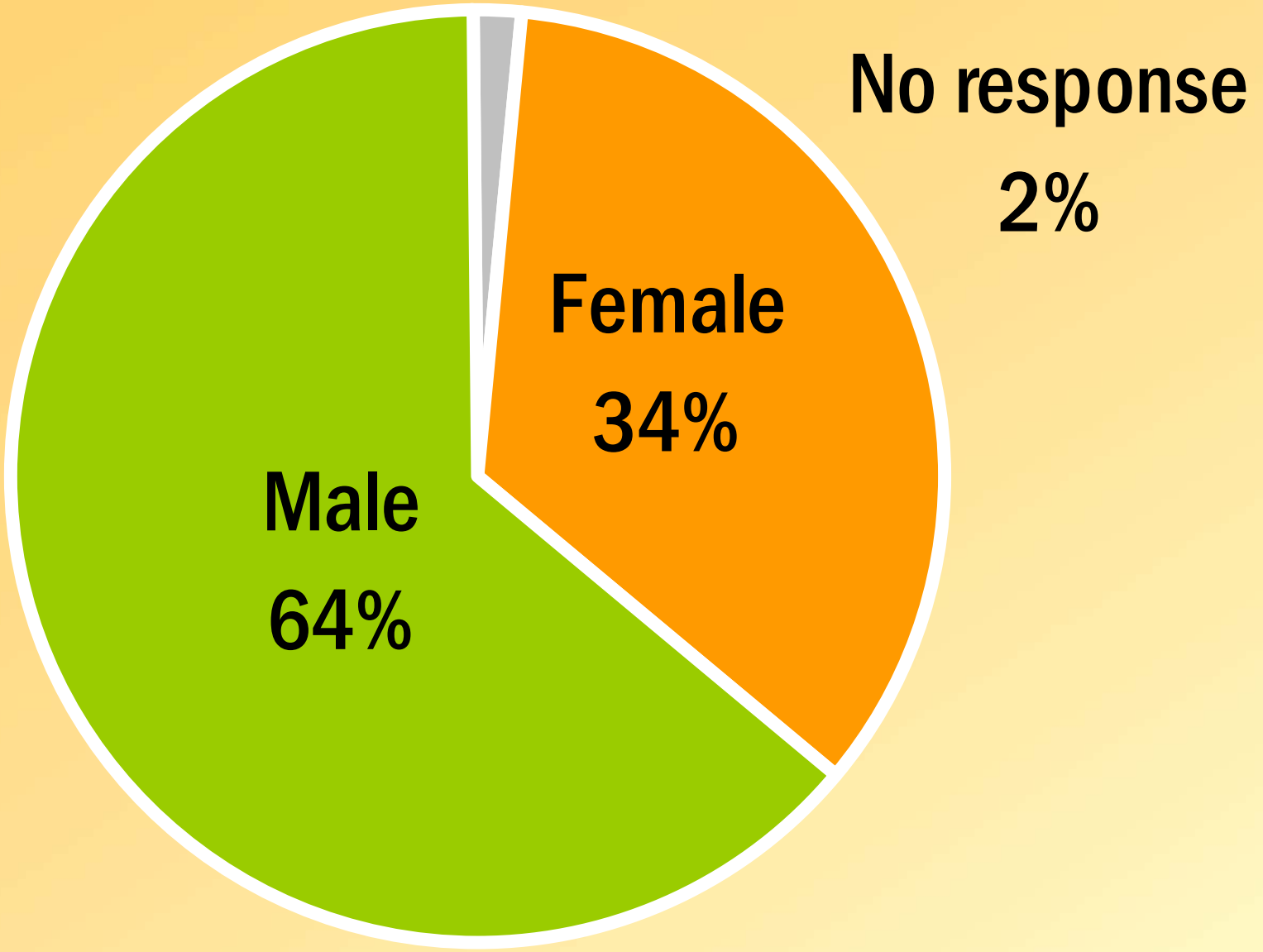
Who are we?

Gender, observed



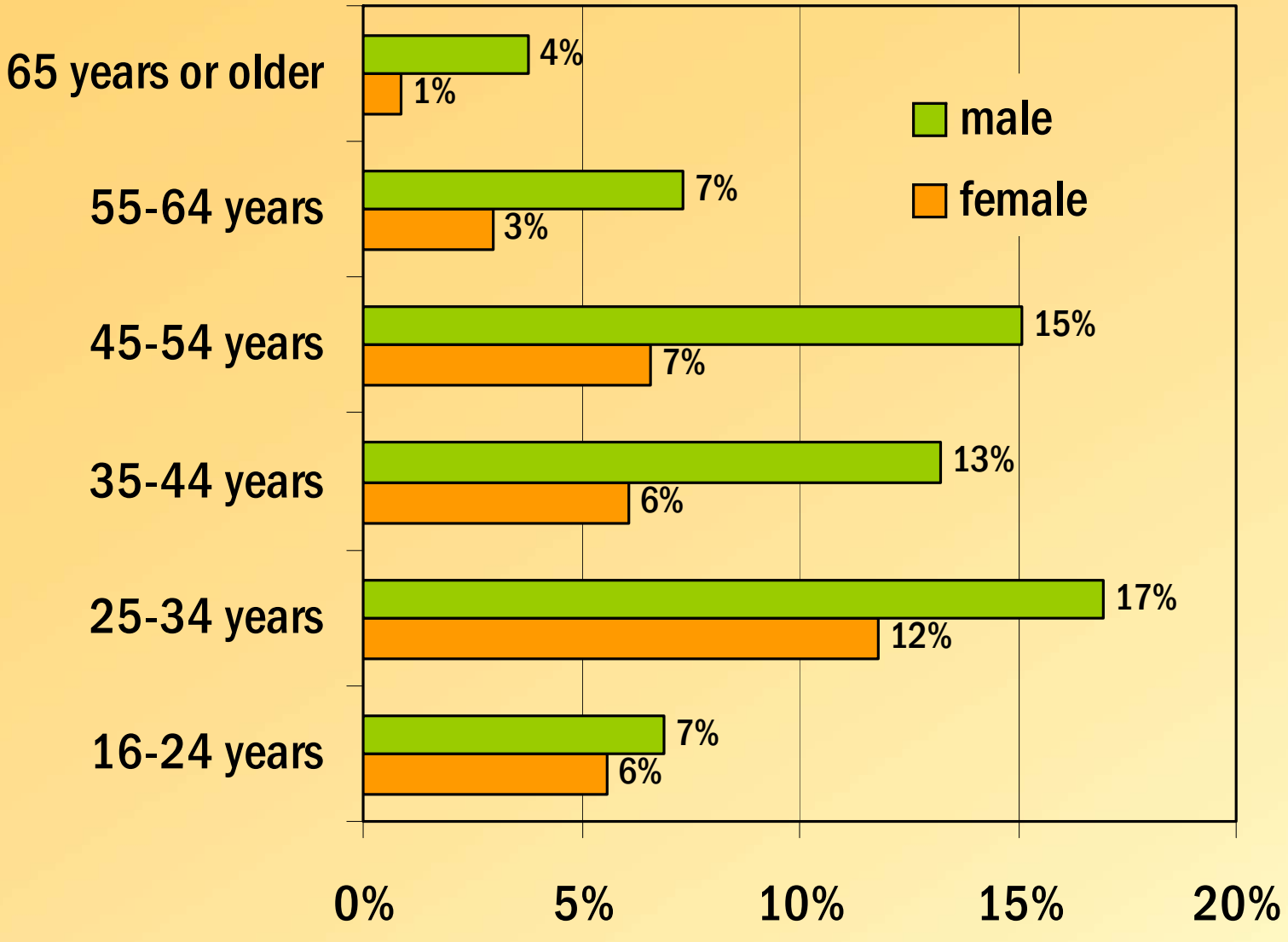
Source: DVRPC, 2007

Gender, self-reported



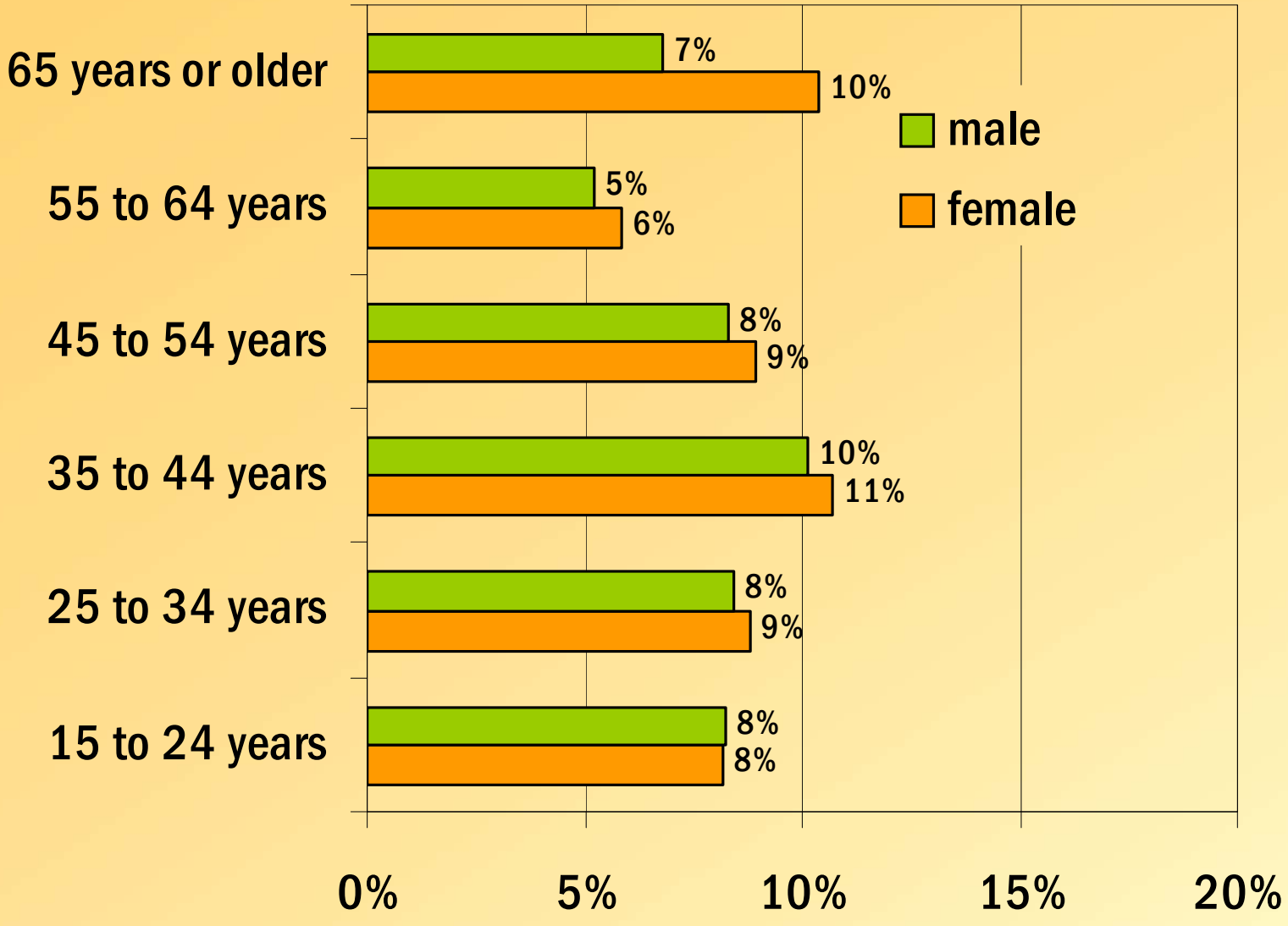
Source: DVRPC, 2007

Age and gender, bicyclists



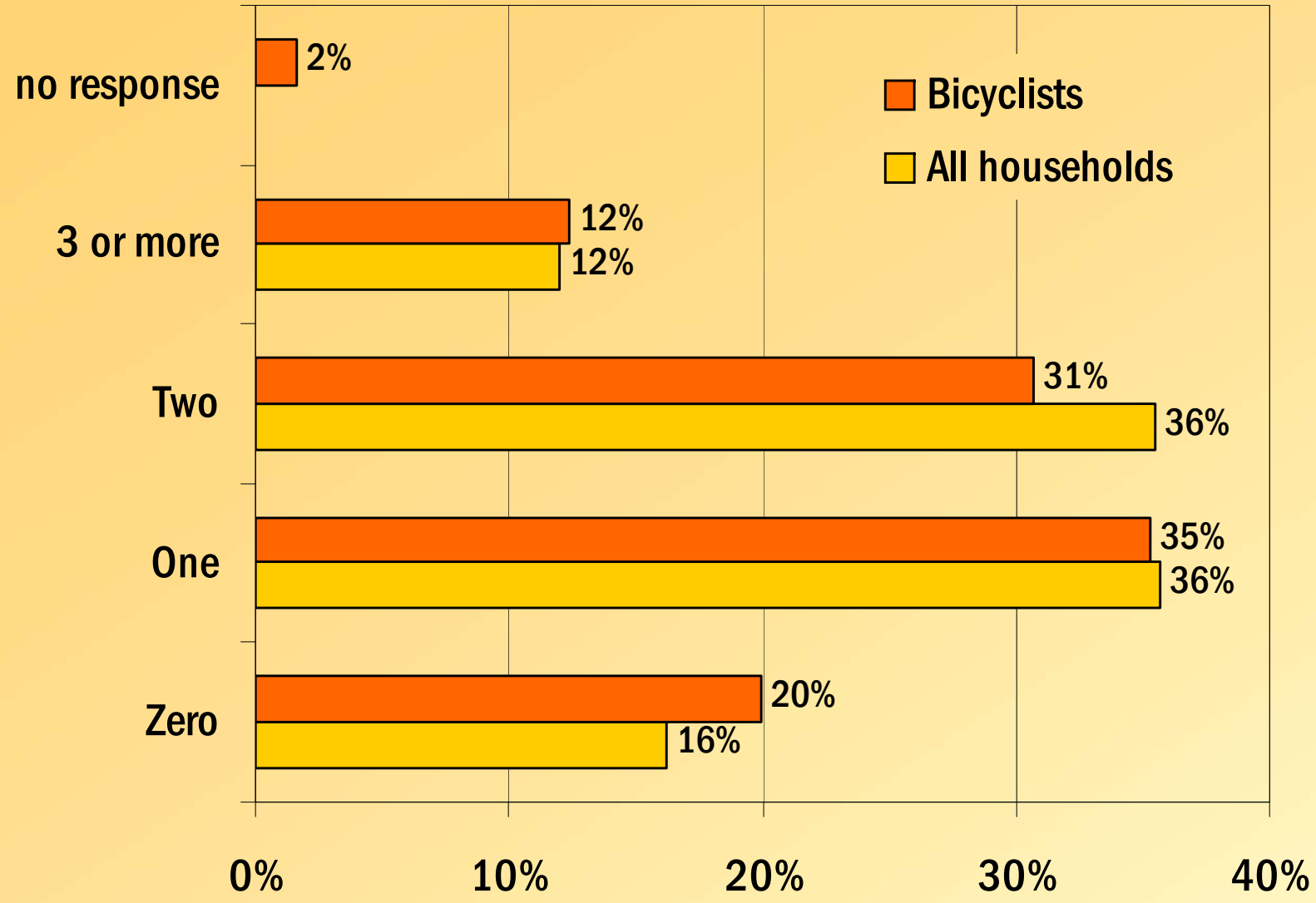
Source: DVRPC, 2007

Age and gender, general population



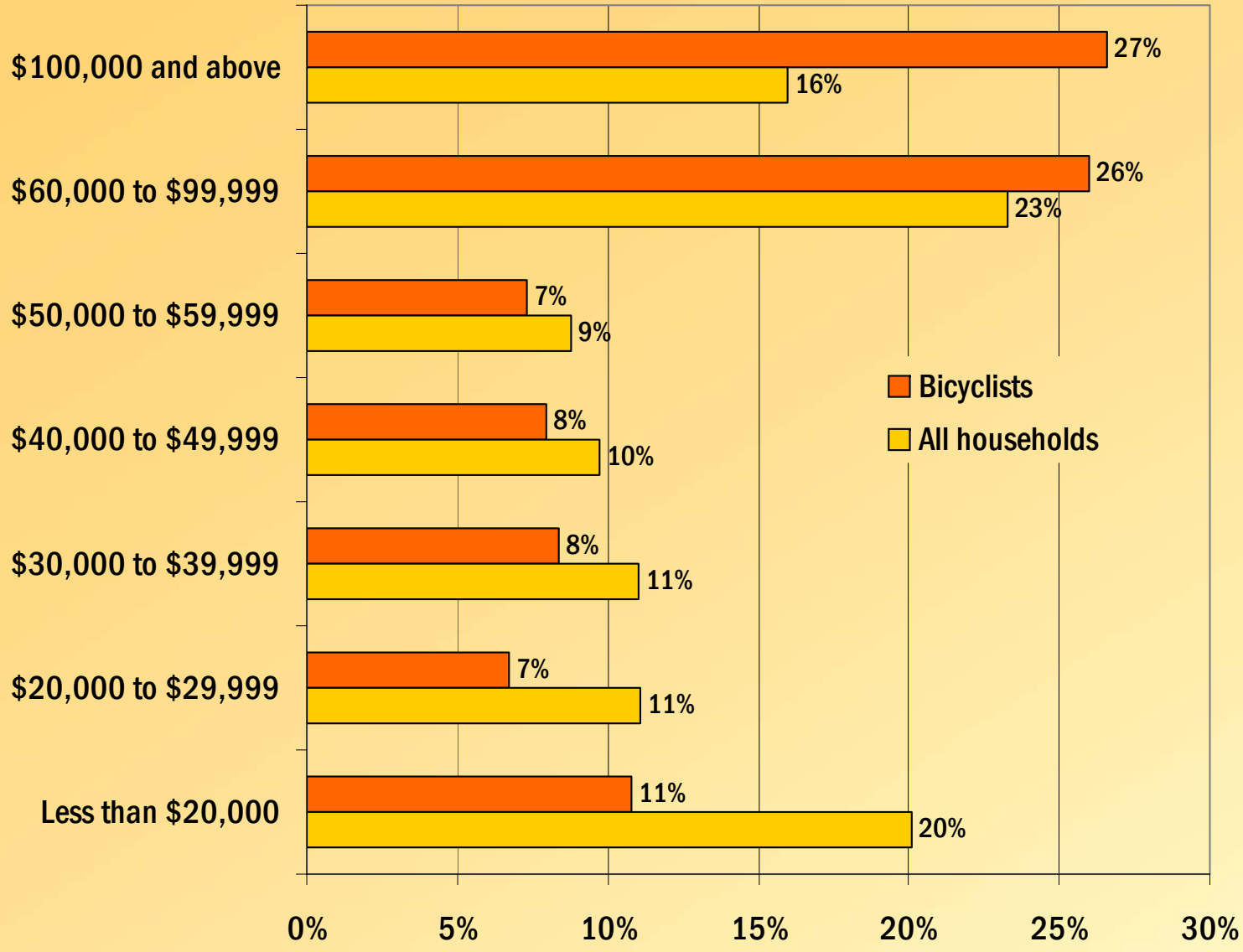
Source: DVRPC, 2007

Vehicles in household



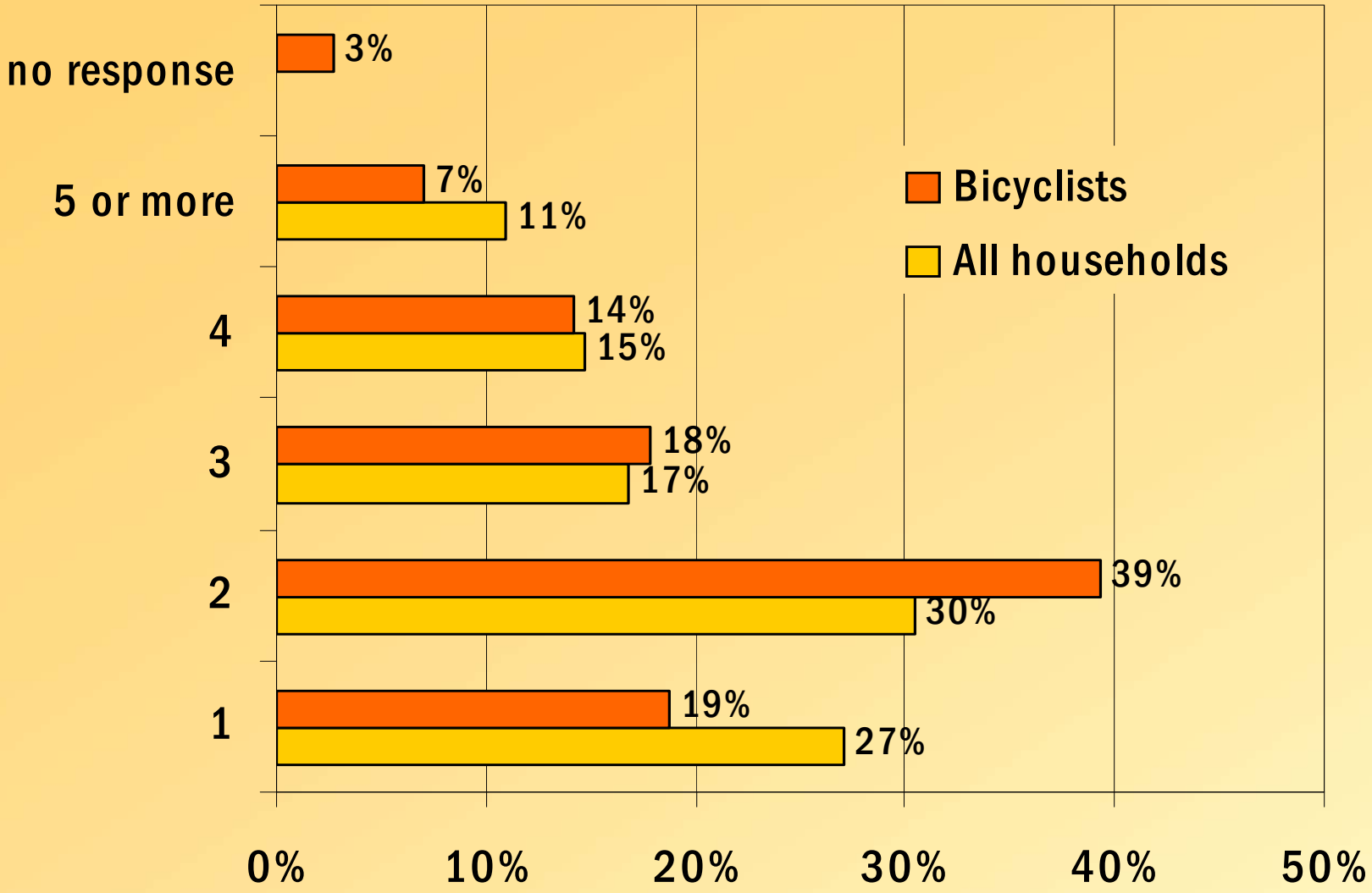
Source: DVRPC, 2007

Household income



Source: DVRPC, 2007

Household size



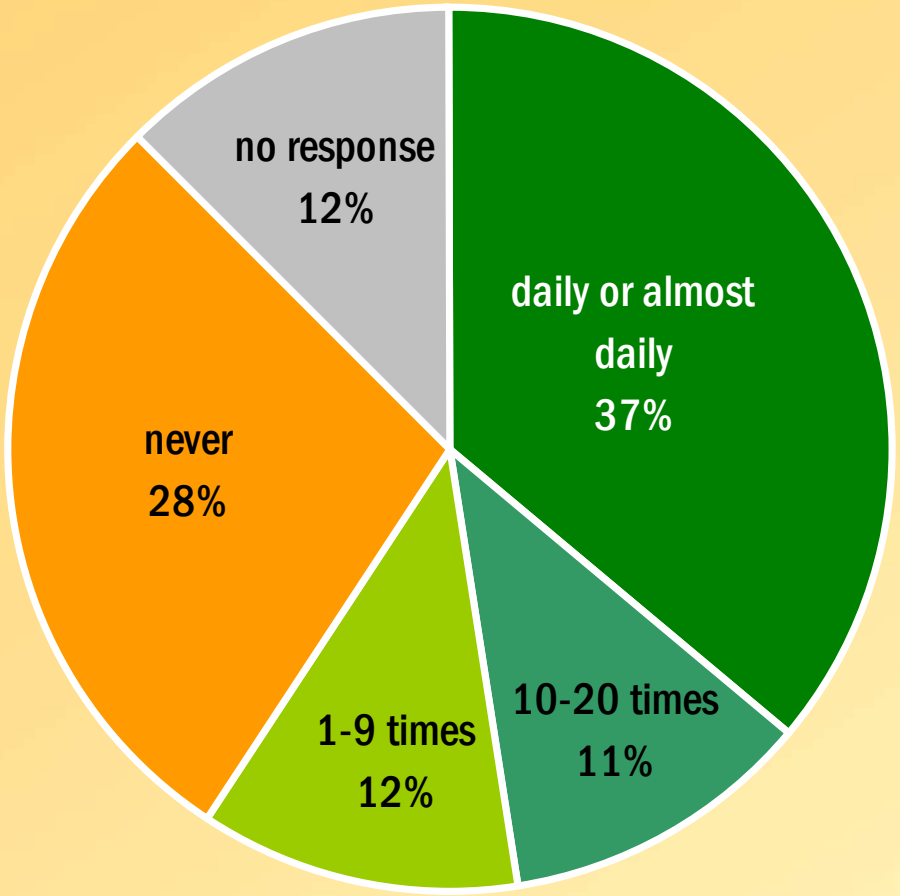
Source: DVRPC, 2007

Trip purpose

Source: DVRPC, 2007

How much do we bike for commuting?

"During the past month, how often did you use your bicycle for commuting to work?"



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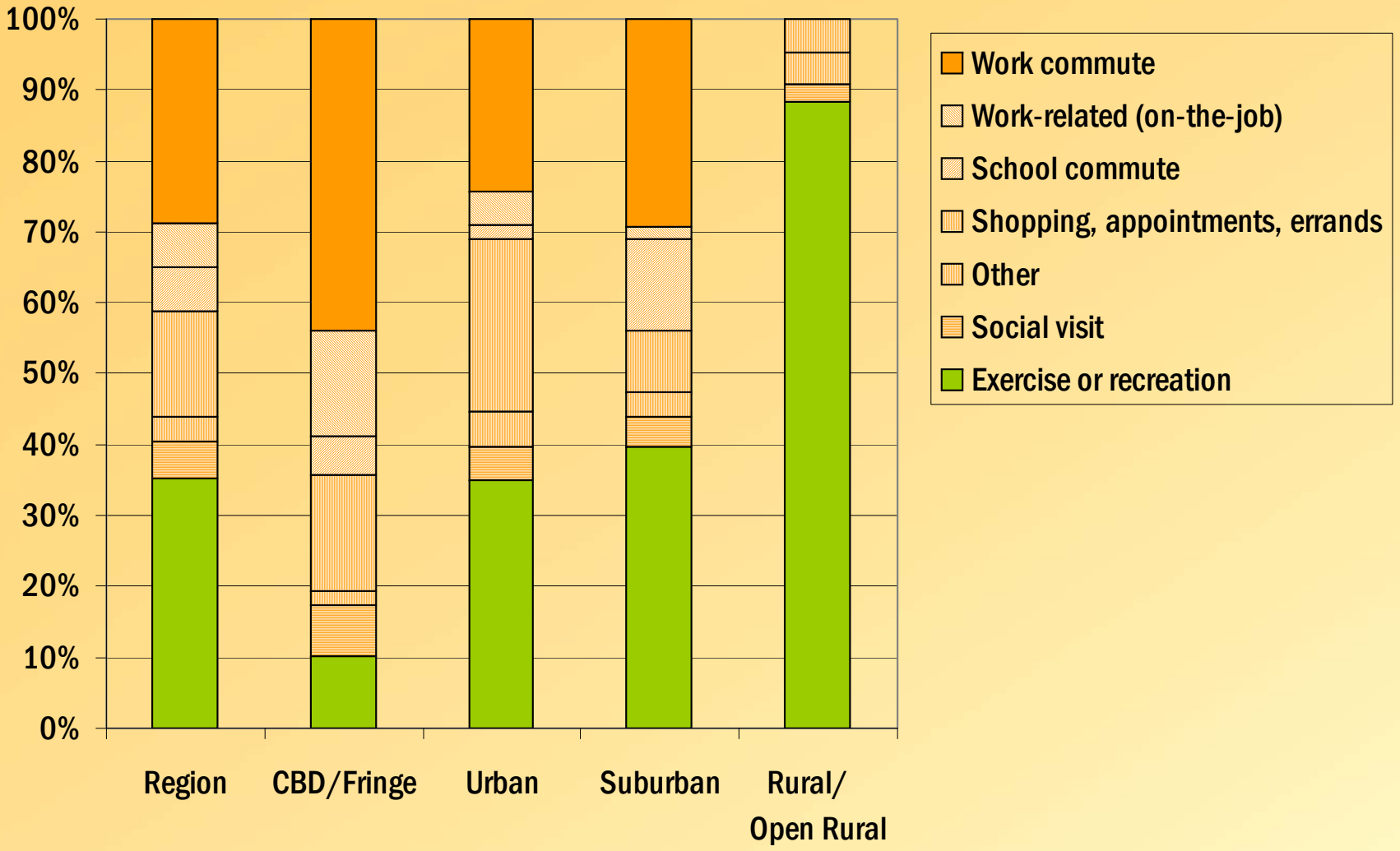
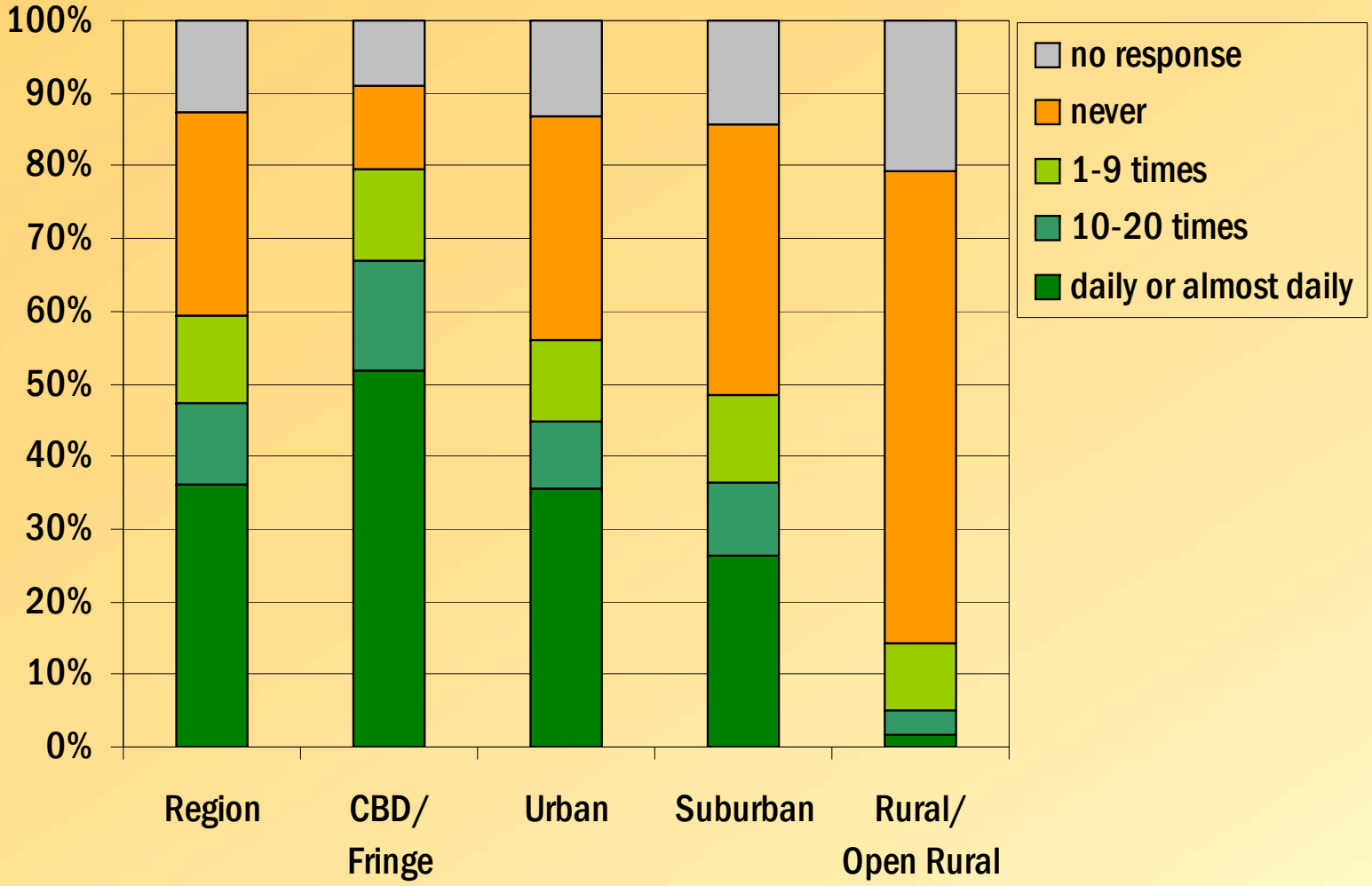


Source: DVRPC, 2007

Commuting to work

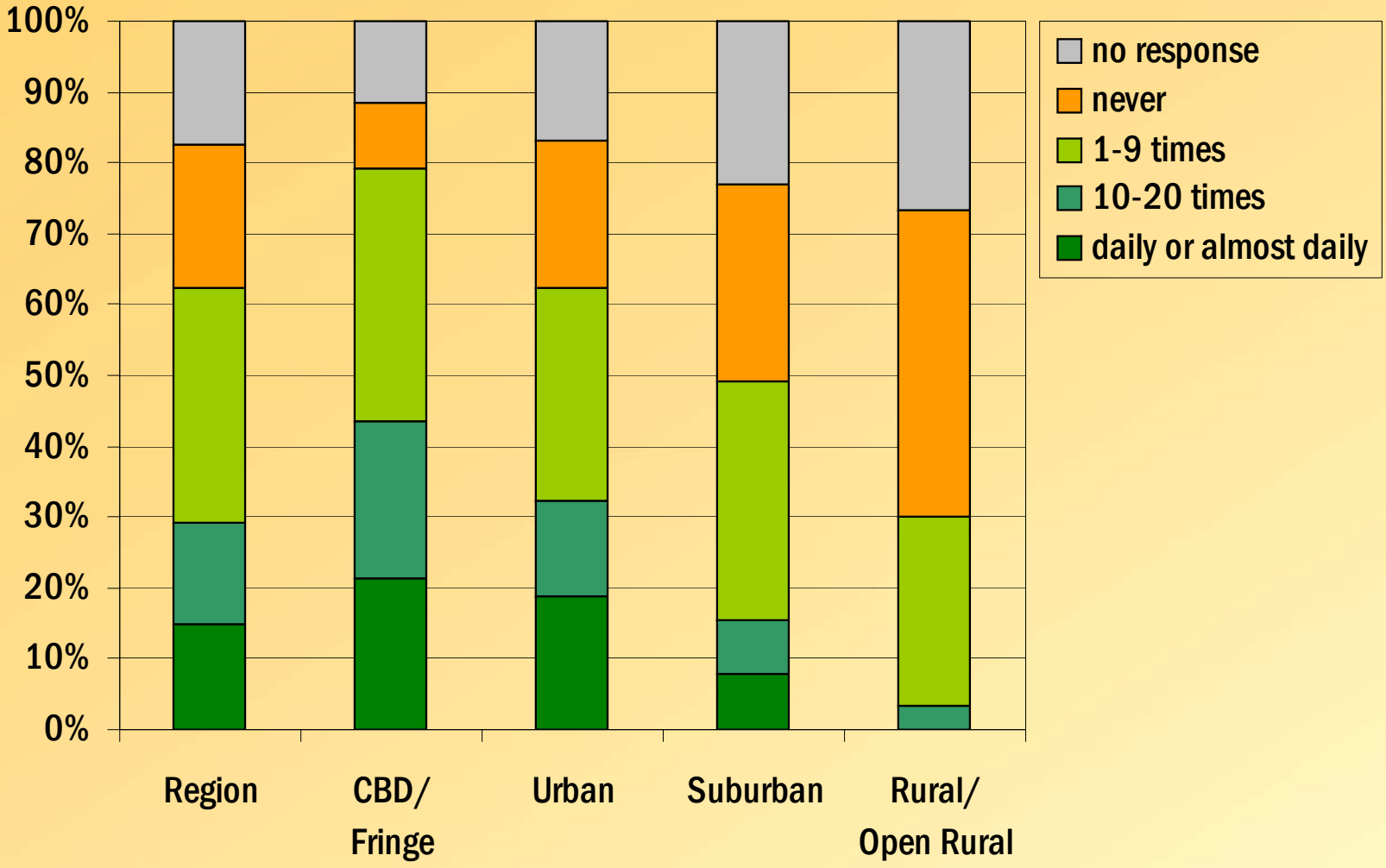
"During the past month, how often did you use your bicycle for commuting to work?"



Source: DVRPC, 2007

Personal business

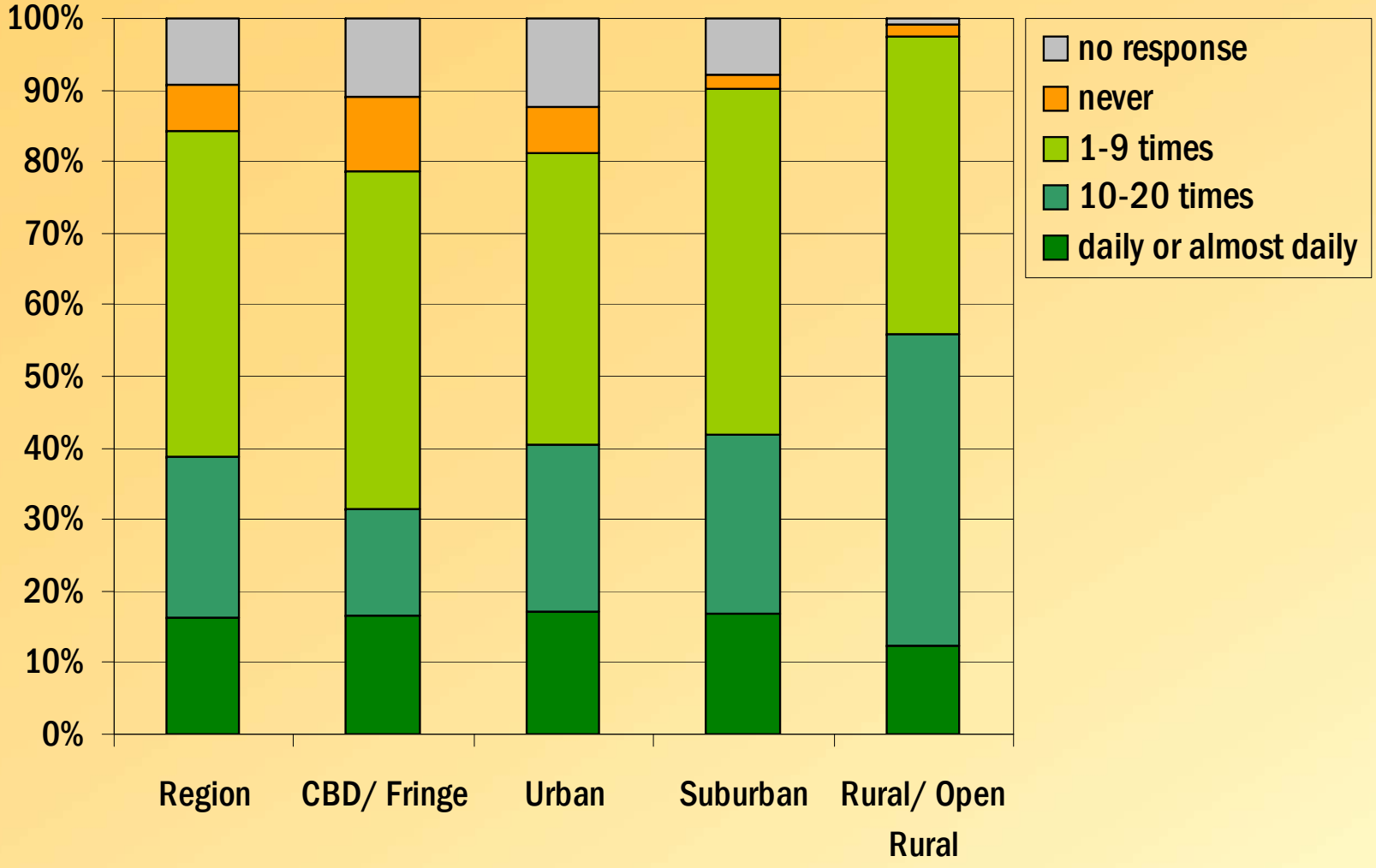
"During the past month, how often did you use your bicycle for shopping, appointments, religious, errands?"



Source: DVRPC, 2007

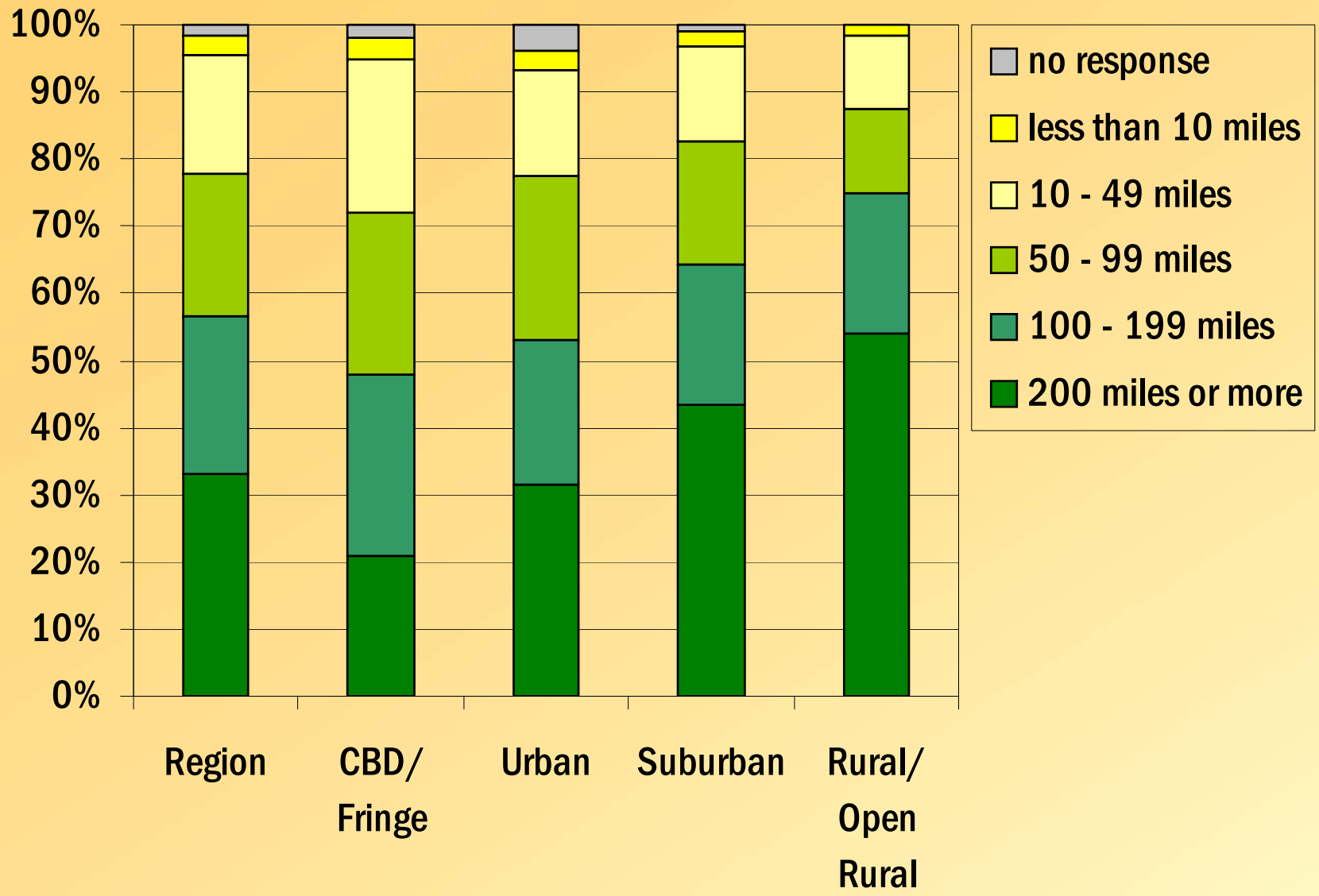
Exercise or recreation

"During the past month, how often did you use your bicycle for exercise or recreation?"



Source: DVRPC, 2007

Miles ridden: May-October

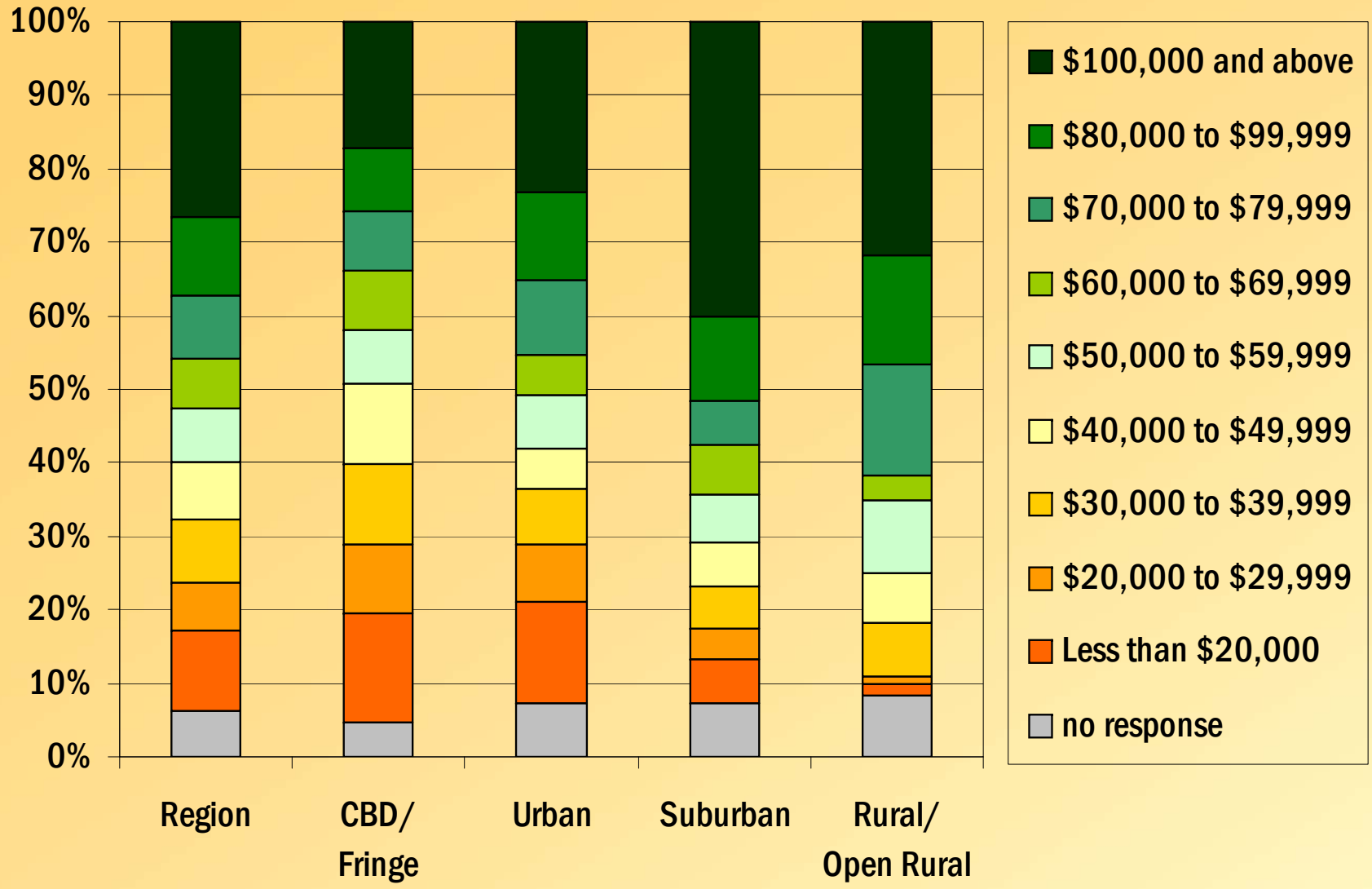


Source: DVRPC, 2007

Taken bike aboard transit in past month

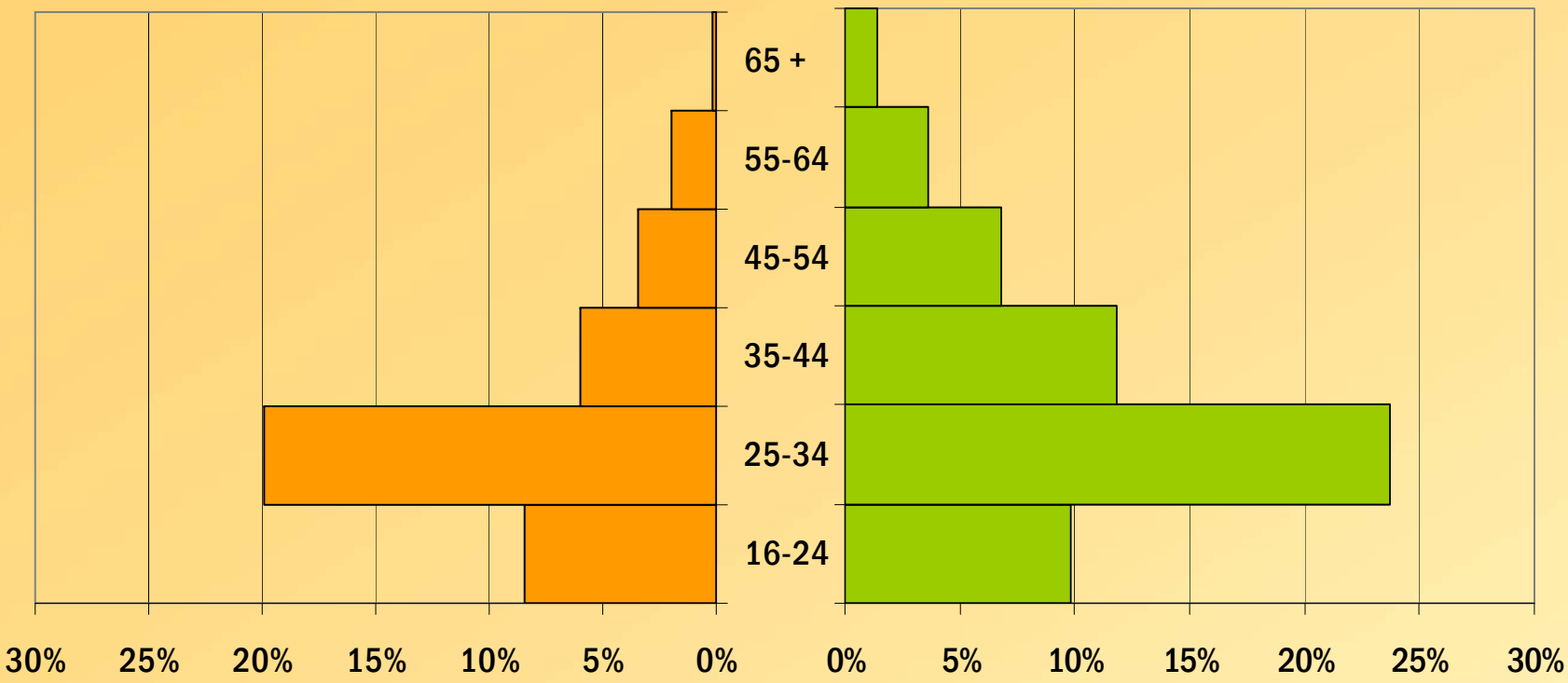
Area Type	TRAIN	BUS
CBD/ Fringe	**30%**	**15%**
Urban	**23%**	**9%**
Suburban	**19%**	**8%**
Rural/ Open Rural	**14%**	**6%**
Region	**24%**	**11%**

Income



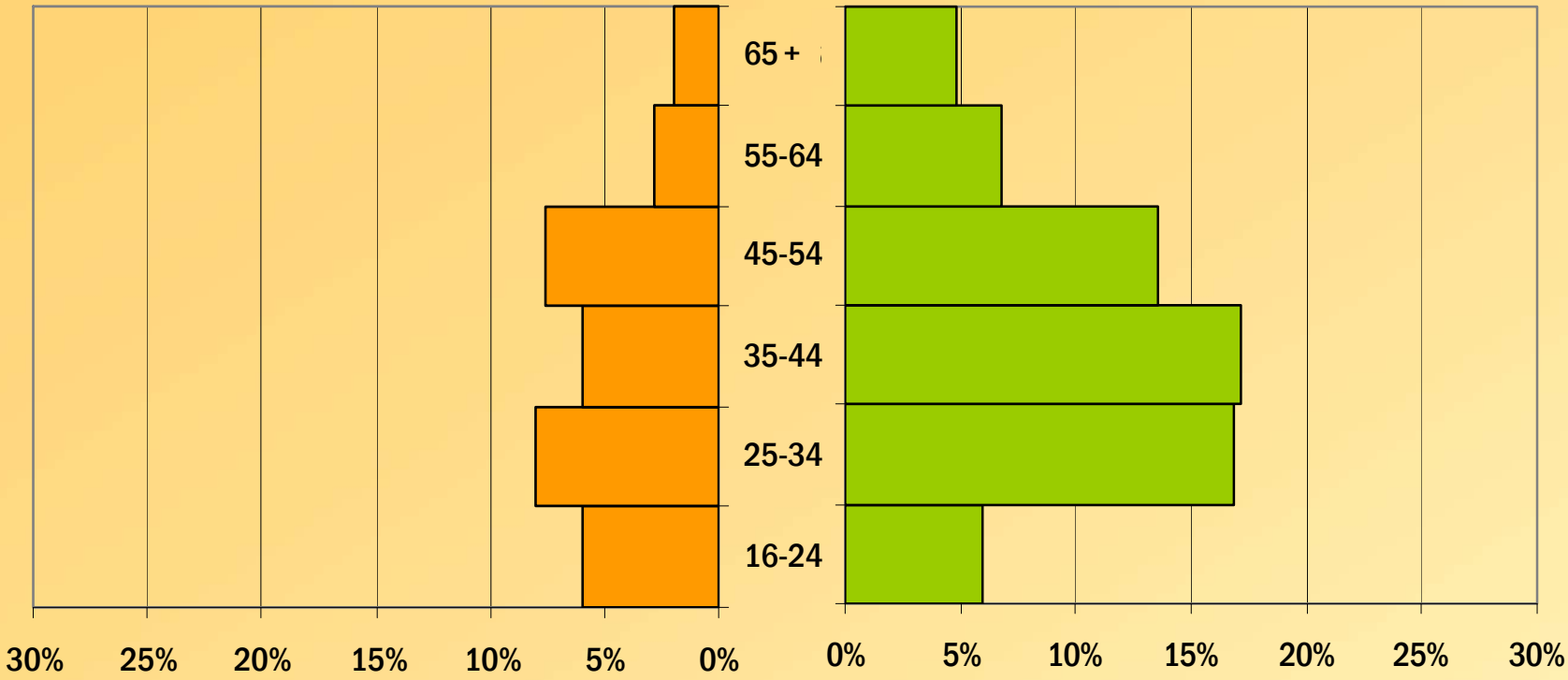
Source: DVRPC, 2007

Age and gender: CBD/Fringe



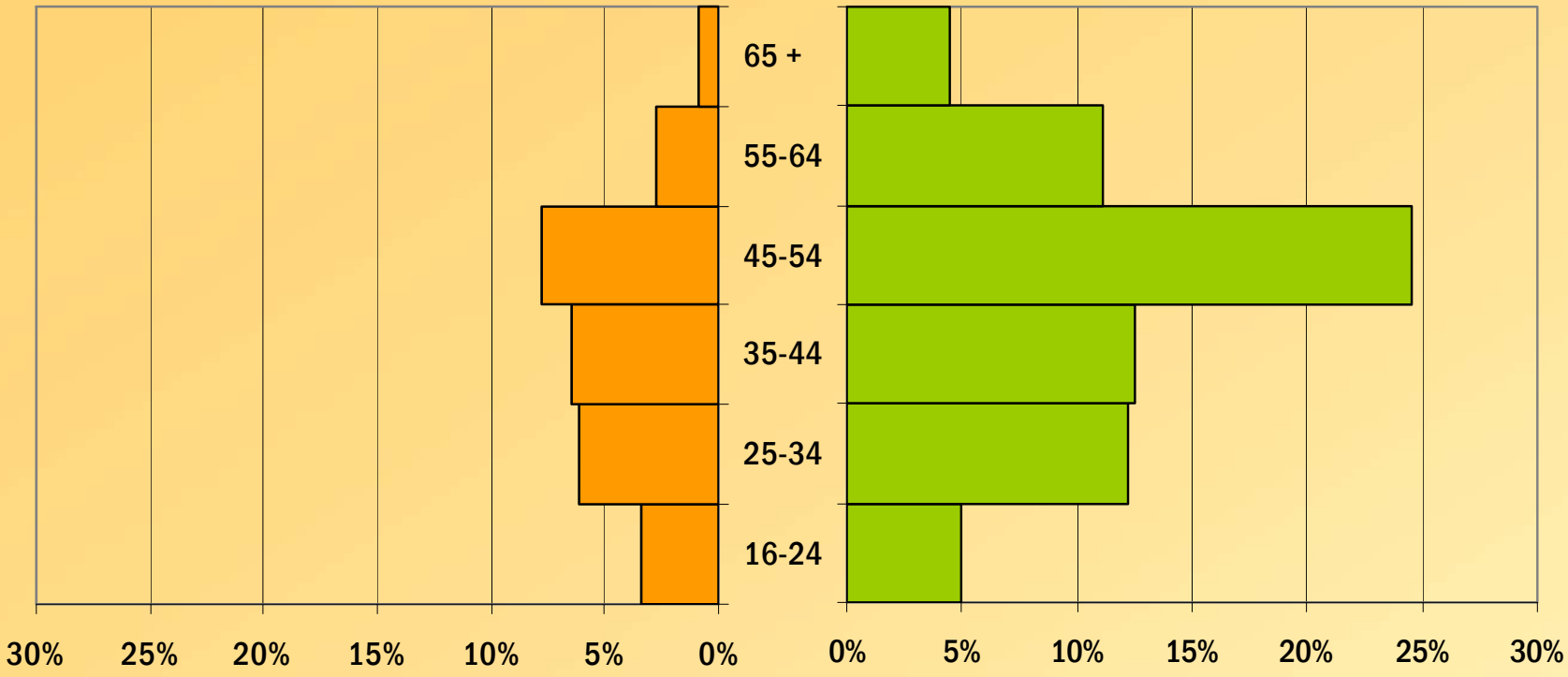
Source: DVRPC, 2007

Age and gender: Urban



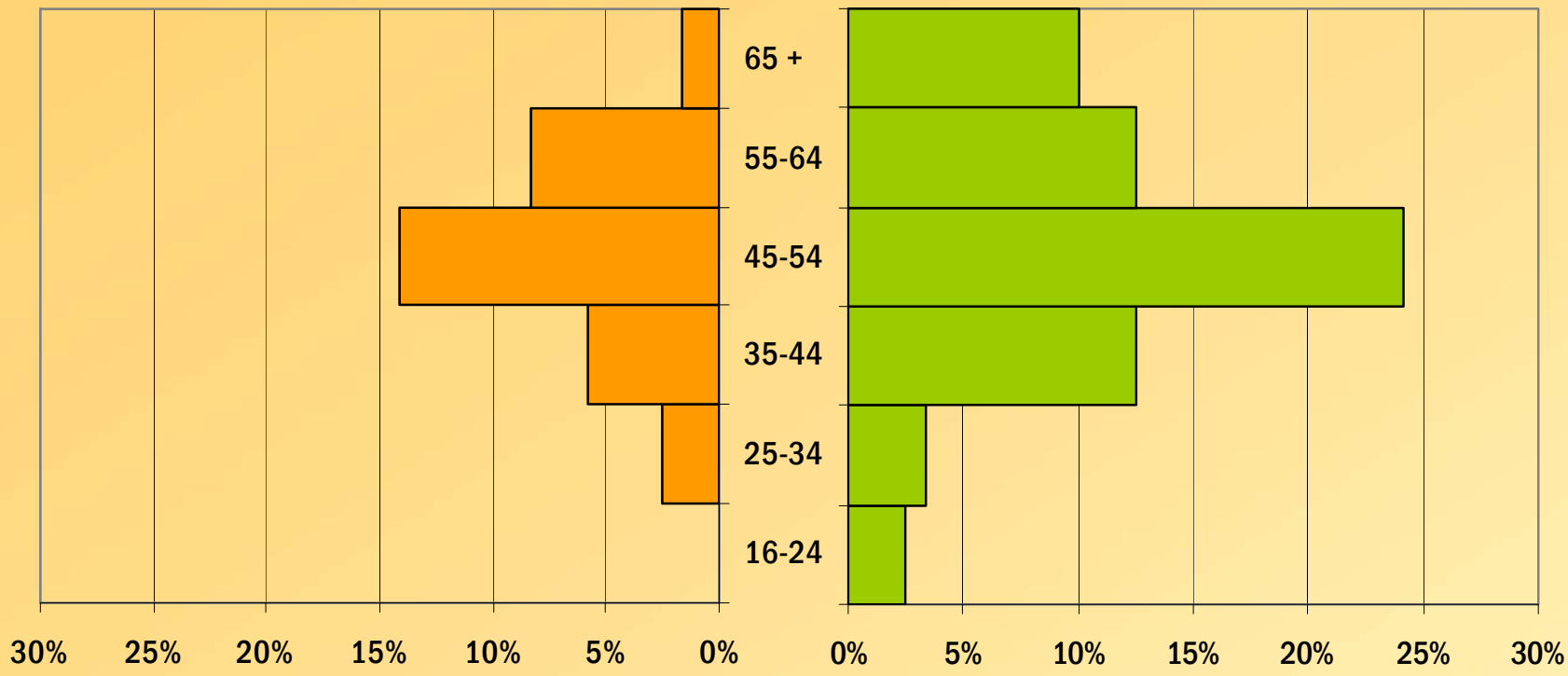
Source: DVRPC, 2007

Age and gender: Suburban



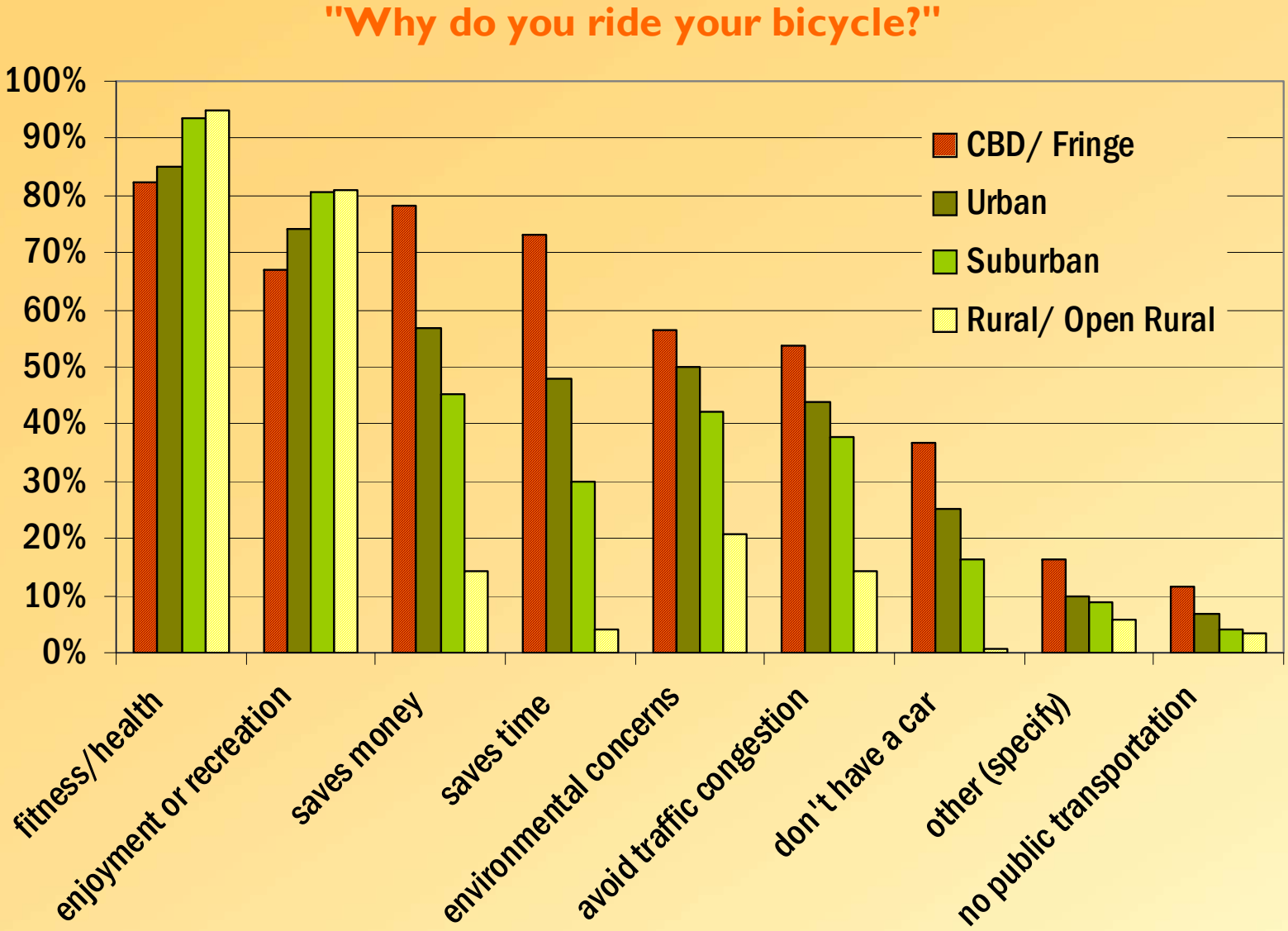
Source: DVRPC, 2007

Age and gender: Rural/Open Rural



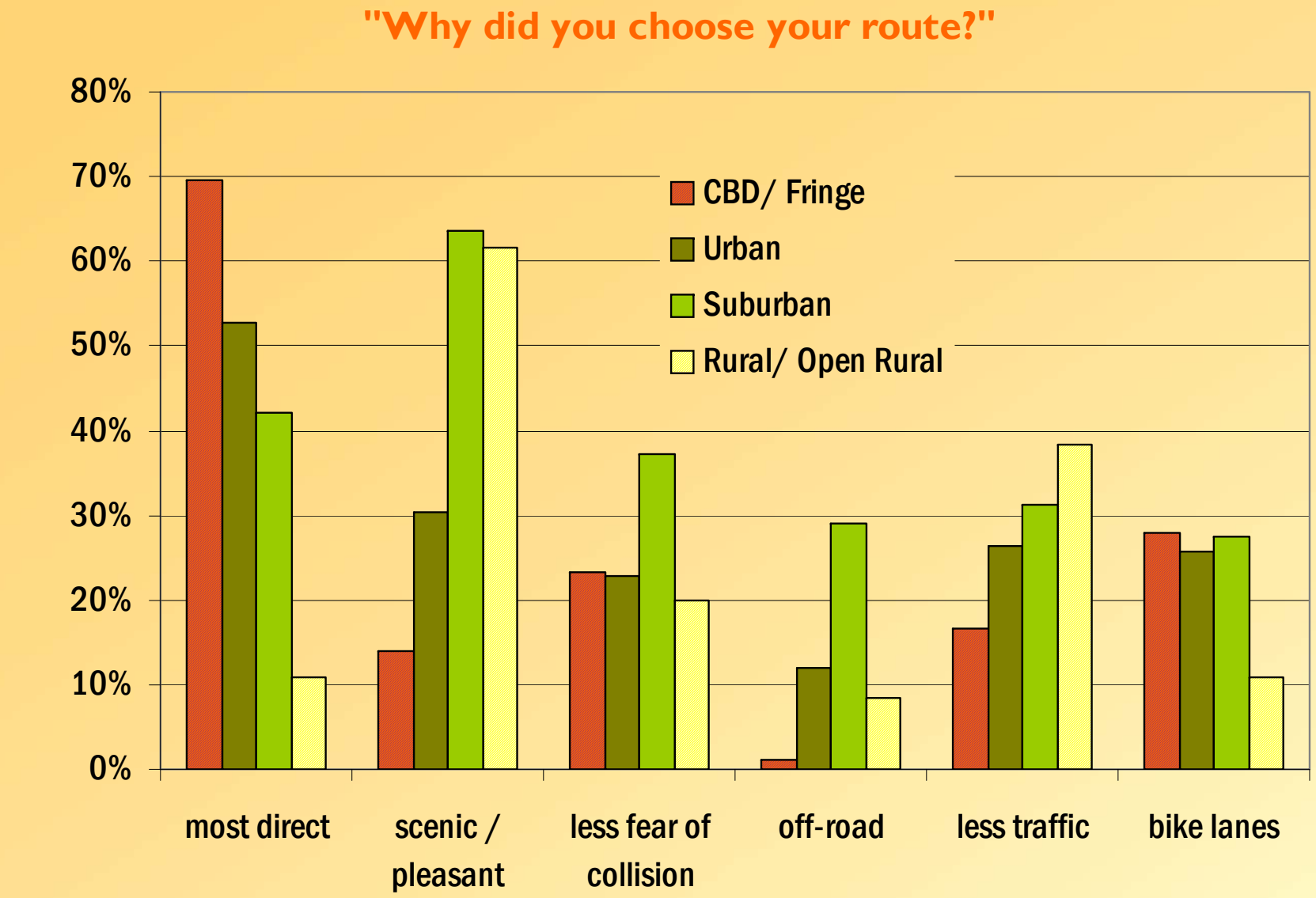
Source: DVRPC, 2007

Why bike?



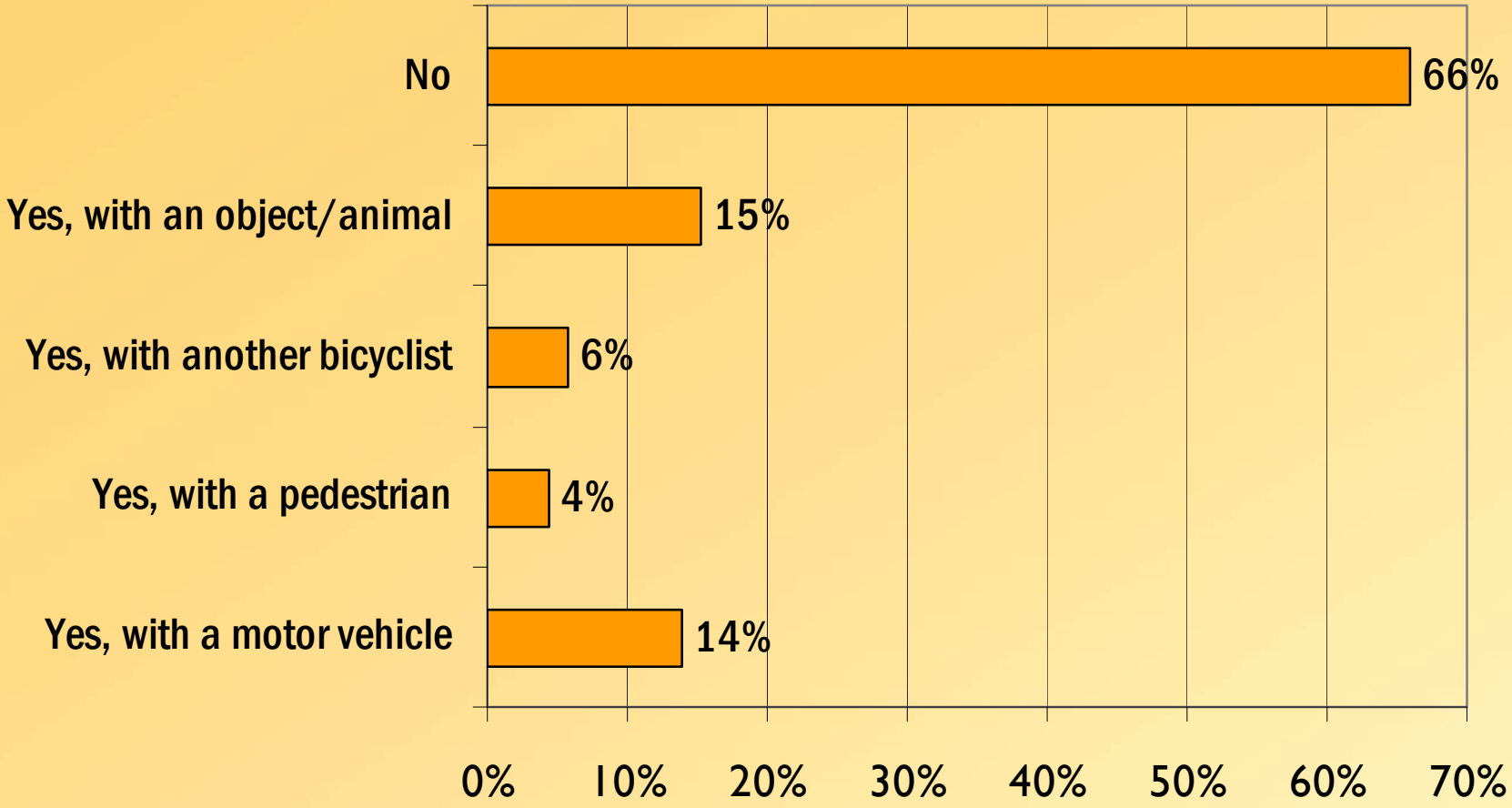
Source: DVRPC, 2007

Route choice



Source: DVRPC, 2007

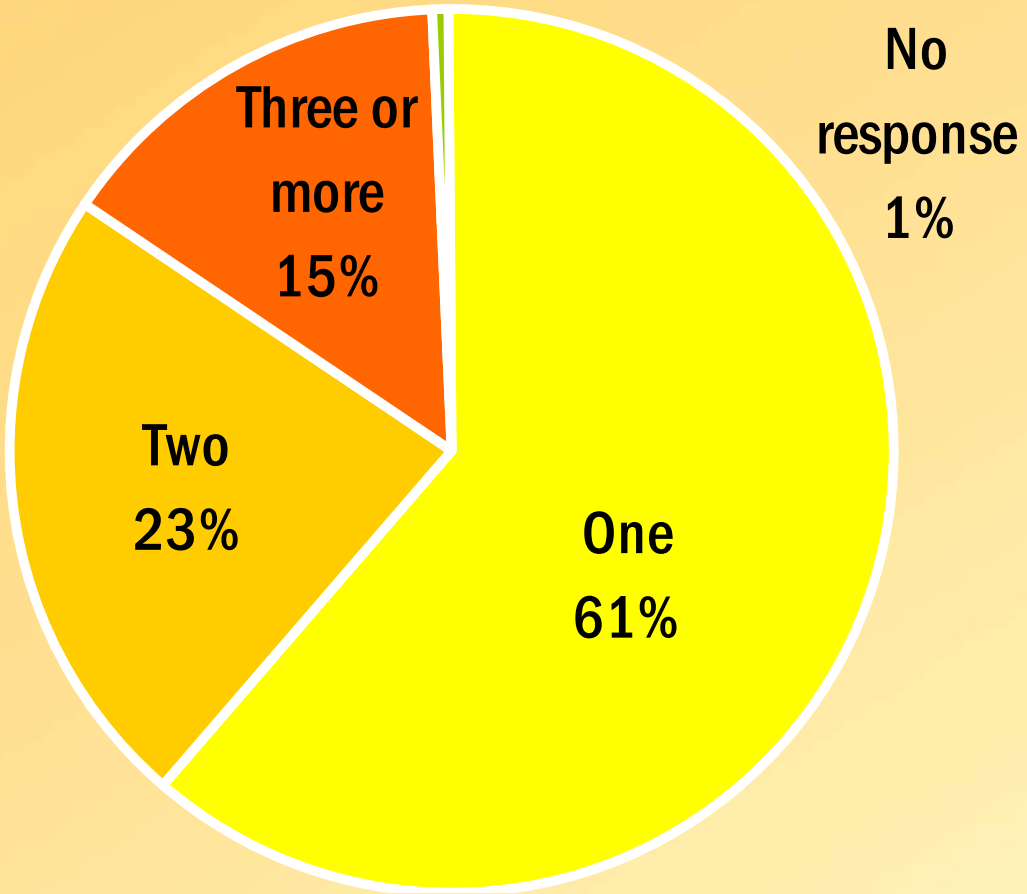
Crashed in the past year?



Source: DVRPC, 2007

Crashes

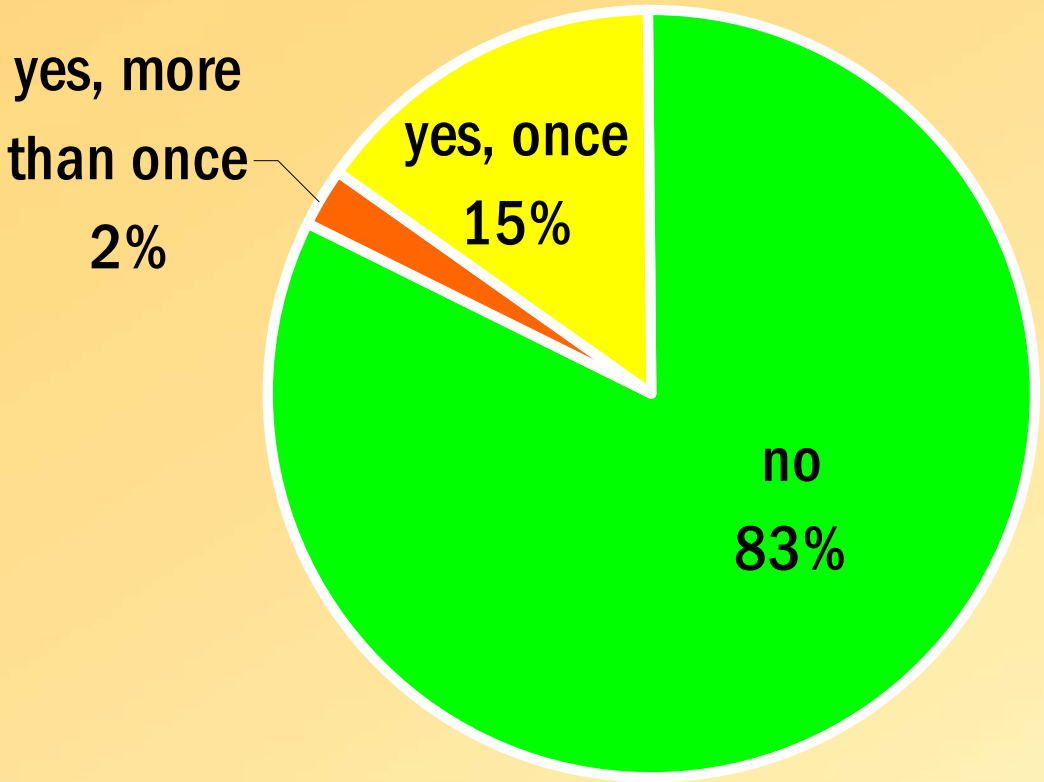
"If you checked yes, how many accidents did you have?"



Source: DVRPC, 2007

Crashes

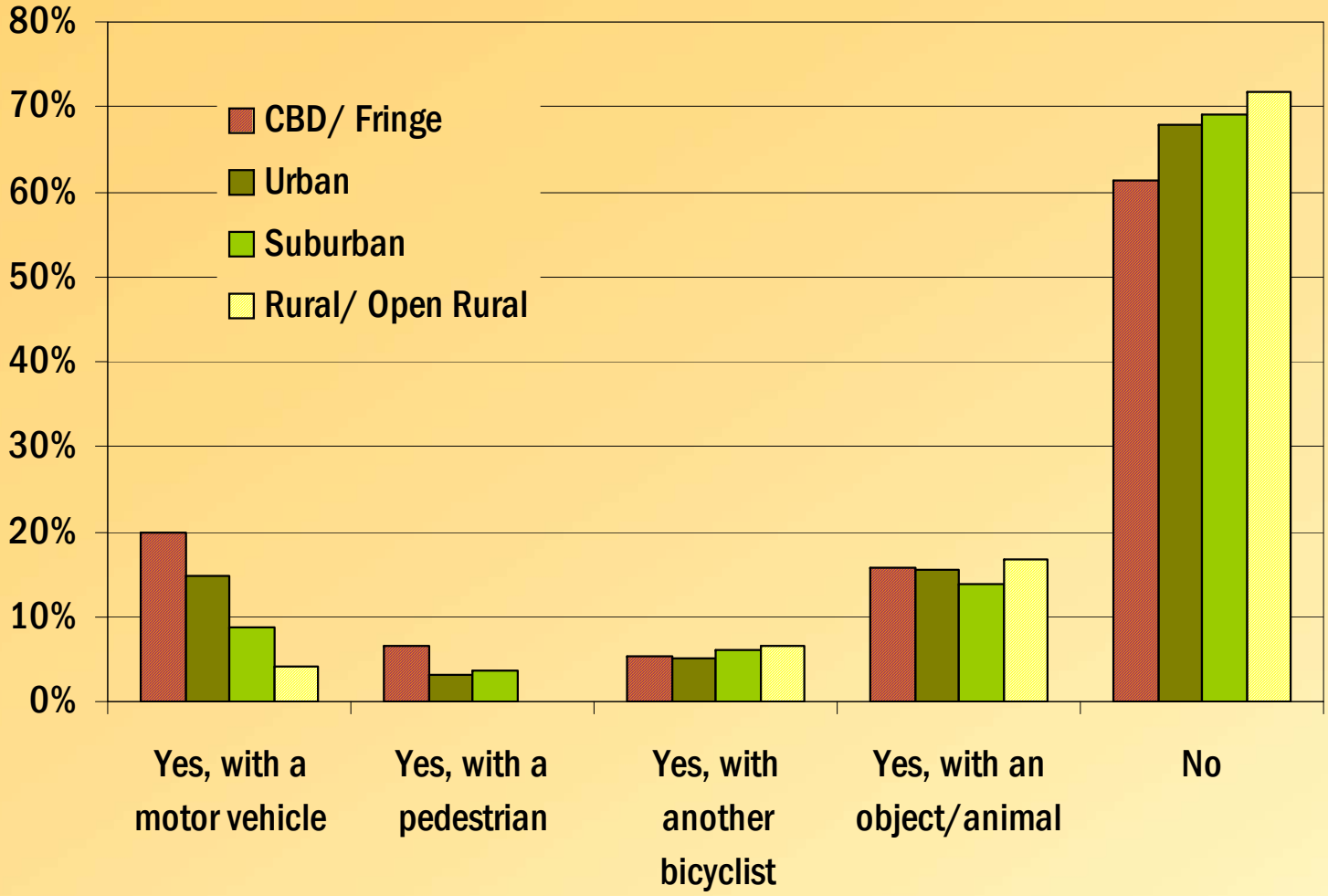
"Did you go to a hospital emergency room for treatment of your injuries?"



Source: DVRPC, 2007

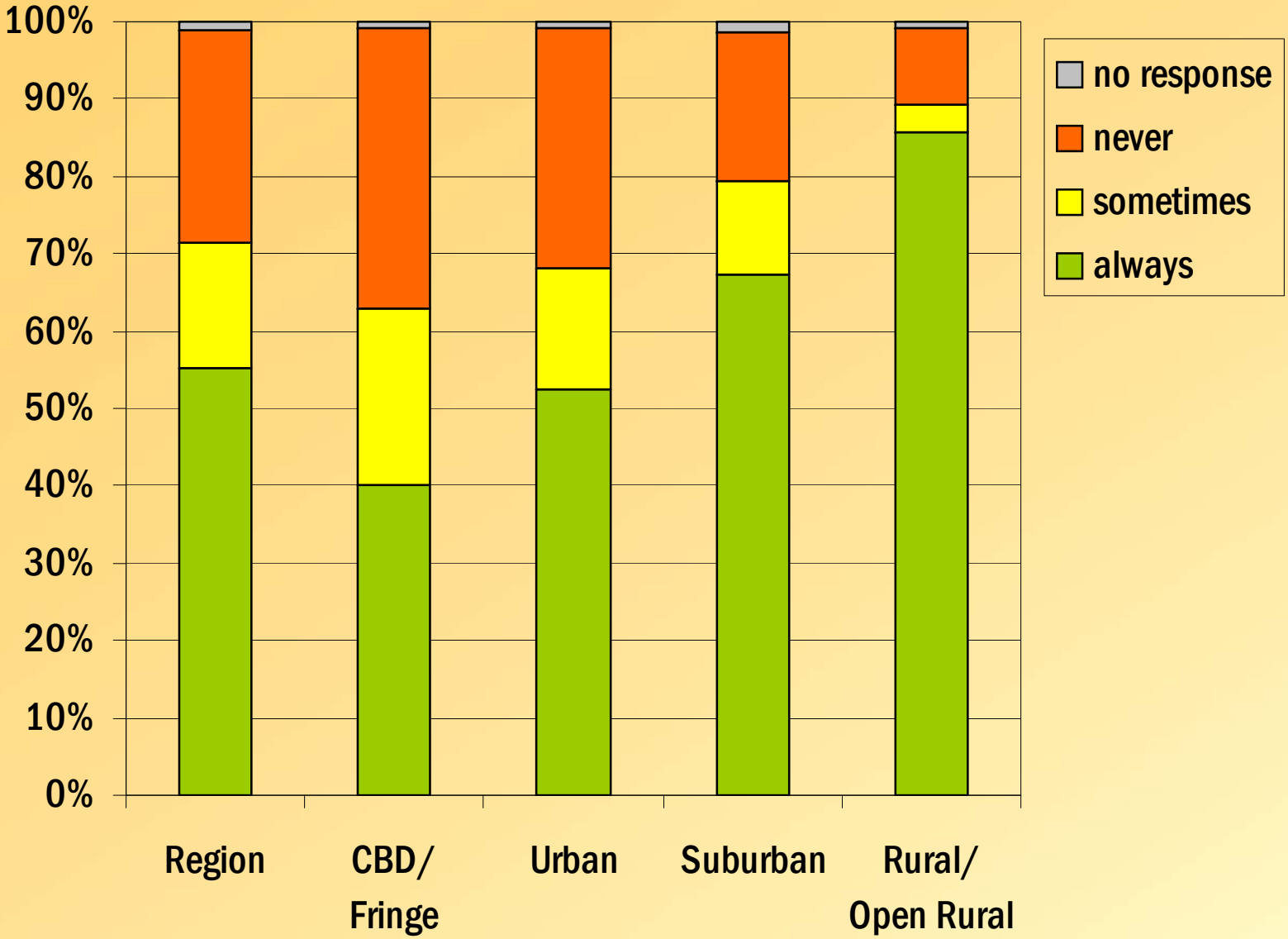
Crashed in past year?

"During the past year, have you been in a collision or fall while riding your bicycle?"



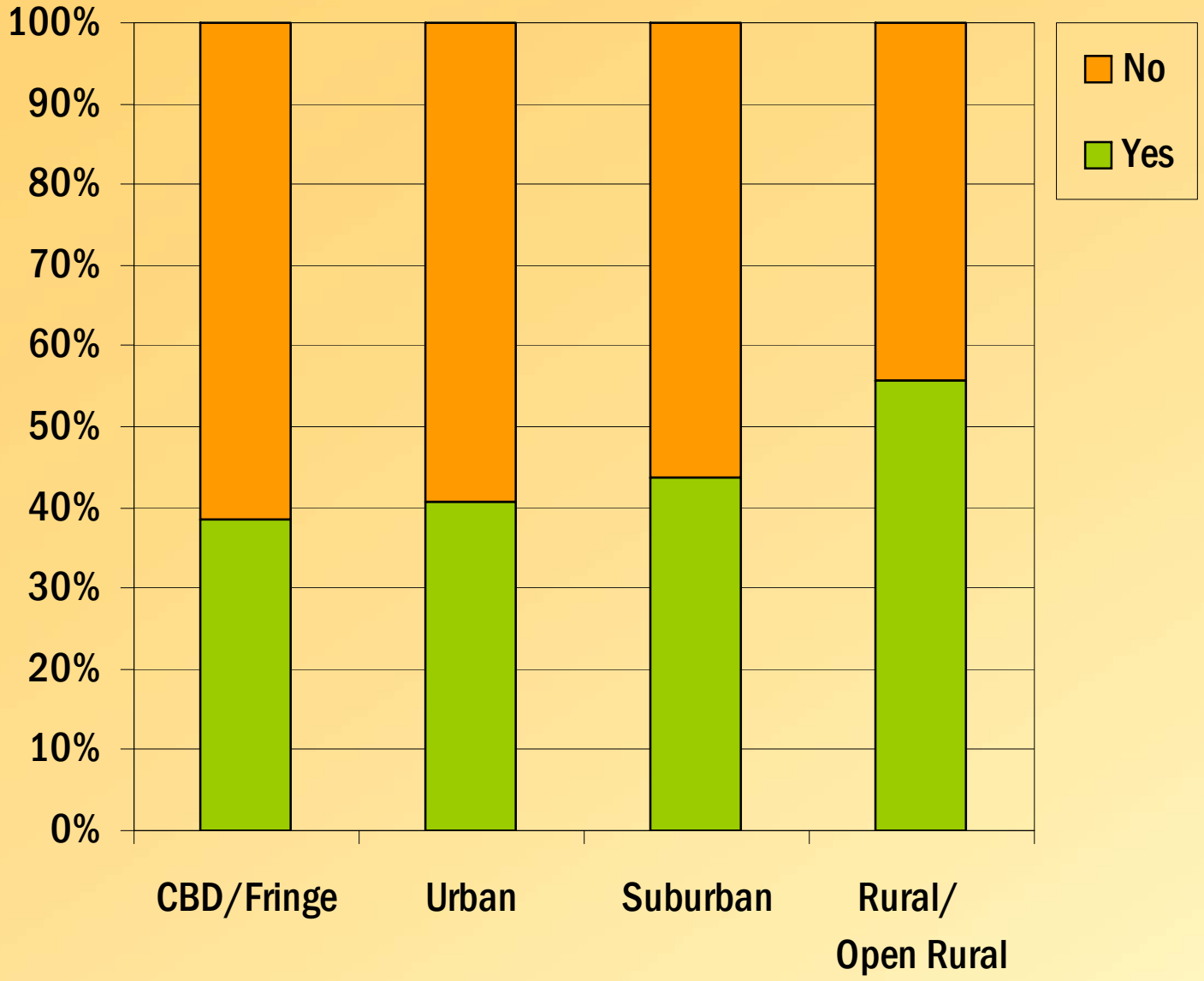
Source: DVRPC, 2007

Helmet use, self-reported



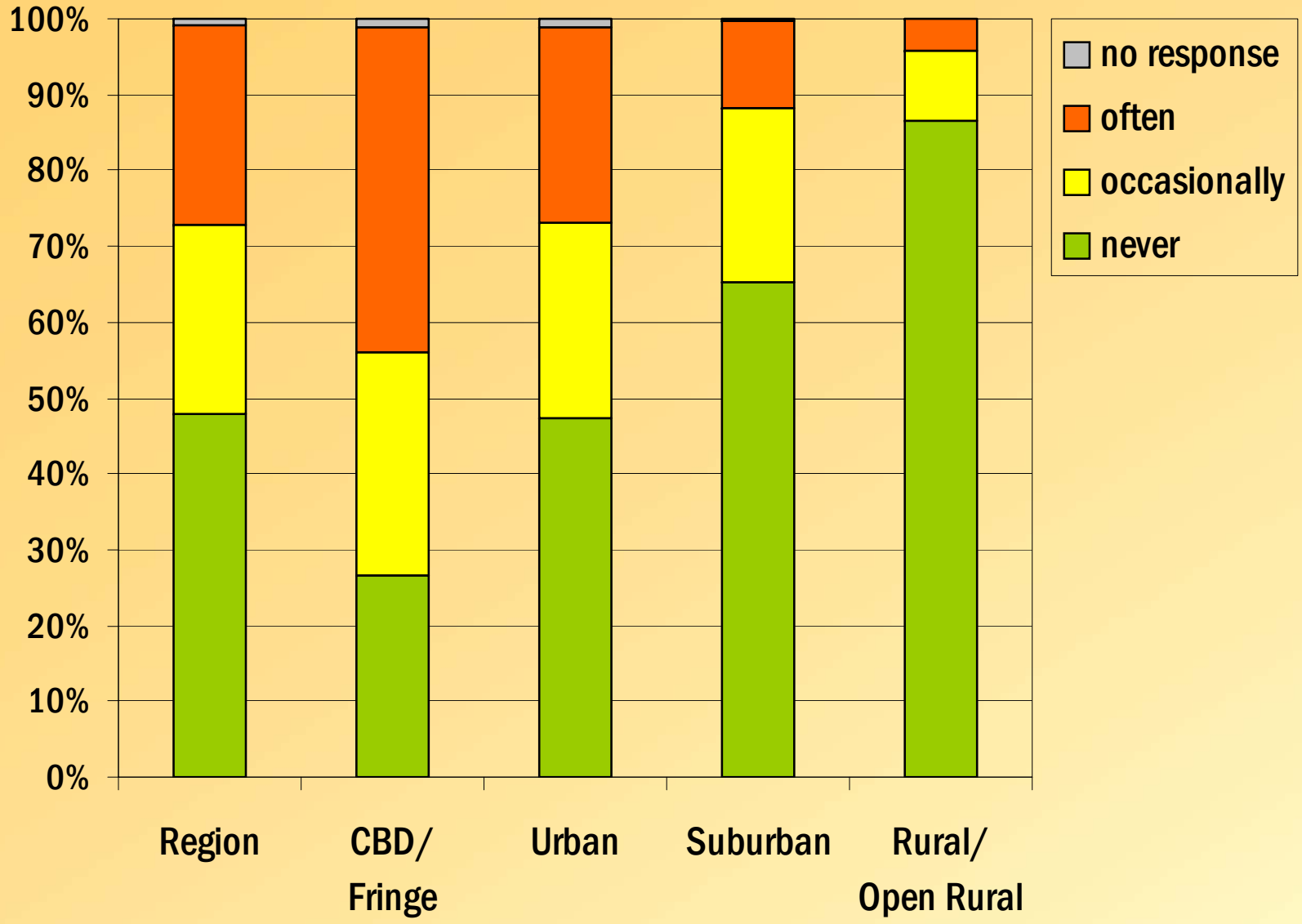
Source: DVRPC, 2007

Helmet use, observed



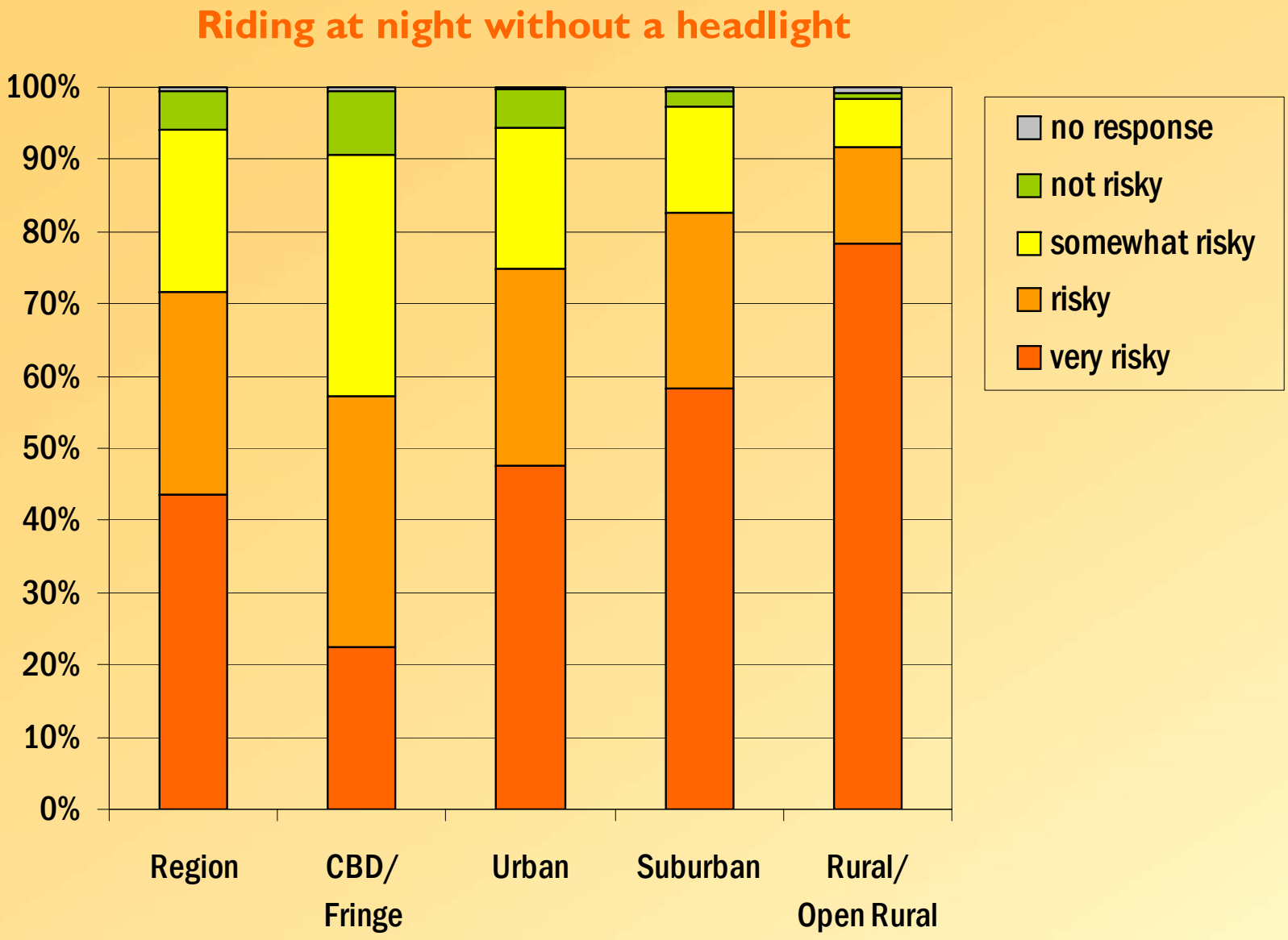
Source: DVRPC, 2007

Night riding w/o headlight



Source: DVRPC, 2007

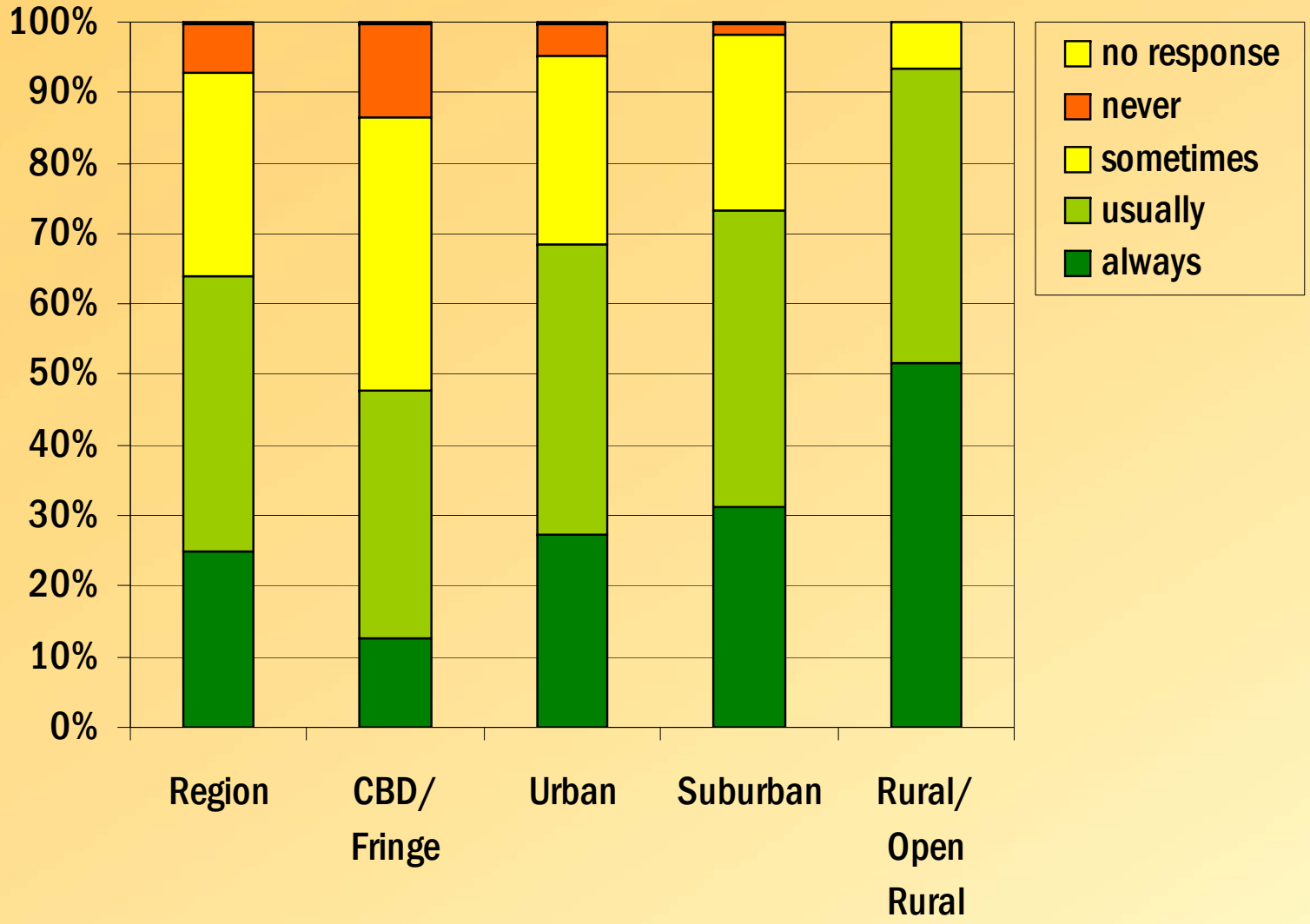
Risk perception



Source: DVRPC, 2007

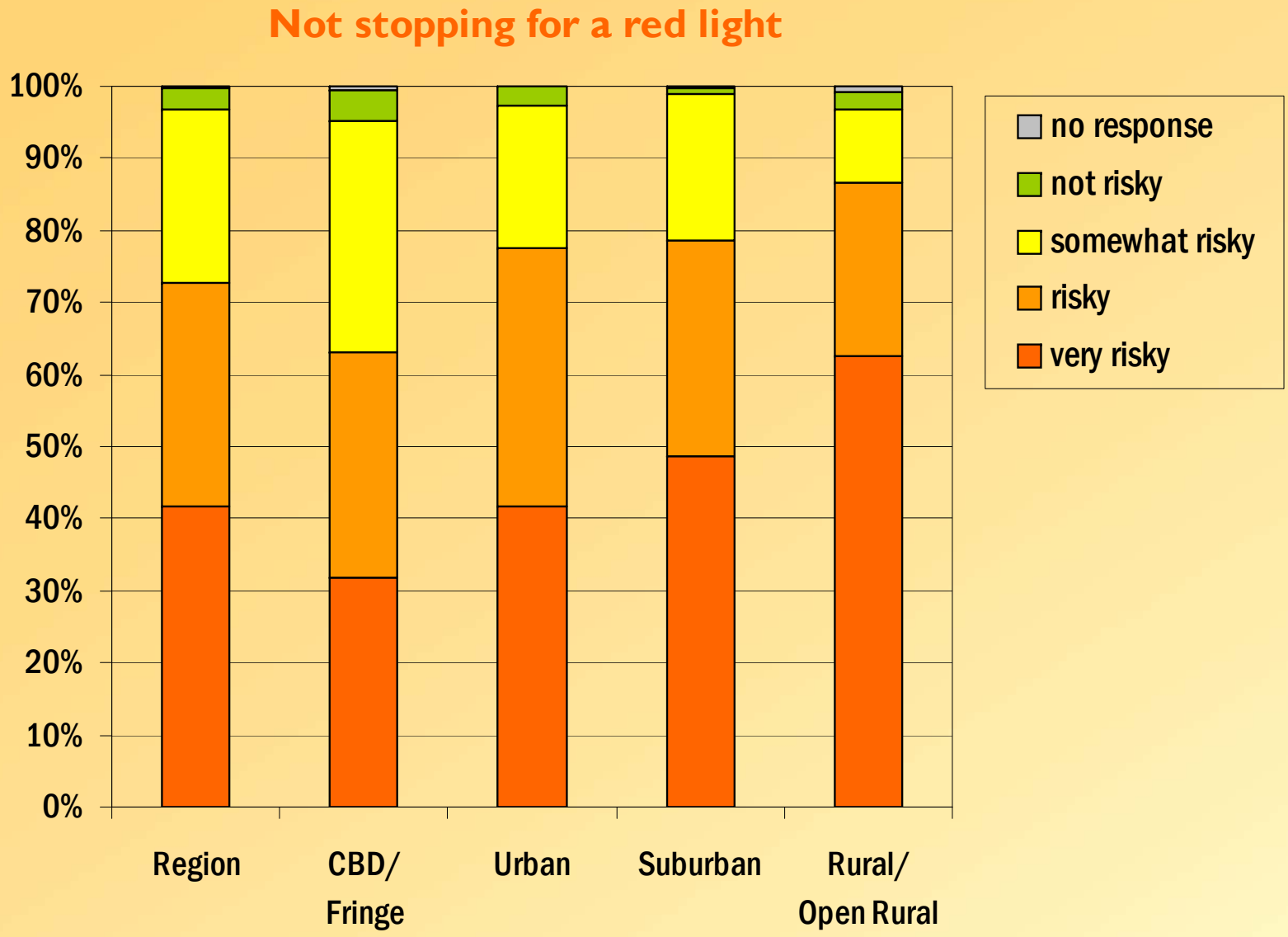
Compliance with traffic laws

"How often do you wait for red lights to turn green?"



Source: DVRPC, 2007

Risk perception



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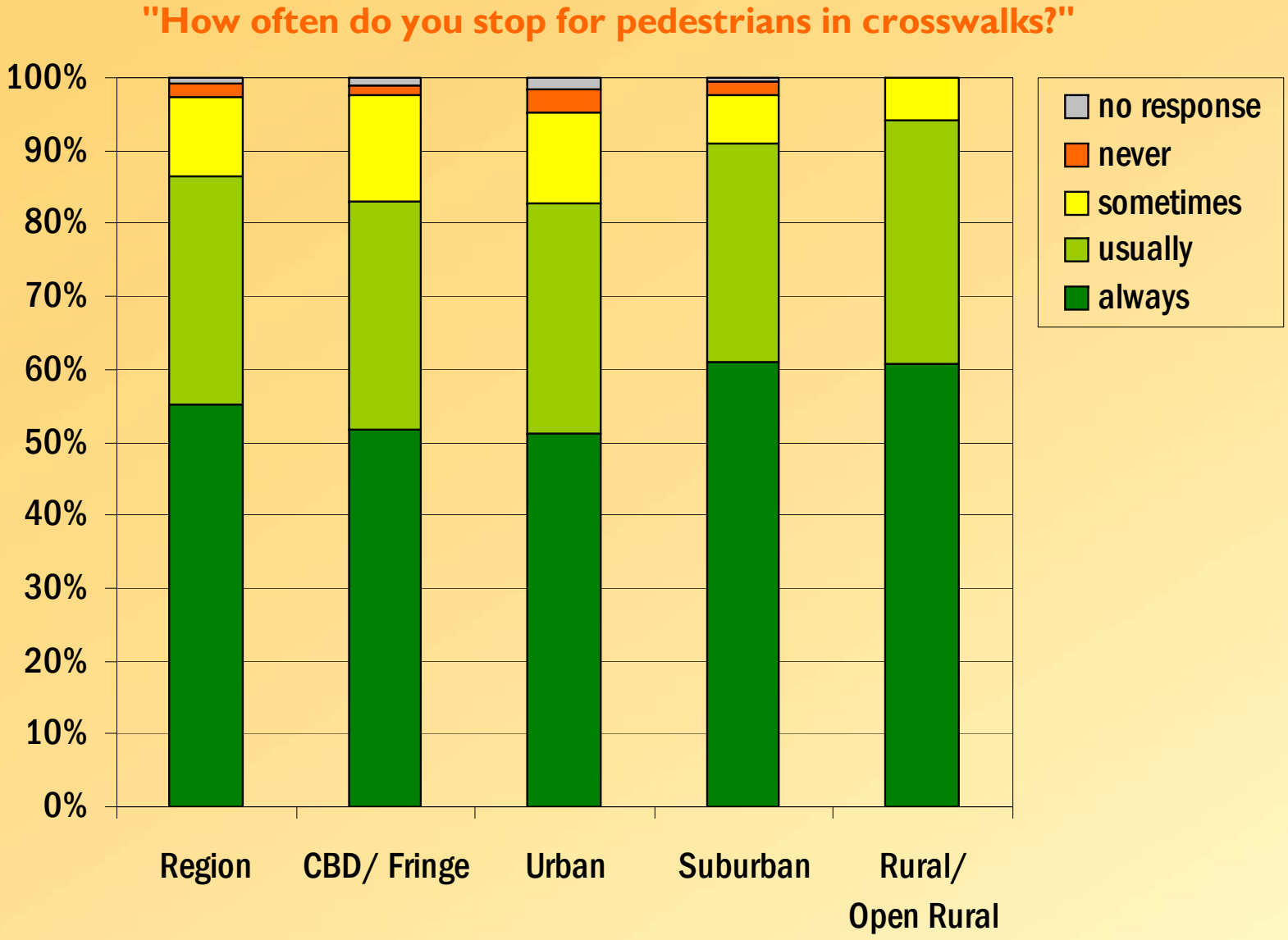

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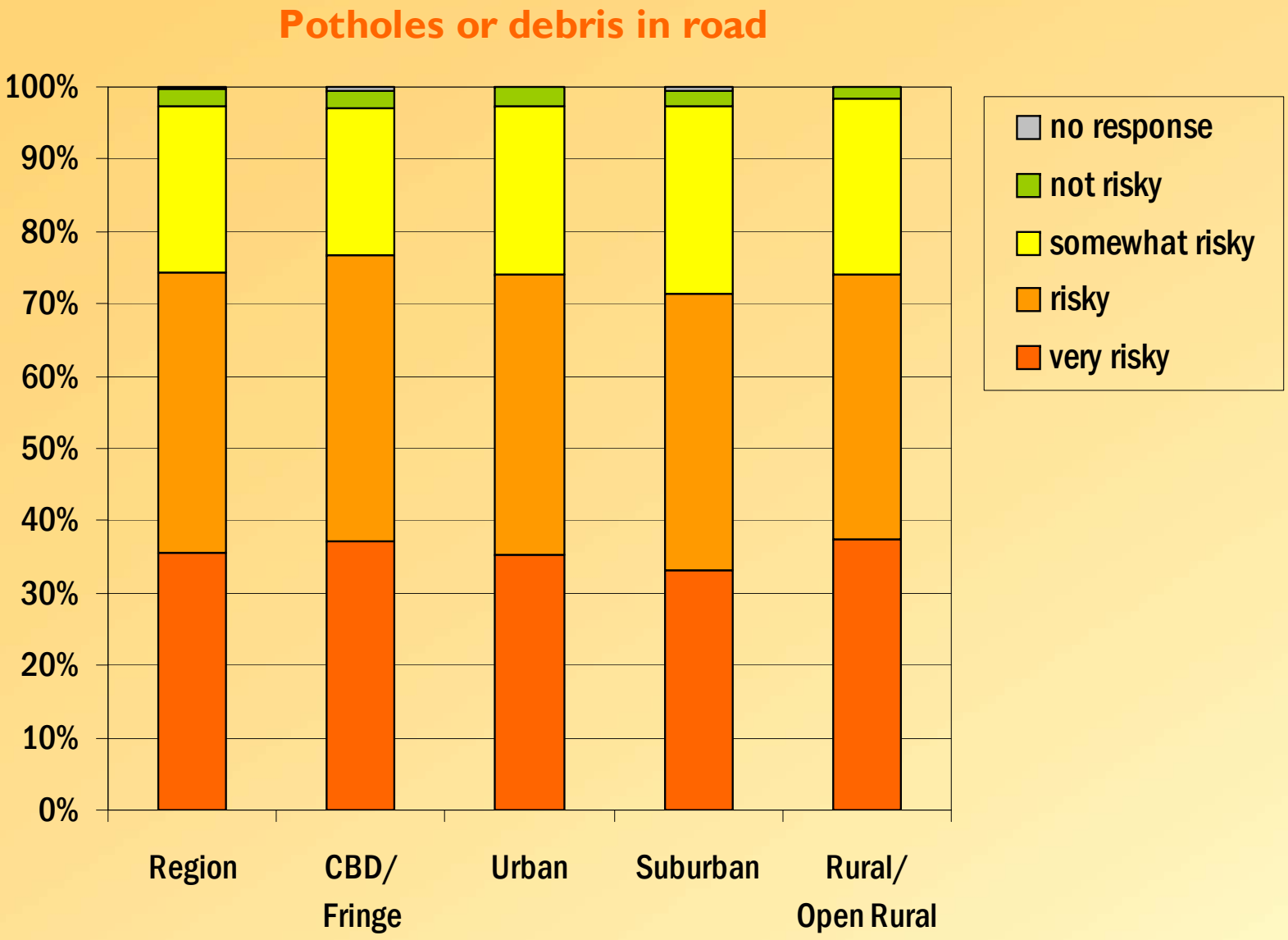
Risk perception



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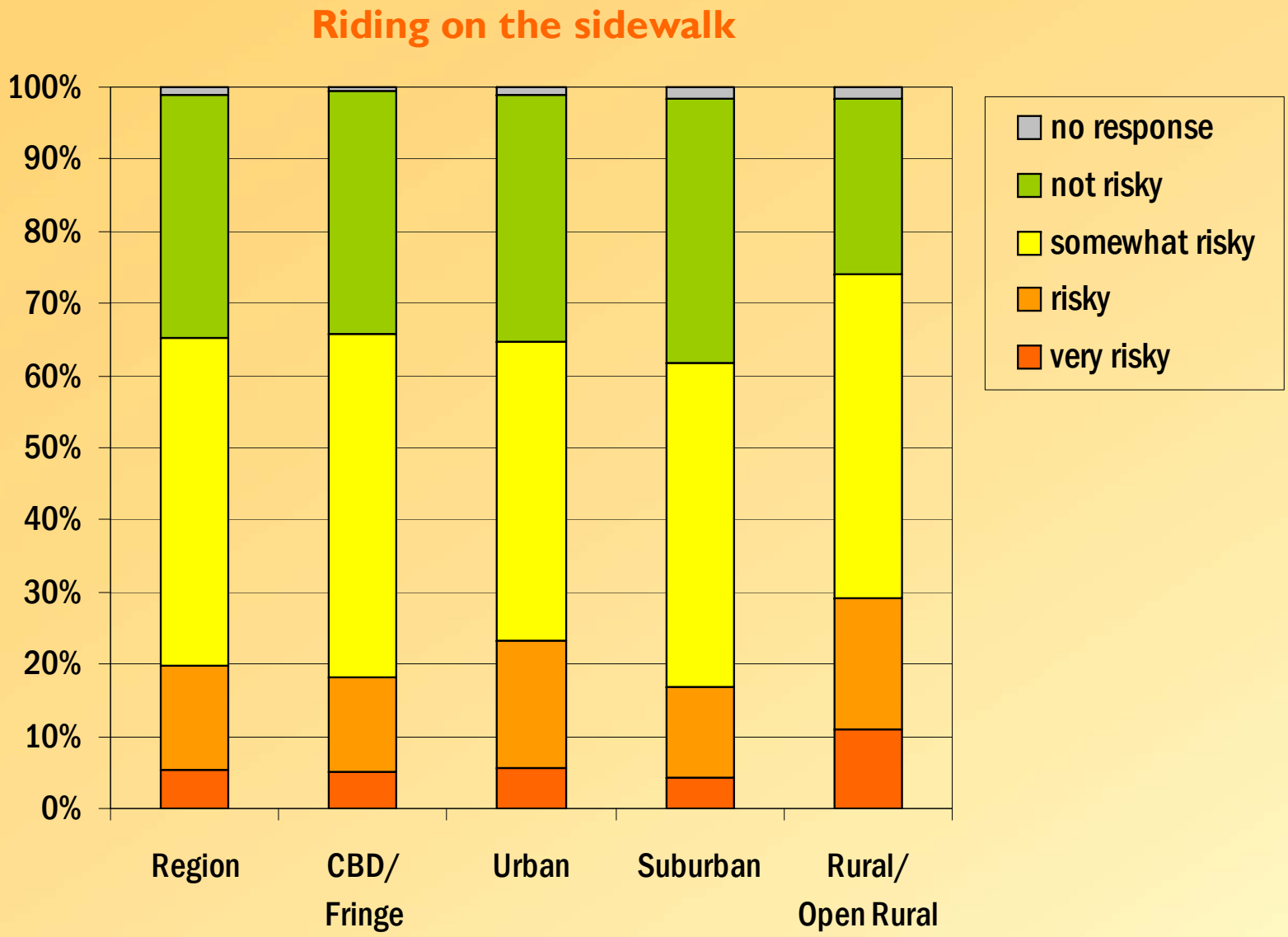
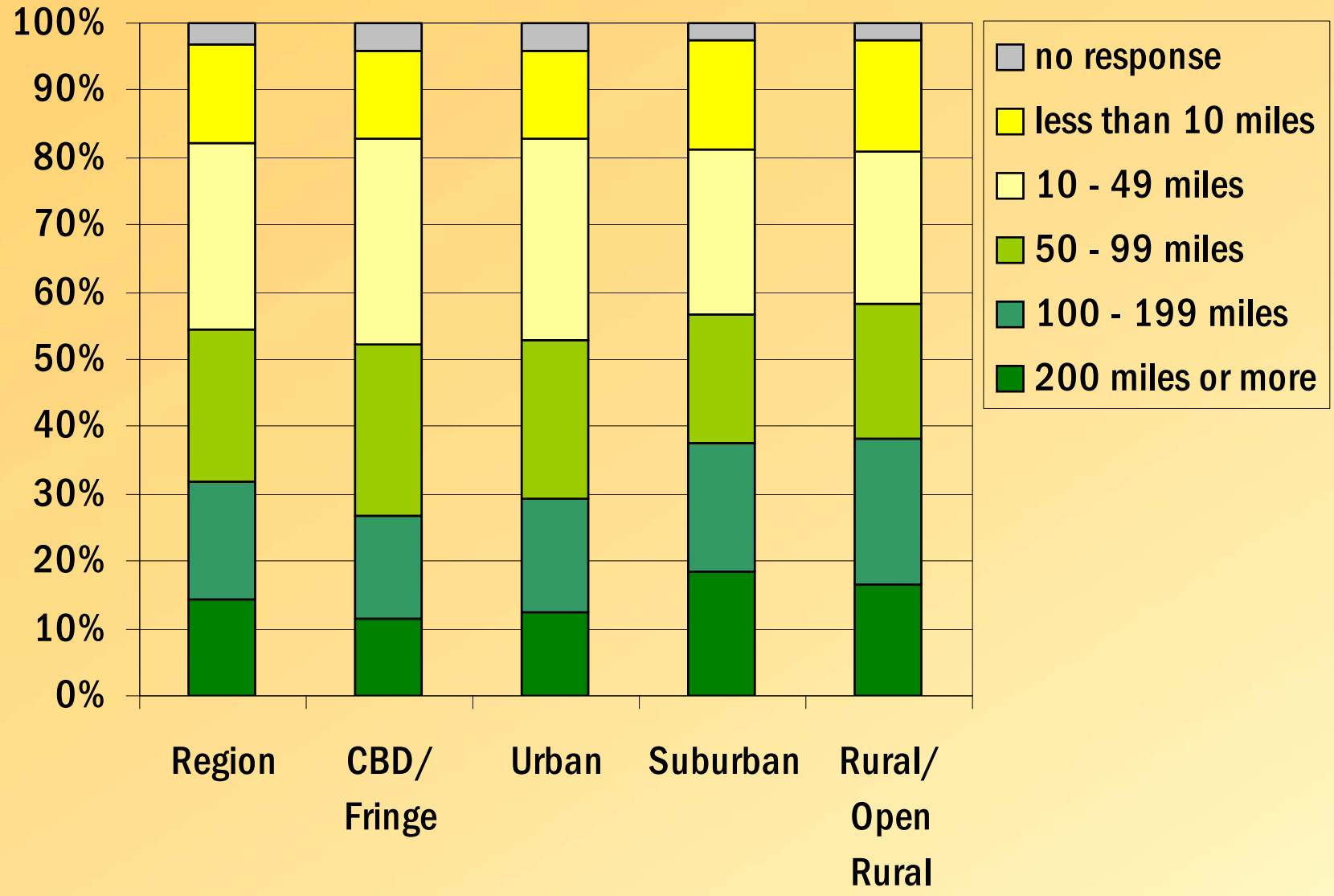


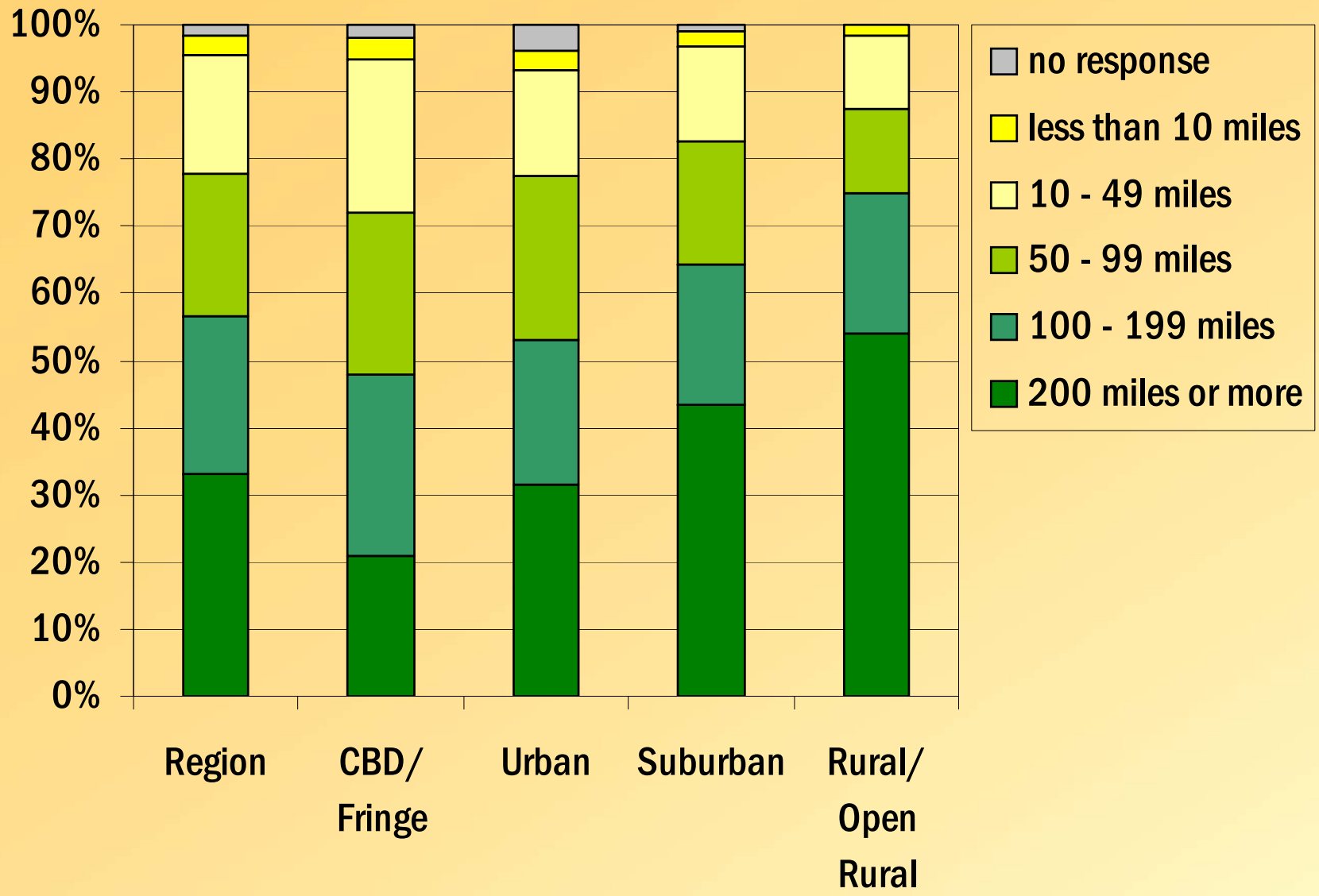
Source: DVRPC, 2007

Miles ridden: November-April



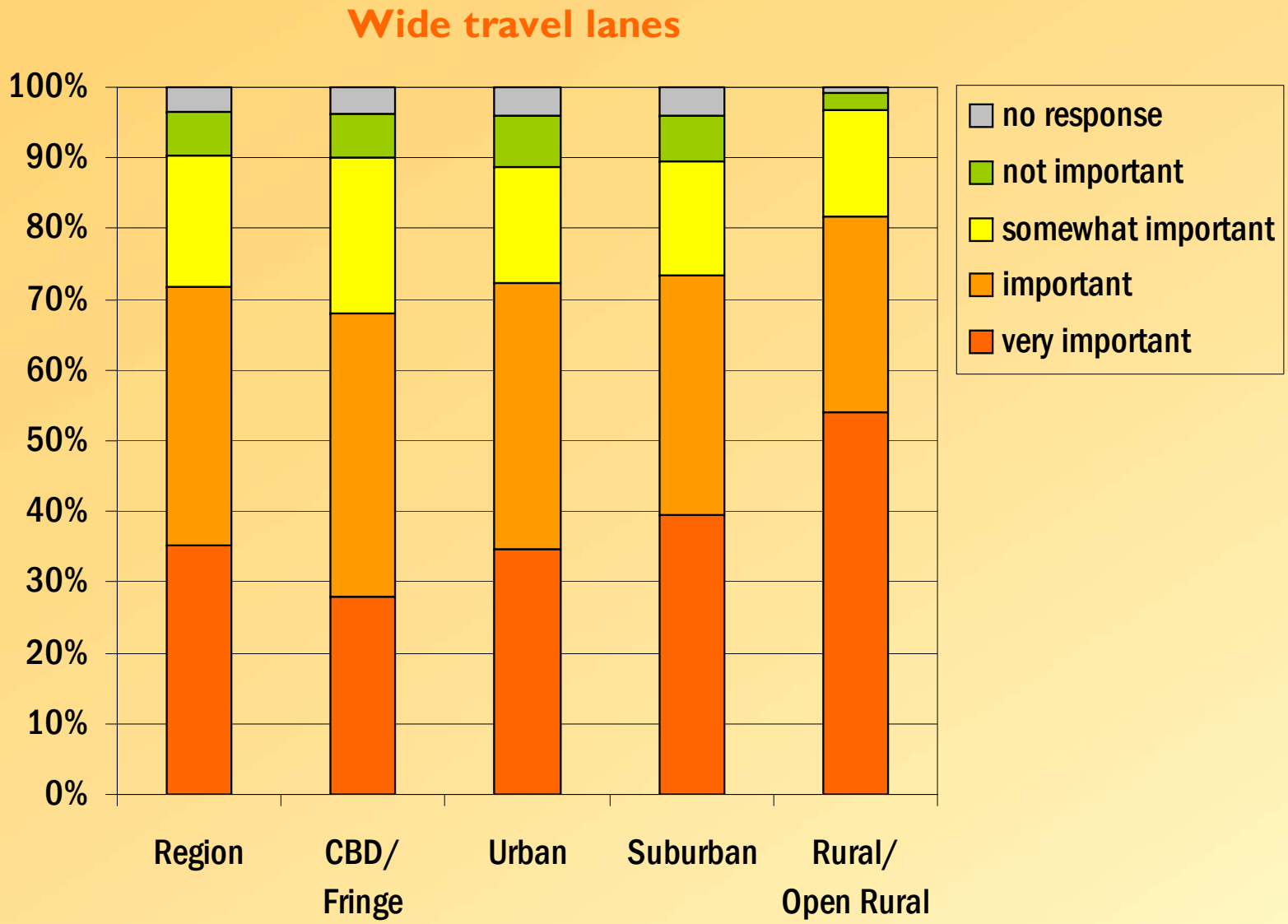
Source: DVRPC, 2007

Miles ridden: May-October



Source: DVRPC, 2007

What would make you ride more?



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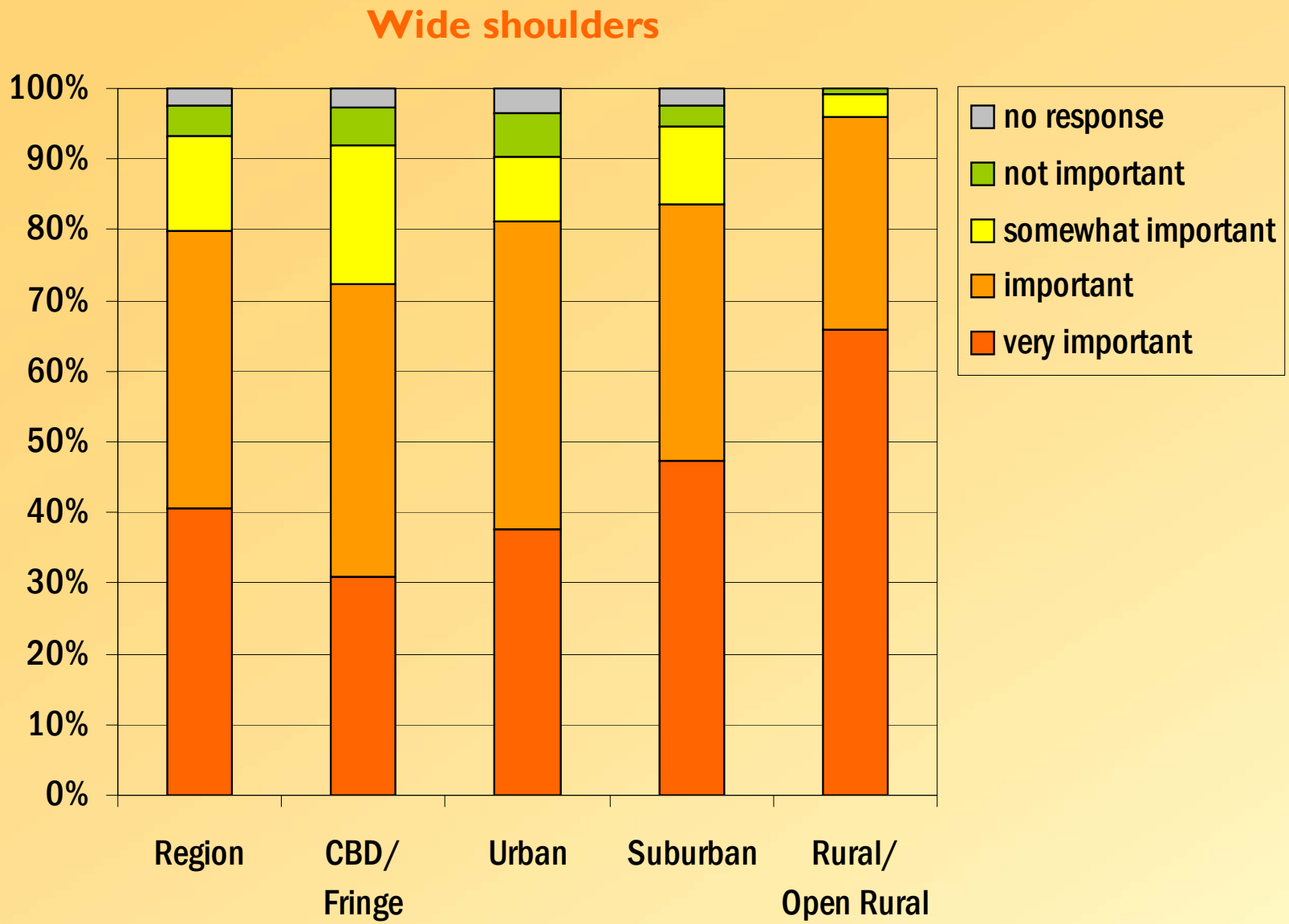

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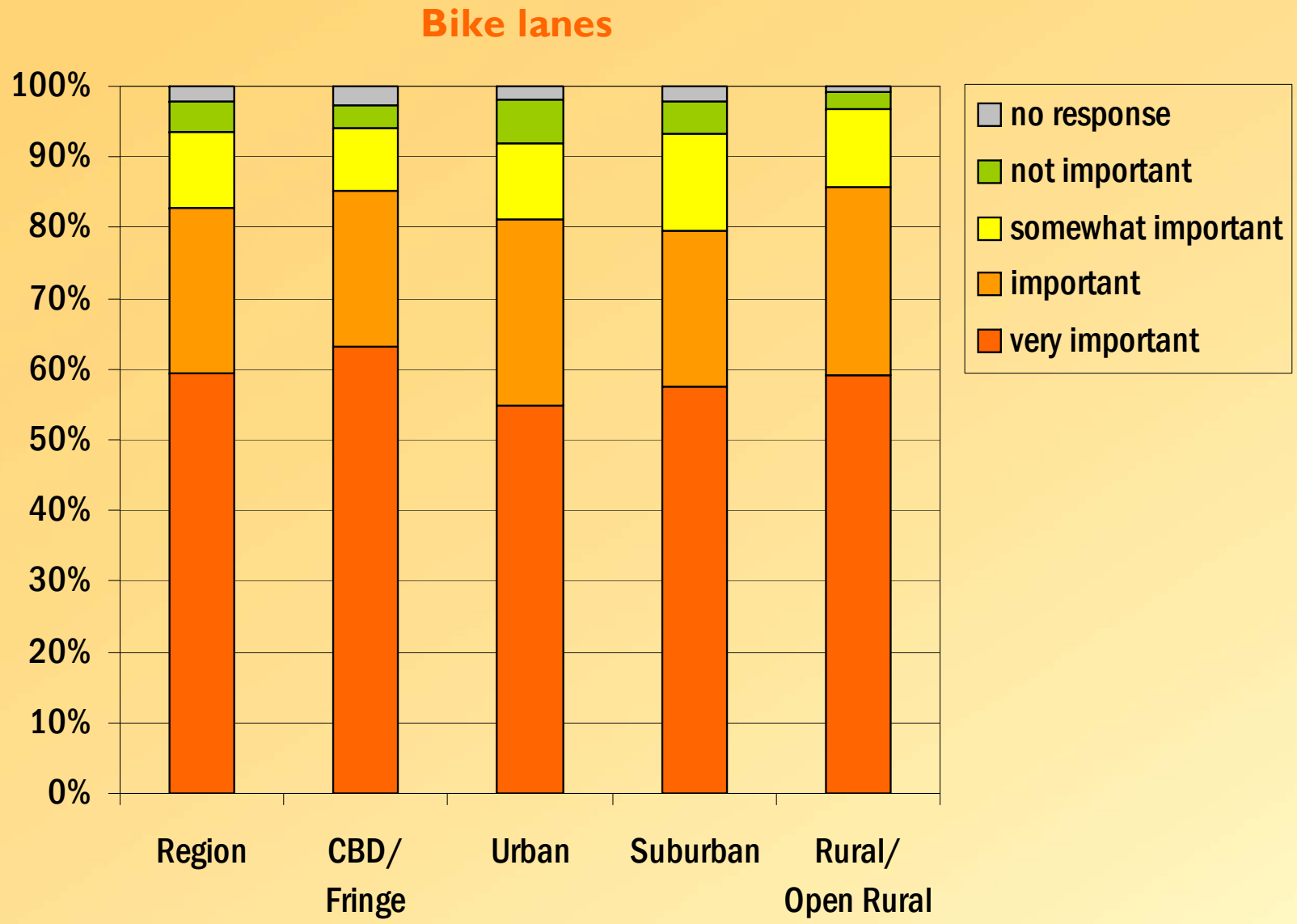

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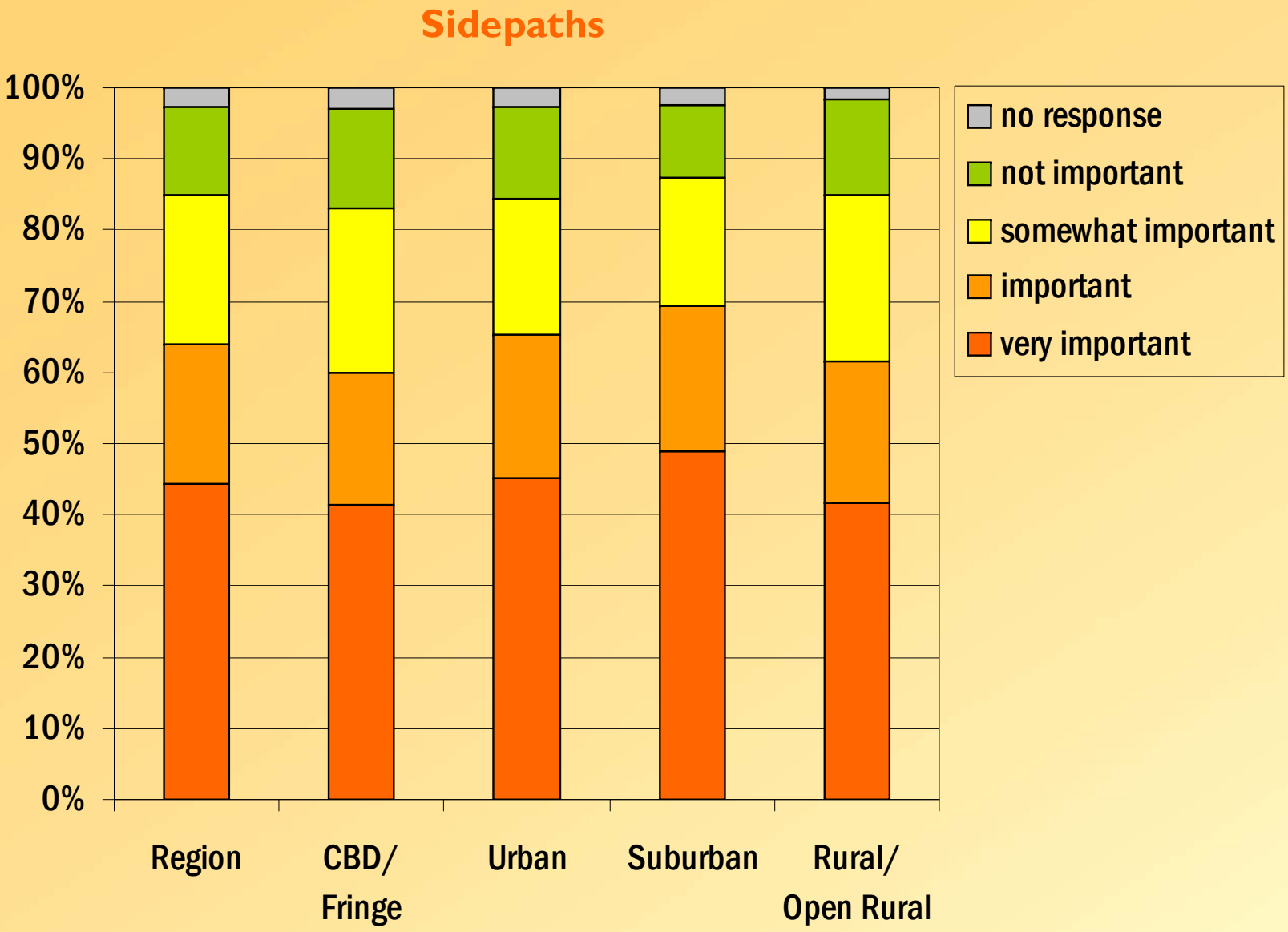
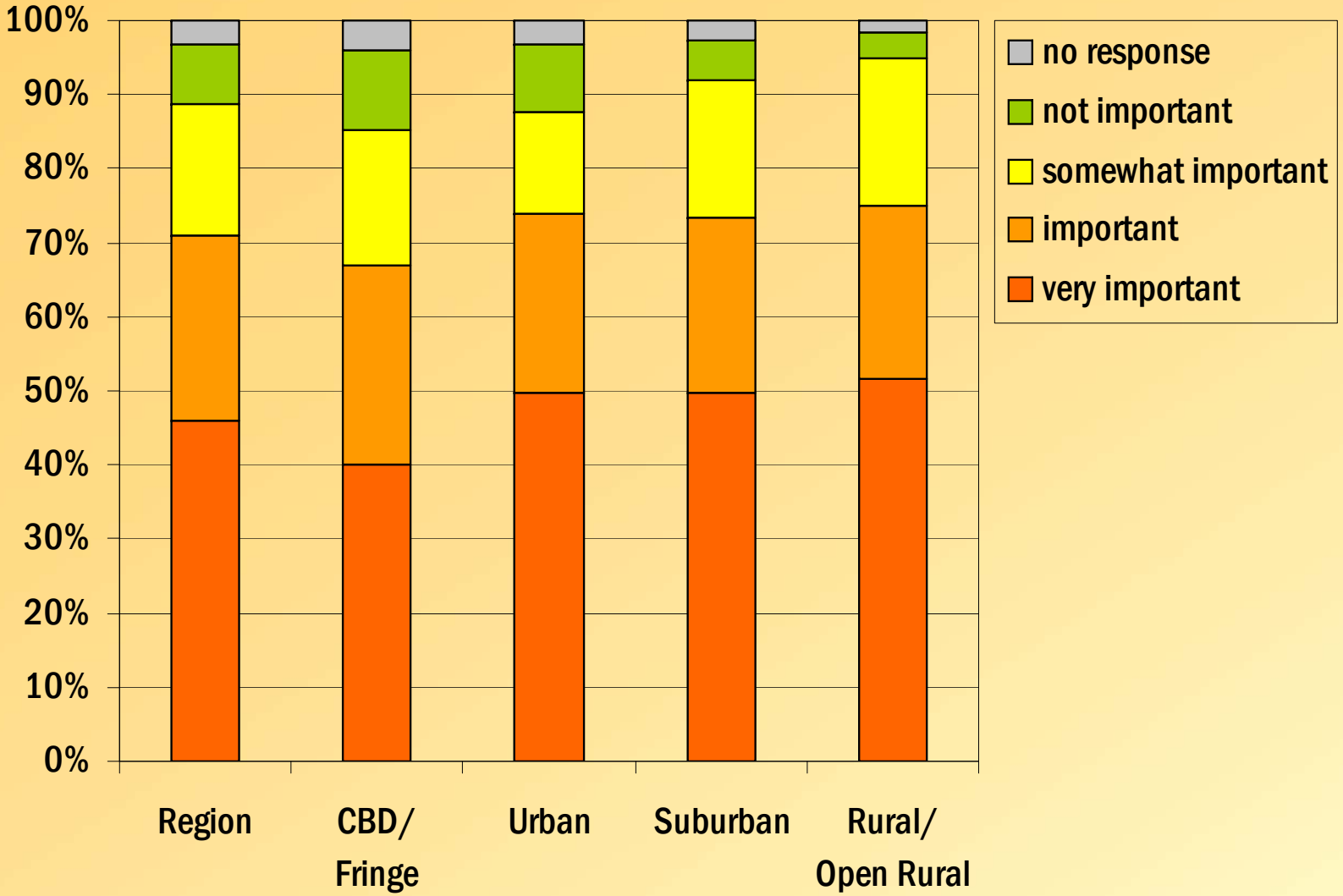


Source: DVRPC, 2007

What would make you ride more?

Trails along rivers and scenic areas



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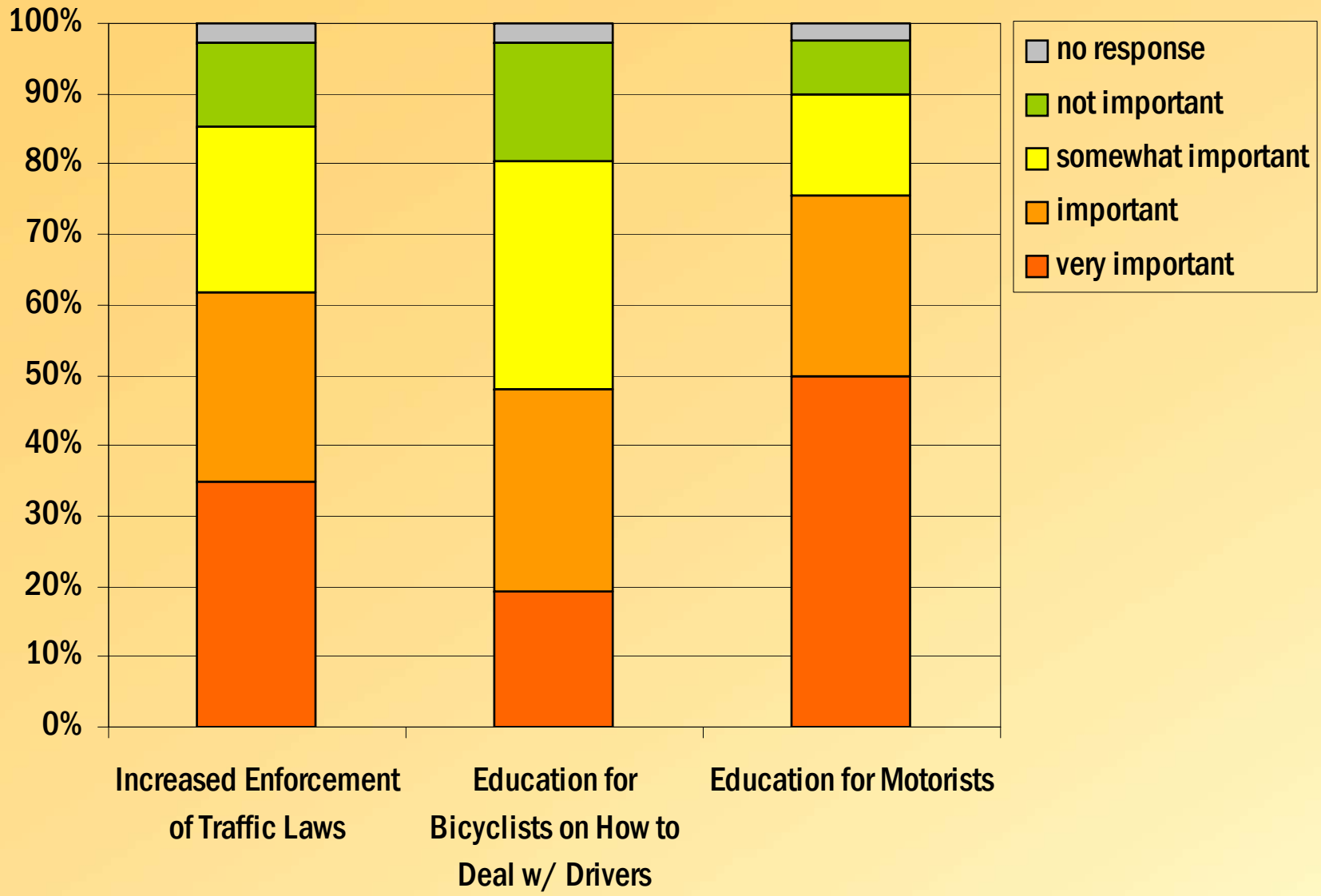
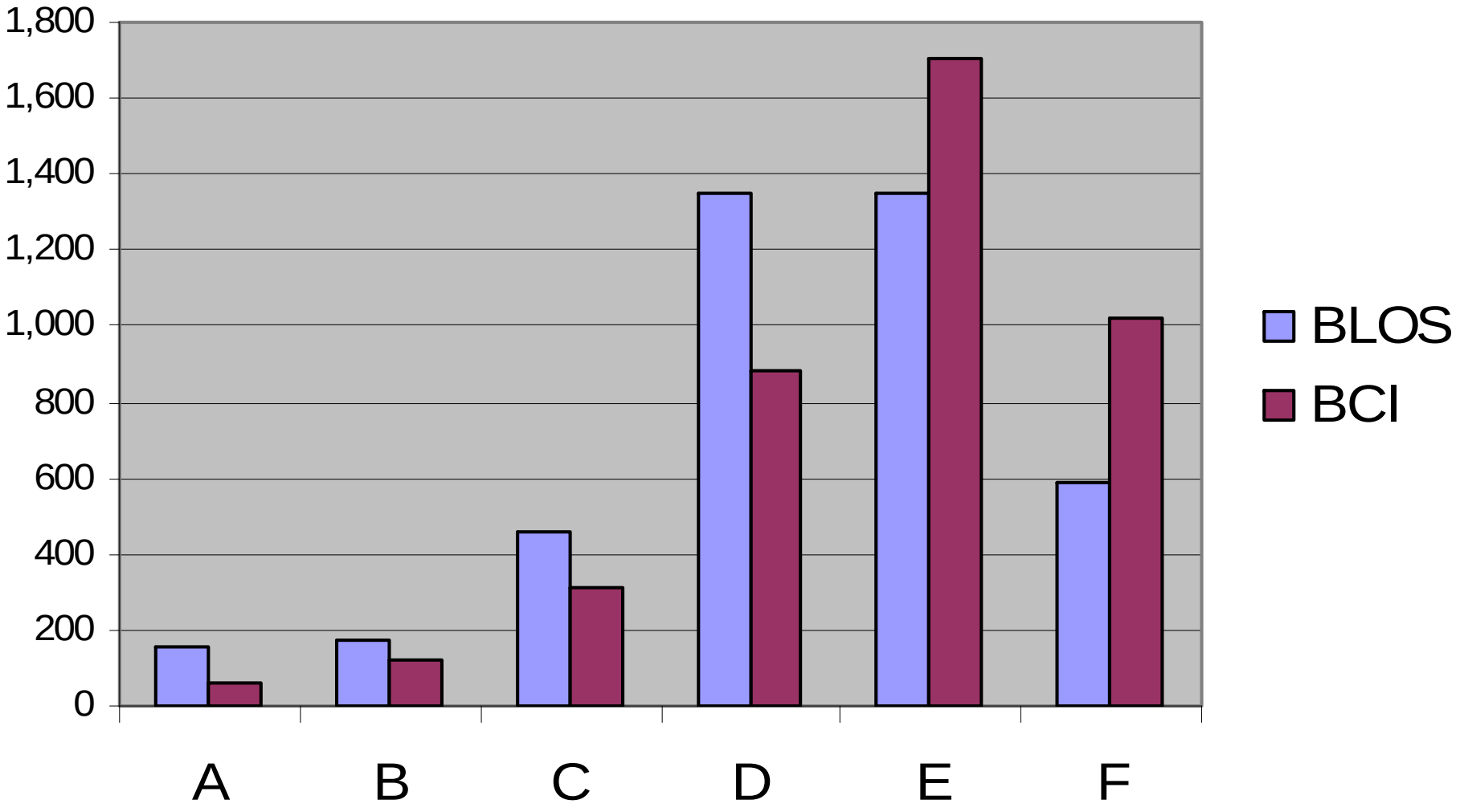


Source: DVRPC, 2007

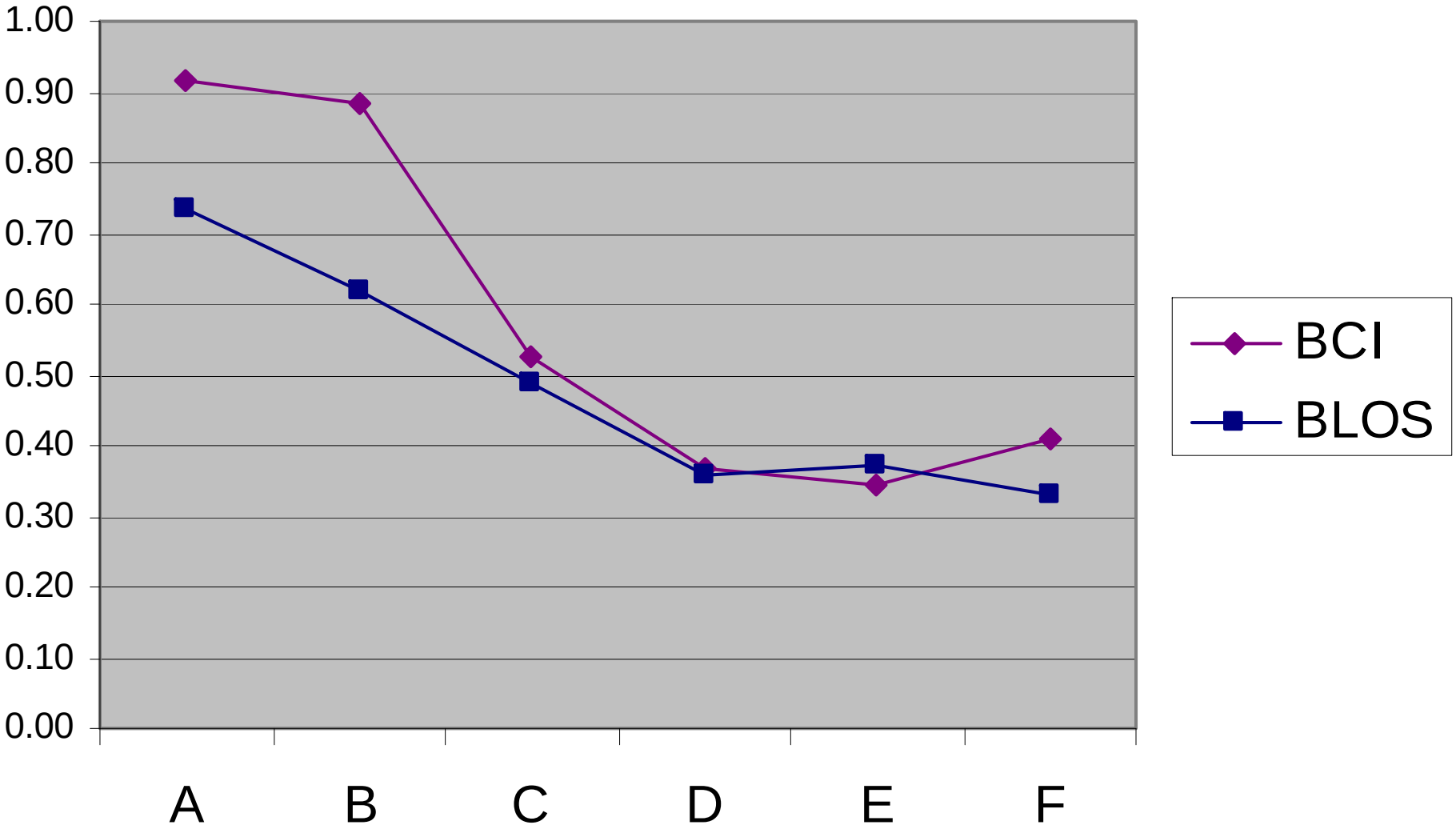
Applications

- Reliable demand models
- Targeted education, encouragement and enforcement campaigns
- Accurate air quality impact assessments
- Benchmark for measuring progress
- ?

System-wide Results - Miles



Car-Bike Crashes Per Mile



More questions

- Who is involved in crashes?
- Why do more men than women ride?
- To what degree are trails used for utilitarian trips?
- Do intercept surveys have a built-in bias toward longer trips and more frequent bicyclists?

Thank you!

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