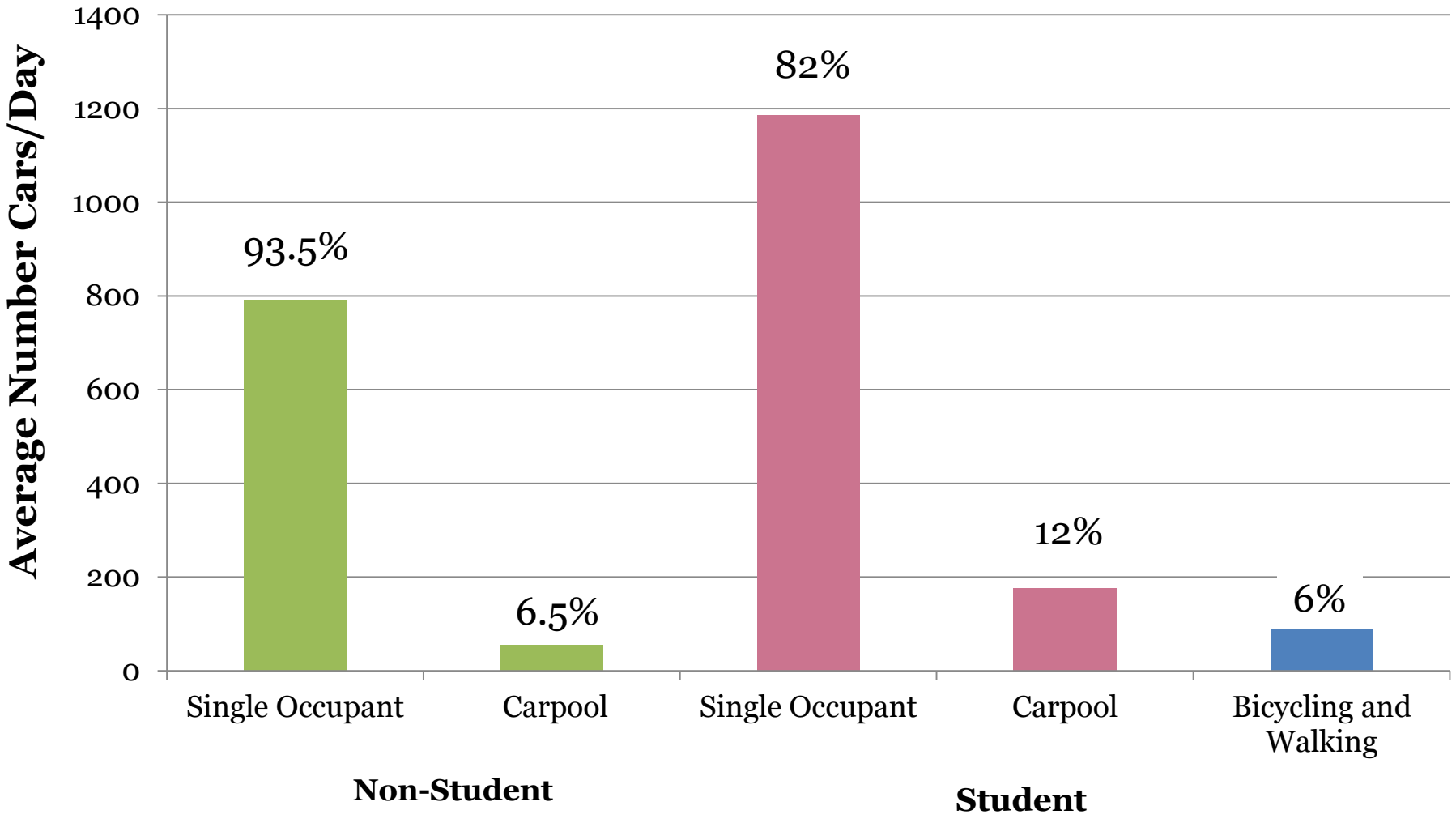
Evaluating Sustainability of Commuter Transportation at WCU

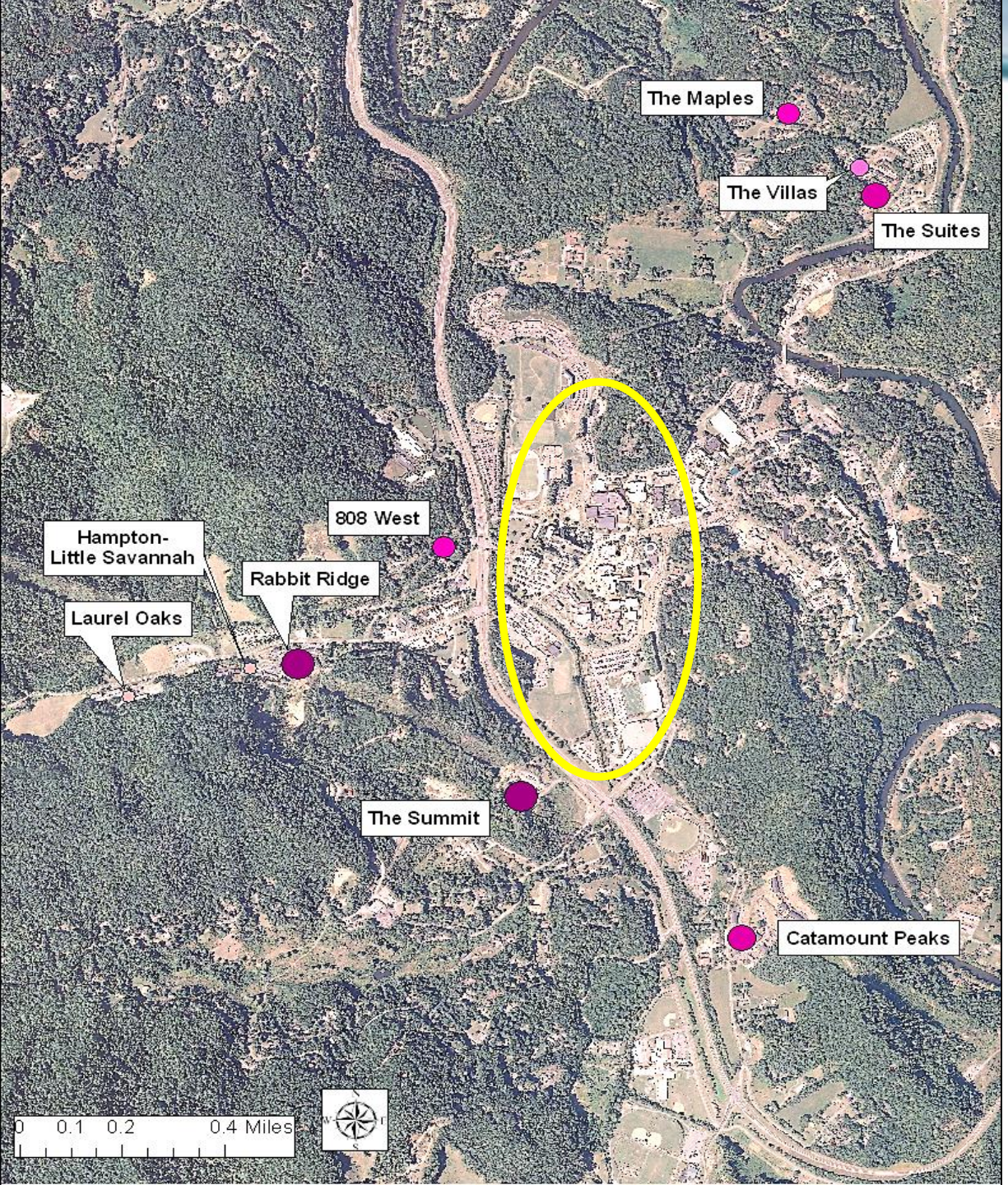
Appalachian Energy Summit

July 30, 2014

Quantify Carpooling & Pedestrian Travel

- Arriving vehicles entering campus at the 6 entrances were surveyed
  - # occupants/vehicle, walkers, bikers
- Location of origin determined from:
  - Student surveys
  - Faculty, staff, administration addresses
- Distances calculated and mapped using GIS
- CO_2 emissions calculated based on distance and average mpg of vehicle type


Average Number Cars/Day
1400
1200
1000
800
600
400
200
0
93.5%
6.5%
82%
12%
6%
Single Occupant
Carpool
Single Occupant
Carpool
Bicycling and Walking
Non-Student
Student

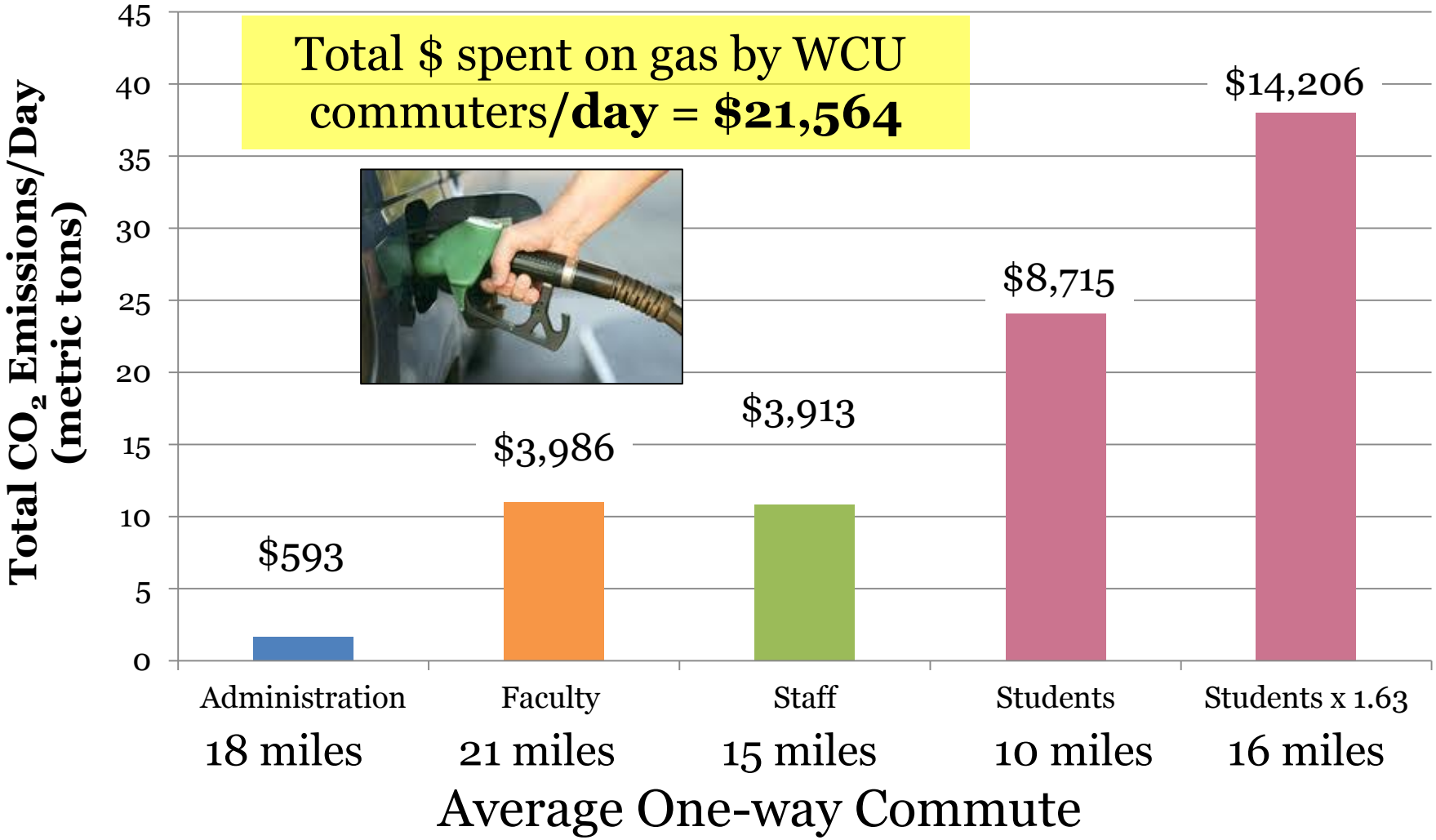


~67% of student commuters travel mostly from 9 apartment complexes around WCU and are making **1.63 trips/day**

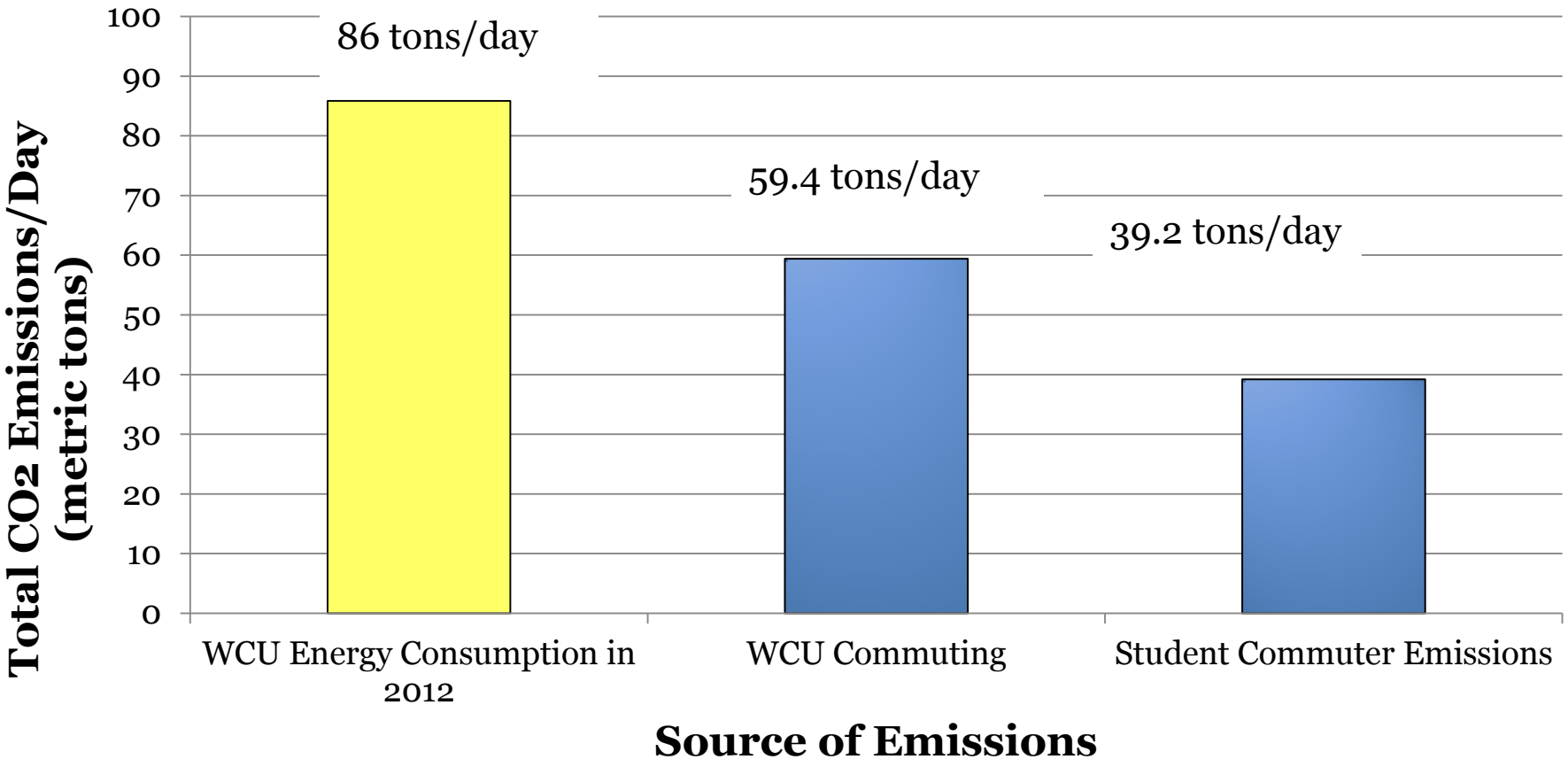
Student Commuter Population

- 32 - 42
- 43 - 55
- 56 - 107
- 108 - 237
- 238 - 308

WCU Commuter CO_2 Emissions in Perspective



WCU Commuting CO_2 Emissions in Perspective



Proportion of commuter emissions to electricity emissions = 73%

Recommendations

1. Improve frequency and reliability of campus shuttle to Cullowhee Apts, provide incentives to ride the shuttle
2. Improve Walk/Bike Options to Cullowhee Apt Complexes
3. Incentivize Car/Vanpooling
4. Maintain Inconvenient parking and Expensive Parking permits
5. Create Commuter Services Coordinator

17.5 tons CO_2 emission reduction/day based on our recommendations