

Transportation and Mobility

1/14/06 Charrette Component Summary



Based on the principles of the Cal Poly Master Plan 2001 (page 166), design a system that reduces the campus community's automobile dependency by 6000 and improves its environment, economy and social equity over the master plan build out.

Some Functional Requirements of the combined components

- Environment: Lower life cycle emissions than master plan system
- Economy: Lower life cycle costs than the master plan system
- Social equity: Equitable access to campus, greater personal safety for individuals compared to the master plan system

1. Education/Culture Shift

- **Raise awareness** of real environmental and fiscal costs of auto parking infrastructure
- **Improve rideshare** website tool
- **Shift** campus to cycling **culture**
- **Leverage** existing SLO cycling **advocacy groups**
- **Launch campaign** to shift culture toward alternative transport modes
- More Flexible **Van Pool System**
- **Car Share System**

Raise Awareness

See next page for
details

Disciplines:

- Accounting
- Finance
- Business
- Psychology
- Engineering
- Sociology
- Physics
- Biology
- Chemistry
- Kinesiology (health)

University:

- Administration and Finance
- Fiscal Services
- Human Resources Data
- Commuter Services

Raising awareness can come in the form of educating people of the real costs of driving to campus. This could involve computing the environmental costs (emissions) and the fiscal impact of building and maintaining parking structures. Another group might assess the cost of insurance for students and their parents to “store” a car on campus.

One could also determine the health benefits of alternative modes of transportation like cycling.

A team could work together to analyze these personal health impacts, fiscal impacts and environmental impacts to help educate people on the connection between driving habits against alternative forms.

Improve Rideshare See next page for details

Disciplines:

- Graphic Design
- Computer Science
- Psychology
- Sociology

University:

- Administration and Finance Office
- Fiscal Services
- HR Data
- Commuter Services

Here a system could be designed to better service the more distant communities of employees or students. This may come in the form a computer program that could easily match up those needing a van pool with timing and commuting needs.

There is also a need analyze the more distant commuting population, their commuting behavior, what features would encourage them to use a rideshare program. There is also a need to design educational materials to inform various commuting populations on what is available.

Is there a possibility of designing a web-based ride-share system like the ride board that would enable students who want to travel out of the county on the weekends to hook up with one another.

Shift Culture

See next page for
details

Disciplines:

- Psychology
- Sociology
- Graphic arts/design
- Marketing

University:

- Administration and Finance Office
- Fiscal Services
- HR Data
- Commuter Services

Cal Poly's driving culture is steeped in some California habits, but it is clear that other institutions have been able to shift to cycling cultures or other forms of transportation. How have these institutions done it?

In order to assess how Cal Poly can shift, we may need people from psychology and/or sociology to survey and figure out what keeps even those living within a mile of campus driving to campus.

Also, is there a marketing opportunity for the institution to embrace a "sustainable transportation" image? Can this give the university an edge in terms of recruiting certain students?

Leverage Advocacy Groups

See next page for
details

Disciplines:

- Political Science
- City and regional planning

University:

- Administration and Finance Office
- Fiscal Services
- HR Data
- Commuter Services

There are cycling advocacy groups in town (e.g., <http://www.slobc.org> , contact Kevin Christian , League of American Bicyclists, LCI #1377 , 610 Al-Hil Drive, San Luis Obispo, CA 93405 , (805) 783-0942) who have a long-term relationship with the city and have been working on make the area more cycling friendly.

This group can work on finding ways to advance the cycling culture in cooperation with the local advocacy groups.

Launch Campaign

See next page for
details

Disciplines:

- Journalism
- Kinesiology
- Electrical Engineering
(kiosks)
- Graphic Design/Art

University:

- Administration and
Finance Office
- Fiscal Services
- HR Data
- Commuter Services

This group could work on ways to campaign for alternative transportation. They may need to take some of the findings from other groups to inform their campaign.

Van Pool System

See next page for
details

Disciplines:

- Statistics
- Computer Science
- Graphic Design
- City & Regional Planning

University:

- Administration and Finance Office
- Fiscal Services
- HR Data
- Commuter Services

This group can work on the design of computer-based tools that would facilitate more convenient van pooling. They could also work on technological solutions to make parking more attractive for van-pools.

Car Share System

See next page for
details

Disciplines:

- Finance
- Statistics
- City & Regional Planning
- Engineering

University:

- Administration and Finance Office
- Fiscal Services
- HR Data
- Commuter Services

This group could evaluate the possibility of implementing a car share program, similar to ones that have been implemented in cities in Europe. They could evaluate the financial costs and advantages.

2. Urban Community

- Develop full suite of affordable **urban services** to eliminate the need to go off campus
- Include real **competitive businesses**, versus Foundation-run services

Urban Services

See next page for
details

Disciplines:

- Business (accounting, finance, marketing)
- Ethnic Studies
- Statistics

University:

- Administration and Finance Office
- Foundation
- Admissions

The idea here is to create a place for services on campus (e.g., hair cutting) for which students currently need to go off campus to get.

Competitive Business

See next page for
details

Disciplines:

- Business (accounting, finance, marketing)
- Ethnic Studies
- Statistics

University:

- Administration and Finance Office
- Foundation
- Admissions

This group could evaluate the markets that need to be served. The ethnic studies people could help inform the market for the students who Cal Poly does not currently attract in part because we lack services for diverse ethnic communities.

3. Transit Hub

- Central location with full access to **transportation services** (bus, on-campus shuttle, etc.)
- Ample **bicycle storage** for bus commuters
- **Bicycle share** facilities

Transportation Services

See next page for
details

Disciplines:

- Art/Graphic Design
- Civil Engineering
- Architecture/Design
- Landscape
Architecture

University:

- Transportation
Services
- Master Plan People
- Fiscal Services

This team can design the structure and ancillary structures for the services at the hub. This may include bicycle racks and landscaping around the structure.

Bicycle Storage

See next page for
details

Disciplines:

- Civil Engineering
- Architecture/Design
- Landscape
Architecture
- Business

University:

- Transportation
Services
- Master Plan People
- Fiscal Services

This group may design systems to deal with bicycle storage and a type of bicycle storage that can interface with a bike share program. They may need to design inexpensive storage facilities for the bike share program that can be placed at remote bus rapid transit stops.

What are the financial dimensions of the system...should students be charged for storage? How much?

Bicycle Share

See next page for
details

Disciplines:

- Finance
- Accounting
- Mechanical Engineering (design locking, storage systems)

University:

- Transportation Services
- Master Plan People
- Fiscal Services

4. Auto-free core

- **Redesign infrastructure** for only personal modes of transportation (bicycle, scooters, skateboards, etc.)
- **Run shuttle** and/or tram to peak of perimeter and transit hub
- **Re-evaluate regulations** in the core to make them more cycling friendly

Redesign Infrastructure

See next page for
details

Disciplines:

- Kinesiology
- Psychology
- Civil Engineering
(transportation)
- Art/Graphic design

University:

- Admissions
- Administration and
Finance

The pathways and streets would need to be relabeled to accommodate a large increase in foot traffic and other alternative modes of transportation (bicycle, skateboard, scooter).

Run Shuttle

See next page for
details

Disciplines:

- Civil Engineering
(transportation)
- City & Regional
Planning
- Finance

University:

- Admissions
- Administration and
Finance

What would it cost to operate a tram/shuttle on the outer perimeter for those who needed to carry items or had difficulty walking from parking areas?

Re-evaluate Regulations

See next page for
details

Disciplines:

- Psychology
- City & Regional Planning
- Electrical Engineering

University:

- Police Dept

Students view the campus as “cycling unfriendly.” This group could re-examine the current system and devise ways in which to make it both more cycling friendly and safe. Can EEs, for example, put up a speed sensor that helped cyclists see how fast they were traveling in certain zones?

5. Bus Rapid Transit System

- 4-stop **express line** to high-density population areas with short headway times, coordinated with City transit system
 - Implement queue-jumping and exclusive lanes for rapid transit in peak times
 - Utilize vehicles with 2 or more doors to reduce pick-up times
 - Free to all passengers
- **Create** a **paratransit**, computerized call-in system for off-peak hours
- Create paratransit system for **long-distance commuters**

Express Line

See next page for
details

Disciplines:

- City & Regional Planning
- Engineering (emissions)
- Finance/Economics
- Electrical Engineering
- Civil engineering

University:

- Commuter Services
- Master Plan
- University Scheduling (class times)
- Records Office (student address)
- HR (employee addresses)

This system would need to be coordinated with the city. The team could assess the environmental trade-offs of implementing a BRT system against the vehicular traffic that it would displace.

What are the capital investment costs?
What kind of changes can be made to existing roadways to accommodate an exclusive right-of-way. How would this affect local traffic patterns?

Create Paratransit

See next page for
details

Disciplines:

- Computer Science
- Statistics

University:

- Commuter Services
- Master Plan
- University Scheduling
(class times)
- Records Office
(student address)
- HR (employee
addresses)

This group could design a “call-in” system to help hook up people who need to commute during the post-bus hours.

Long-Distance Commuters

See next page for
details

Disciplines:

- Statistics
- City & Regional Planning

University:

- Commuter Services
- Master Plan
- University Scheduling (class times)
- Records Office (student address)
- HR (employee addresses)

This group would design a system based on the needs of the outlying communities to get to campus. What are the possibilities of interfacing a system with the existing transit system? What are the high density areas where a new system could have the biggest payoff?

6. Bike path along tracks

- Work with SLO Cycling advocates and City officials to **complete bicycle path** along the tracks
- Design and build **new bridges** over Monterey and Johnson Streets if needed

Complete Bicycle Path

See next page for
details

Disciplines:

- Financial
- Political Science
- City & Regional Planning
- Kinesiology

University:

- SLO City Council
- Master Planners

Completing the bicycle path along the railroad tracks would greatly facilitate bicycle travel. This group could evaluate the current financial and other impediments and perhaps design a path forward for completing the path to Cal Poly.

New Bridges

See next page for
details

Disciplines:

- Civil Engineering
- City & Regional Planning
- Architectural engineering
- Finance

University:

- SLO City Council
- Master Planners

One of the concerns of creating a bicycle path along the railroad tracks is that there is not enough room on the bridges that cross Monterey and Johnson avenues.

This group could design the bridges that are needed for those areas and determine what financial and land constraints need to be overcome to implement the bridges.

7. Parking policy

- Remove **parking privileges** for on-campus residents
- Institute **tiered-cost parking policy**, with distance-dependent costs
- **Cash-Out system** for Cal Poly staff parking (current subsidy ~\$100/month/staff parking)
- **Create** large financial and access **incentives** for carpools

Parking Privileges

See next page for
details

Disciplines:

- Psychology
- Statistics
- Economical
- Marketing

University:

- Commuter Services
- Fiscal Services
- Admissions

Many universities do not allow the freshman living on campus to bring their own cars. A “no-car” policy for freshman can be a selling point for Cal Poly’s sustainability culture, rather than an impediment to enrollment. How can the “no-car” for freshman/on-campus community, be marketed as an advantage to coming to Cal Poly.

Tiered-Cost Parking Policy

See next page for
details

Disciplines:

- Economics
- City & Regional Planning
- Statistics

University:

- Commuter Services
- Fiscal Services
- Admissions

Other institutions have a tiered parking structure to discourage those who live adjacent to campus from driving. This group would design a tiered parking system to shift the incentives to non-automobile forms of local commuting to campus.

Cash-Out System

See next page for
details

Disciplines:

- Economics
- Psychology

University:

- Commuter Services
- Fiscal Services
- Admissions

Is there a way to create financial incentives for employees and students to NOT park on campus. Other institutions/businesses have cash-out systems where they pay their employees to NOT drive. This group would design a viable cash-out system for Cal Poly.

Create Incentives

See next page for
details

Disciplines:

- Economics
- Psychology
- Sociology
- City & Regional Planning

University:

- Commuter Services
- Fiscal Services
- Admissions

This group would evaluate the types of incentives that would be needed to get more participation in carpools. What have others done and what can be done at Cal Poly?

Next Steps

- Receive feedback from Cal Poly's Master Plan group (done)
- Draft a listing of the potential team expertise needed for each of the 7 components (done)
- Publish the listing of components to the wider community for the purpose of populating the teams