

A grayscale photograph of a University of Denver campus scene. In the center is a tall, brick building with a prominent, pointed steeple. To the left is a large, modern building with a dark, angular roof. Several tall stadium light towers are visible in the background. In the foreground, there are paved walkways, some trees, and a few people walking. The sky is overcast with clouds.

# University of Denver

## Campus Transportation Master Plan

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FEHR  PEERS

 NELSON  
NYGAARD

April 19, 2016

# PROJECT MANAGEMENT TEAM.

- Melissa Yates – Manager, Parking Services
- Chad King – Sustainability Coordinator
- Mark Rodgers – University Architect
- Marc Wilkinson – Campus Operations Director/Budget Officer
- Stuart Anderson – Transportation Solutions Foundation





# WHY WE'RE HERE.

The University of Denver faces critical transportation decisions that will permanently shape the future of the University and the Denver region.



*Will the University continue with the status quo, or will the University move forward with a new transportation vision to meet its diverse goals?*

# PROJECT GOALS.

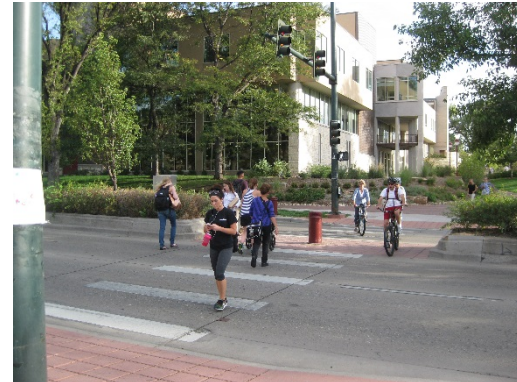
- Reduce GHG released from University-related commuter transportation.
- Shift travel behavior towards more sustainable modes.
- Improve accessibility, safety and continuity of campus.
- Improve aesthetics.
- Improve student and employee health and job satisfaction.
- Minimize capital, operational and maintenance costs.





# STRENGTHS.

- Non-drive alone transportation modes already total 59 percent; trips less than 2 miles are predominantly non-auto.
- The University already has sufficient parking; overall peak weekday occupancy is below 70%.
- Light rail immediately connects the University to the Denver region.
- Students, faculty and staff are already using CollegePass and EcoPass.
- In many cases, students, faculty and staff are already choosing to live nearby where they can walk or bike to campus.



# WEAKNESSES.

- A majority of trips to campus greater than 3 miles are drive alone.
- Setting aside parking for events, the “Event Bubble”, is making parking seem more occupied than it actually is.
- Enterprise CarShare is not well-utilized by members of the campus community.
- Over 50 percent of the University offices, labs and departments are farther than a 15 minute walk from University Station.



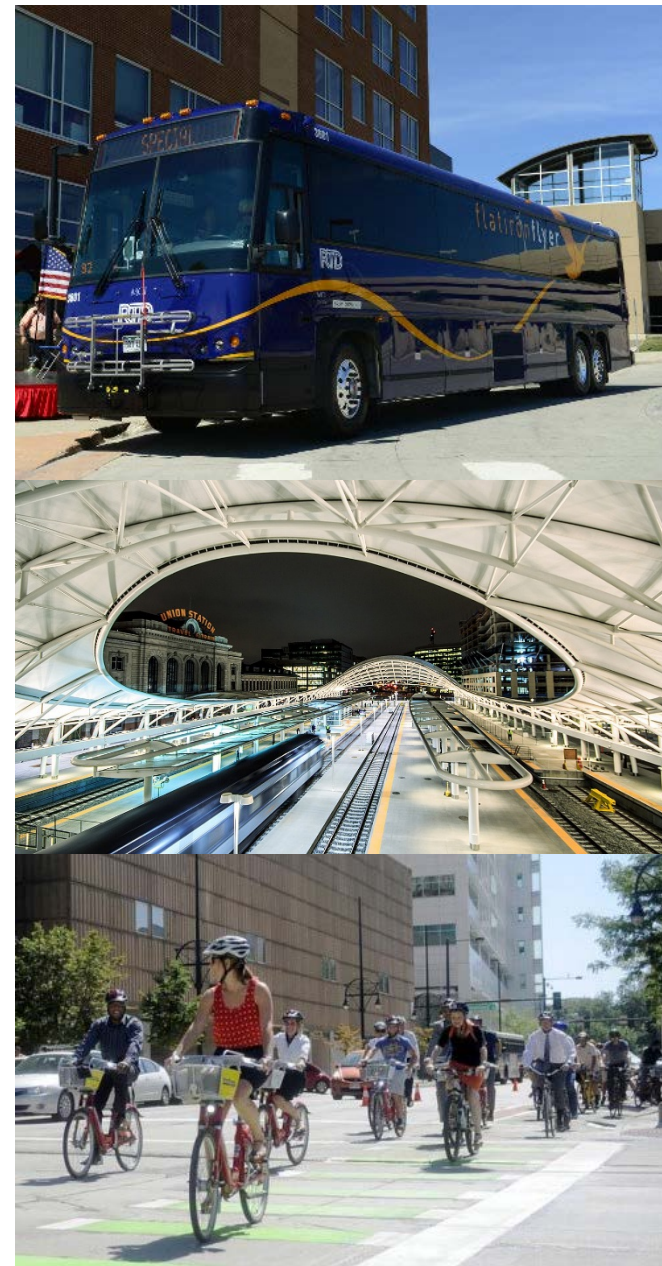
# OPPORTUNITIES.

- Parking can be more effectively managed and utilized.
- Housing can be used to improve quality-of-life for all members of the campus community and to improve transportation outcomes.
- Popular car share programs, including Car2Go and Zipcar, already serve Denver.
- Emerging trends, including Transportation Network Companies, are decreasing the need to drive or own a car.
- In 2016/17, RTD will open four new rail lines in the north Denver region.



# THREATS.

- Increasing a focus on driving does not help the University meet non-transportation goals:
  - GHG: 125,000 pounds of CO2 emissions per weekday.
  - Space: 23 acres of campus space is occupied by parking (17%).
  - Costs: The University pays \$2,000 per additional driver per year.
- College-aged generation prefers urban lifestyle and transportation options.
- The surrounding region is moving towards multimodal transportation.





# IF WE DO NOTHING.

- In 2016 a 450 space structure costs \$12-16 million.
- The annual cost per space is \$2,000-\$2,250 (up to \$1.01 million per year).
- Parking structures are *permanent*.



# TWO CONTRASTING FUTURES.



Stanford University



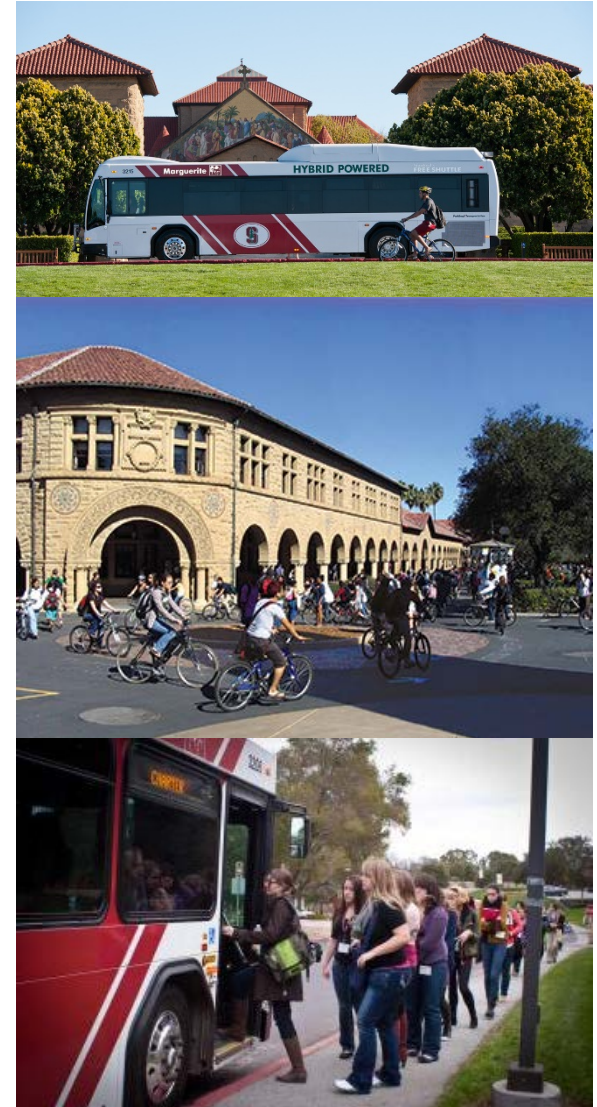
California State University,  
Sacramento



# TWO CONTRASTING FUTURES.

## Stanford University

- Drive alone mode share is 12 percent.
- Key transportation strategies:
  - Housing for nearly all undergraduates; also for graduate students, faculty and staff.
  - Car share for residents who do not bring cars.
  - Free shuttle to nearby Caltrain station.
  - Staying *in control* of parking pricing.
  - On-campus bicycle infrastructure.
  - Event parking in outlying lots with shuttle.
  - Comprehensive Transportation Demand Management programs.

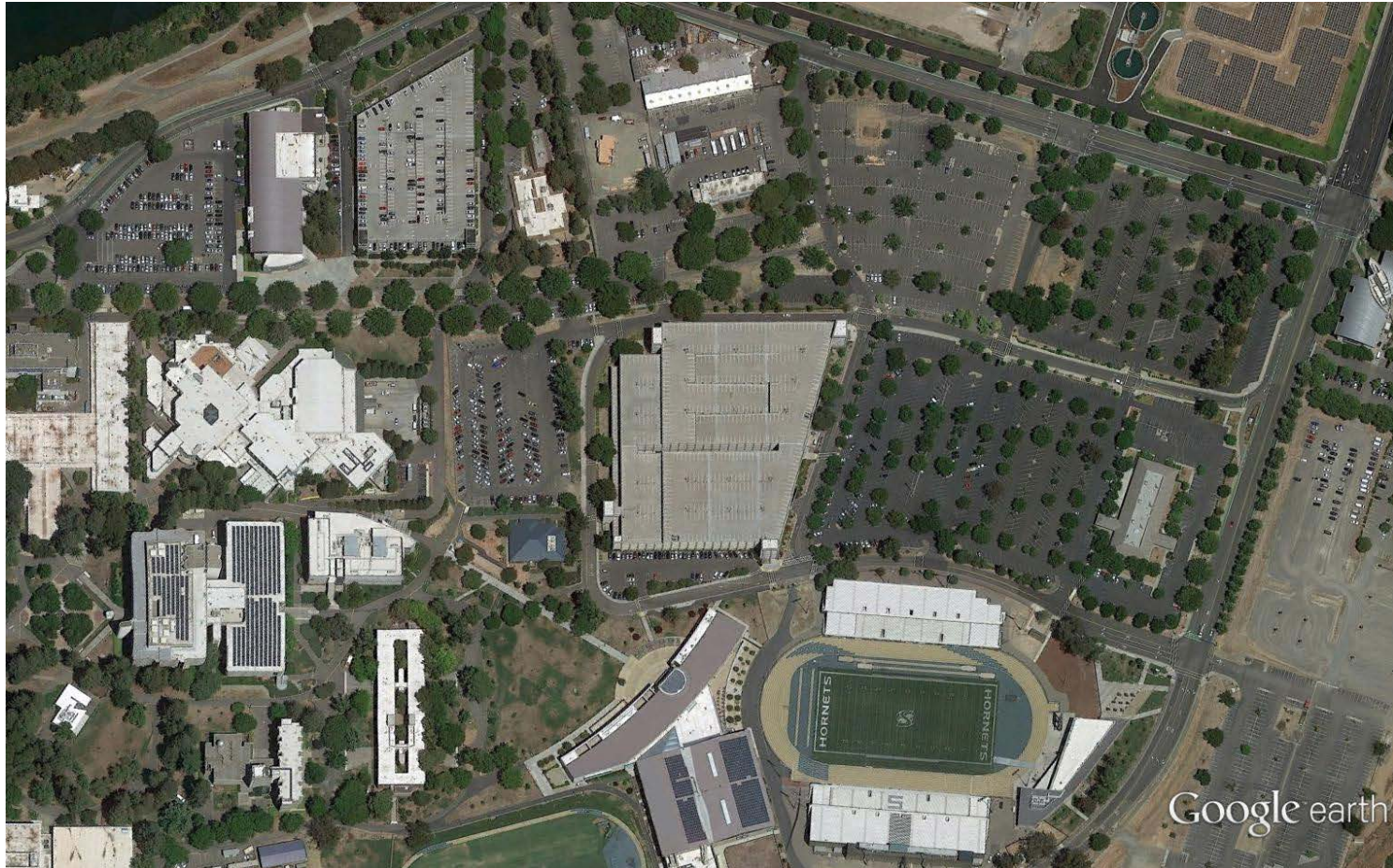




# TWO CONTRASTING FUTURES.

California State University, Sacramento

Drive alone mode share is 69 percent.



# PEER INSTITUTIONS.

- University of Colorado, Boulder
- Colorado State University (Fort Collins)
- Stanford University (Palo Alto, Calif.)
- University of Southern California (Los Angeles, Calif.)
- Washington University in St. Louis

# TOP 10 SUSTAINABLE TRANSPORTATION PRACTICES.

- Stay in control of parking pricing
- Free transit passes
- Housing
- Car share
- Campus shuttle
- On- and off-campus walkways and bikeways
- Cohort car restrictions
- Priority parking (carpool, vanpool, EV, etc.)
- Event parking management plans
- Transportation Demand Management programs



# CANDIDATE RECOMMENDATIONS.

More efficiently use existing parking

- Integrate parking management and venue management.
- Redistribute assigned permits.
- Annual cost is low to change existing practice and potentially acquire new management software.



# CANDIDATE RECOMMENDATIONS.

## Parking pricing

- Stay *in control* of parking pricing.
- May include pricing changes for different cohorts.
- Current prices (annual)
  - General (Yellow) \$207-\$225
  - Restricted (Red) \$288-\$873
- Annual cost is low; potential for increased revenue.
- Increase parking cost 10%, reduce vehicle trips 1-3%.

Peer Institution	Annual Price
University of Colorado	Students: \$258-\$388 Faculty: \$156-\$636
Colorado State University	Students: \$407 Faculty: \$422
Stanford University	\$360-\$972
University of Southern California	\$684-\$936
Washington University	Students: \$624 Faculty: \$624-\$1,500

# CANDIDATE RECOMMENDATIONS.

Restrict cohorts from bringing cars to campus

- Some universities prohibit all students.
- Typical policy is to restrict freshmen.
- Of peer institutions, Washington University does not allow freshmen to bring cars to campus; USC issues permits through a lottery.
- What student life provisions may be necessary?
- Annual cost is free.
- 31% of University of Denver freshmen have cars (approximately 450 cars).





# CANDIDATE RECOMMENDATIONS.

## University-sponsored housing

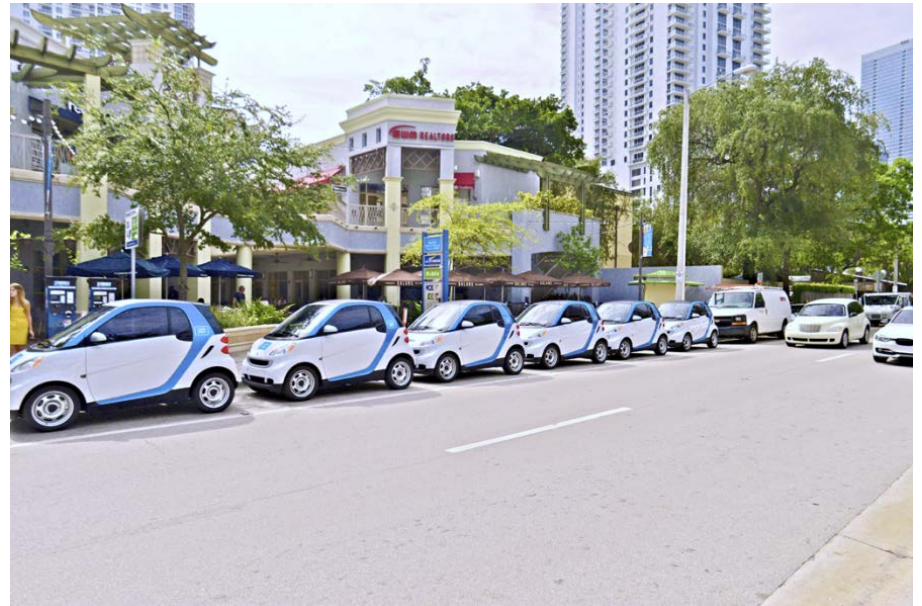
- More housing for undergraduates or new housing for graduate students, faculty or staff.
- Could be on-campus or off-campus.
  - On-campus could be close to University Station.
  - Off-campus could be close to other light rail stations.
- Annual cost consider either low or high.
- Within 1 mile of campus over 90 percent walk, bike or use transit.



# CANDIDATE RECOMMENDATIONS.

## Car share

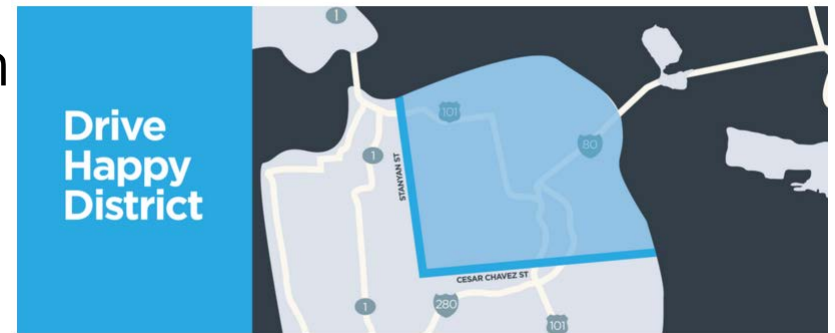
- Invite additional car share vendors on campus.
- Add priority parking spaces for car share.
- Encourage car share use for residents and non-drive alone commuters.
- Annual cost is either free (use existing parking) or \$2,000 per year (build new parking).



# CANDIDATE RECOMMENDATIONS.

## Microtransit or Transportation Network Companies TNCs

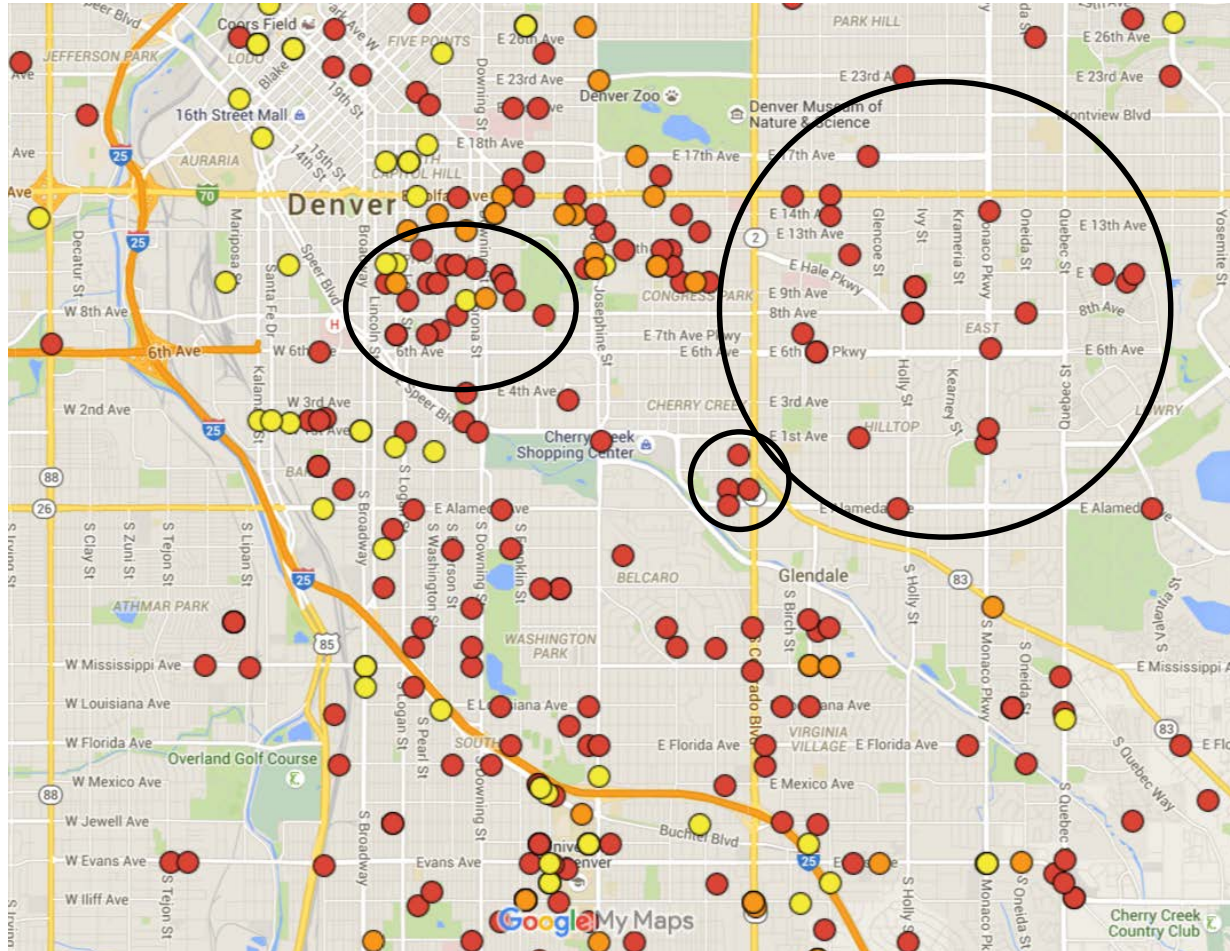
- Microtransit = privately operated transit system.
- Uber and Lyft are examples of TNCs.
- From over 100 “hotspots” Within the “Drive Happy District”, LyftLine rides cost \$5.
- Most cost-effective than reimbursing RTD for increased service.
- Annual cost is \$1,800-\$2,520 per user.





# CANDIDATE RECOMMENDATIONS.

## Microtransit or Transportation Network Companies



Where could  
microtransit be  
effective?

- Drive alone
- Light rail
- Bus

# CANDIDATE RECOMMENDATIONS.

## Campus shuttle

- Would serve University station, main campus destinations (including remote parking) and possible nearby destinations.
- All 5 peer institutions operate a campus shuttle.
- One fixed route costs approximately \$300,000 per year (annual cost of 150 parking spaces).



# CANDIDATE RECOMMENDATIONS.

## On-campus bikeways

Designate bikeways on the campus' boundaries and prohibit bicycling within campus.

Designate bikeways on the campus' boundaries with occasional internal routes to strategically placed bike parking.

Designate bikeways on and through campus to bike parking near every building.



Least penetrable by  
bike

Lowest cost

Most penetrable by  
bike

Highest cost



# CANDIDATE RECOMMENDATIONS.

## Commute Club program

- Would provide incentives to those agreeing not to drive alone to campus.
- Potential incentives
  - Carpool credit (cash incentive)
  - Free, priority carpool/vanpool parking
  - Ridematching services
  - Emergency ride home
  - Car share/rental car credit
- Cost is \$400-\$700 per user.



# CANDIDATE RECOMMENDATIONS.

## Other recommendations

- Uniform program branding
- Large event parking procedures (pricing, remote parking)
- Electric vehicle charging stations, designated motorcycle/scooter parking, carpool/vanpool parking
- Flexible schedules for eligible employees
- Recommendations for bicycling:
  - Work with City to implement off-campus bikeways and improve pedestrian walkways/crossings
  - Bicycle safety and training education
  - University bike share
  - Long-term rentals or purchasing assistance
  - Bike station

# YOUR FEEDBACK.

*Will the University continue with the status quo, or will the University move forward with a new transportation vision to meet its diverse goals?*



# YOUR FEEDBACK.

1. Should recommendations' costs be measured only against the offset in future parking costs, or may other funding be available?
2. What directions should be further explored regarding University-operated housing?
  - On-campus? On-campus near LRT? Off-campus near LRT?
  - Undergraduates only? Or, graduate students, faculty or staff?
3. Is restricting freshmen from bringing cars to campus an option? If so, what additional student life amenities may be needed?
4. Is a campus shuttle worth considering? Is outside funding (RTD, City) absolutely necessary, or would the University consider funding it themselves (possibly including a start-up grant)?
5. Is it supportable to designate internal bikeways to strategically placed bike parking?