

PLEASE NOTE:

This is an early draft of the transportation report. There are holes and incomplete sections galore. If you have access to specific data which is missing, please let me know.

Additionally, please reference the page of the report in your comments.

Communicating your critique in written form will best assist me in integrating your comments.

Thanks,

Richard Katz

PEAK OIL PREPAREDNESS TASK FORCE

TRANSPORTATION SECTION

PRELIMINARY DRAFT

Richard Katz

August 14, 2008

San Francisco, by nature of its compact size and considerable public transport infrastructure, offers significant transportation advantages for its citizens and commuters over less dense communities. Nonetheless, the sharp escalation in the costs of liquid fuels and other energy sources will have profound impacts upon transit and commerce.

Between 8/2007 to 8/2008, aggregate MUNI ridership went up by xx% *a. This good news is offset by system wide capacity vulnerabilities as MUNI is presently running at xx% system-wide.*a With increasing ridership and our present lack of expansion capacity, our advantages may well be dramatically reduced.

This transportation report is in three parts. Part one assesses our current transportation realities, what we now use. Part two analyzes our transportation energy vulnerabilities. Part three looks at what is possible and doable and contains recommendations. *a- There are no numbers for this from MUNI, waiting on a quote from MUNI about observed ridership increase.

Part 1: An assessment of the current realities

San Francisco census figures for 2006 show a resident population of 744,041*1, daytime population increases by 21.7% *aa. Transport modes in and out of the city include personal automobile, car/van pool and taxi. Municipal transport modes include BART and CalTrain as well as inter-regional bus networks like Golden Gate Transit, SamTrans, AC Transit. Public transportation moves xx% *aaa intercity daily with the rest being from personal motorized transport.

*1- 2006 American Community Survey <http://factfinder.census.gov>

*aa- <http://www.bayareacensus.ca.gov/transportation/DaytimePopCalifPlaces.xls> (2000 census)

*aaa- ibid

*2- http://www.mtc.ca.gov/maps_and_data/datamart/forecast/ao/aopaper.htm

Commuter Transport: Inter-Regional

	Total Users	Total Users %	Gasoline	Elect. MWh	Diesel (gal)	Vehicle Miles Traveled
BART (2005)				281,022 *3		
CALTRAIN (2005)					1,352,652 *3	
INTERCITY BUSES						
GOLDEN GATE TRANSIT						
SAMTRANS						
AC TRANSIT						
CARS/VANS (PERSONAL)						
2 WHEEL MOTORIZED						
COMMERCIAL TRUCK						
CARPOOL VANS						
TAXI/JITNEY						
FERRIES (2005)					8,635,124 *3	
TOTAL (2005)						3,241,820,804 VMT *3

Commuter Transport: InCity (San Francisco County)

	Total Users	Total Users %	Gasoline	Elect. MWh	Diesel	Vehicle Miles Traveled
SF ROAD VEHICLES (2005)						3,320,360,000 *3
CARS/VANS (PERSONAL)		40.5 *3a				
2 WHEEL MOTORIZED/TAXI		2.1 *3a				
PRIVATE EMPLOYEE SHUTTLES						
JITNEY						
DELIVERY TRUCK						
MUNI – BUS DIESEL/HYBRID						<i>Is this calculated in the number above??? Check w/ source</i>
CABLE CAR						4,357,000 revenue miles *4
BART (IN-CITY COMPONENT)						
TOTAL MUNI FLEET ELECTRICITY (2005)		30.3 *3a		95,047 *3		
MUNI-METRO						
MUNI – CABLE CAR						
MUNI – BUS ELECTRIC						
BICYCLE		2.3 *3a				
WALK		9.6 *3a				
CAR POOL		7.7 *3a				
TOTAL						
CALTRANS VEHICLE FUEL STUDY 2007 *5			159,309,000		14,482,000	

*3- SF Energy flow 6.13.08.xls

*3a- <http://www.sfmta.com/cms/rhome/documents/SFTransportationFactSheet2008.pdf>

*4 APTA 2008 fact book – section 3, p. 68

http://www.apta.com/research/stats/factbook/documents08/2008_fact_book_final_part_3.pdf

*5- CALTRANS 2007 Motor Vehicle stock, travel and fuel forecast

City Service Vehicles:

	<i>Total Vehicles</i>	<i>Total Vehicle Miles</i>	<i>Energy Source (electric, gas, liquids)</i>	<i>Total Energy %</i>
MTA BUS			<i>Electric, Diesel, Hybrid</i>	
MUNI LIGHT RAIL	773 max *6a	247,797,000 *6b	<i>Electric</i>	
POLICE	1400			
DPW *7				
FIRE				
PARKING & TRAFFIC				
PORT OF SF				
EMERGENCY SERVICES				
GSA				
HOUSING AUTH / REDEVELOPMENT AGENCY				
SF SCHOOL DISTRICT				
DEPT. OF PUBLIC HEALTH				
SOCIAL SERVICES *8				
PARKS AND RECREATION				
TREASURE ISLAND AUTH.				
MISCELLANEOUS OTHERS *9				

*6a: [http://www.apta.com/research/stats/factbook/documents08/2008 fact book final part 3.pdf](http://www.apta.com/research/stats/factbook/documents08/2008_fact_book_final_part_3.pdf) page 1

*6b: [http://www.apta.com/research/stats/factbook/documents08/2008 fact book final part 3.pdf](http://www.apta.com/research/stats/factbook/documents08/2008_fact_book_final_part_3.pdf) page 14

*7- DEPARTMENT OF PUBLIC WORKS: BUILDING INSPECTION, DEPARTMENT OF PLANNING, SEWER SERVICES, STREET CLEANING, STREET REPAIRS, PUBLIC UTILITIES (IS THIS UNDER DPW?)

*8- DEPARTMENT OF SOCIAL SERVICES: CHILD SUPPORT SERVICES, DEPARTMENT OF CHILDREN, YOUTH AND FAMILIES, ADULT AND AGING SERVICES

*9- MISCELLANEOUS OTHERS: AIRPORT SUPPORT VEHICLES, Treasurer/Tax Collector, City Attorney/District Attorney, Public Defender, Department of the Environment, Animal Control, Courts/Probation and Sheriff, Convention Facilities Management, Medical Examiner (or is this actually police), Department of Elections

Inter-Regional Delivery Vehicles:

	<i>Total Vehicles</i>	<i>Total Miles</i>	<i>Energy Source (electric, gas, liquids)</i>	<i>Total Energy</i>
HARD GOODS DELIVERY				
PACKAGE DELIVERY SERVICES				

In-City Delivery Vehicles:

	<i>Total Vehicles</i>	<i>Total Miles</i>	<i>Energy Source (electric, gas, liquids)</i>	<i>Total Energy</i>
HARD GOODS DELIVERY				
PACKAGE DELIVERY SERVICES				
NGO DELIVERY (MEALS ON WHEELS, CARING HANDS, ETC.)				

Vehicles By City Agency

MUNI

VEHICLE TYPE	COUNT	FUEL TYPE	TOTAL MILES	TOTAL ENERGY CONSUMPTION	TOTAL GAL, CU', kWh
Bus	495	Diesel			
Trolley Bus	333	Electric			
Light Rail	151	Electric			
Cable Cars	40	Electric			
Historic Street Cars	26	Electric			
Support Trucks	?				
Support Cars	?				
Support Vans	?				
Department Cars	?				
Paratransit Cumulative	135				
Paratransit Cutaways	?				
Paratransit High Tops	?				
Paratransit Minivans	?				
Paratransit Shuttles	6	Natural Gas			

Paratransit is contracted to Mobility Plus, (Waiting for Martha for data 46 diesel, 6 natural gas, 83 gasoline)

AIRPORT VEHICLES

VEHICLE TYPE	COUNT	FUEL TYPE	TOTAL MILES	TOTAL ENERGY CONSUMPTION	TOTAL GAL, CU', kWh

(Waiting for return call)

POLICE DEPARTMENT #1400 (approximate)

VEHICLE TYPE	COUNT	FUEL TYPE	TOTAL MILES	TOTAL ENERGY CONSUMPTION	TOTAL GAL, CU', KWh
Black & White	350	Gasoline			
Unmarked	600	Gasoline			
Motor Cycles (heavy)	100	Gasoline			
Cars	7	Hybrid Gasoline			
Cars	20	Natural Gas			
Motor Cycles (light duty dirt bikes)	40	Gasoline			
Watercraft	7	Diesel			
Busses	8	Diesel			
APC	1	Gasoline			
Vans	58	Gasoline			
Think	1	Electric			
Bicycle	230	Human			

(Source Police Fleets, Sgt. R. Lee, Energy tbd (Dave Del Grande) *waiting on his followup*)

DEPARTMENT OF PUBLIC WORKS #

- BUILDING INSPECTION
- DEPARTMENT OF PLANNING
- SEWER SERVICES INCLUDING CHACHE BASIN CLEANING
- STREET CLEANING
- STREET REPAIRS

FIRE DEPARTMENT #

VEHICLE TYPE	COUNT	FUEL TYPE	TOTAL MILES	TOTAL ENERGY CONSUMPTION	TOTAL GAL, CU', KWh

WAITING FOR RETURN CALL

DEPARTMENT OF PARKING AND TRAFFIC #

VEHICLE TYPE	COUNT	FUEL TYPE	TOTAL MILES	TOTAL ENERGY CONSUMPTION	TOTAL GAL, CU', KWh

Waiting on response

- *PORT OF SAN FRANCISCO #*
- *EMERGENCY MANAGEMENT/DIVISION OF EMERGENCY SERVICES #*
- *PUBLIC DEFENDER #*
- *COURTS/PROBATION #*
 - *SHERIFF*
- *TREASURER/TAX COLLECTOR #*
- *CITY ATTORNEY/DISTRICT ATTORNEY #*
- *GENERAL SERVICES AGENCY (GSA) #*
- *DEPARTMENT OF THE ENVIRONMENT #*
- *ANIMAL CONTROL #*
- *CONVENTION FACILITIES MANAGEMENT #*
- *MEDICAL EXAMINER #*
- *SOCIAL SERVICES?? #*
 - *CHILD SUPPORT SERVICES*
 - *DEPARTMENT OF CHILDREN, YOUTH AND FAMILIES*
 - *ADULT AND AGING SERVICES*
- *DEPARTMENT OF ELECTIONS*
- *DEPARTMENT OF PUBLIC HEALTH*
 - *SFGH*
 - *LAGUNA HONDA*
- *DEPARTMENT OF PARKS AND RECREATION #*
- *PUBLIC UTILITIES #*
- *HOUSING AUTHORITY #*
 - *REDEVELOPMENT AGENCY*
- *TREASURE ISLAND DEVELOPMENT AUTHORITY #*
- *DEPARTMENT OF EDUCATION #*
 - *SAN FRANCISCO SCHOOL DISTRICT*

Part 2: ANALYSIS OF VULNERABILITIES (not yet ranked)

SUPPLY CHAIN DISRUPTIONS AND EXCESSIVE SUPPLY CHAIN DEMAND

The salient lesson in peak oil is that the figurative spigot cannot be opened any further when global output is in decline. With high demand and declining availability, oil can become vulnerable to relatively minor disruptions, let alone profound ones. There are many possible instigators of such a disruption.

NATURAL DISASTERS

WEATHER: Storms- With the rise in the incidence of category 5 hurricanes this century, oil production facilities can be at risk. The oil production in and around The Gulf of Mexico accounts for approximately 30% of US gasoline production and in 2005, Hurricane Katrina affected 95% of that production.*10 Other weather related demands such as very cold weather can force consumption much higher than anticipated and may cause redirection of oil away from vehicle fuel production.

*10- http://www.usatoday.com/money/industries/energy/2005-08-30-katrina2-refinery-usat_x.htm Note: A few days after Hurricane Katrina, the government opened the strategic petroleum reserve and "loaned" oil companies the oil, which helped dissipate the impact (RICHARD, CONFIRM THIS!!). These reserves may or may not be available in the future, as political expediency may have impacted these reserves. The reserve holds approximately 60 days of oil at present consumption rates for the whole of the US.
http://en.wikipedia.org/wiki/Strategic_Petroleum_Reserve

EARTHQUAKES

The beauty of the San Francisco Bay Area is, in large part, due to seismic activity which has shaped the coast lines, mountains and hills. San Francisco has been struck in relatively regular fashion by earthquakes which have disabled transportation routes and effected supply lines. A major earthquake might make availability of fuel in this region problematic which could exacerbate the problems of availability of transport fuel emergency vehicles

POLITICAL: INTERNATIONAL

Heightened International Tensions- In 1973, Israel was attacked by Syria and Egypt in what is now called the Yom Kippur War. Oil producing nations in the region embargoed countries that had shown support for Israel. OPEC lowered production by 5 million barrels per day and in by the end of 1974, the price of a barrel of oil was up 400%. What happened in the U.S. is well known, gasoline and heating oil shortages and inflation ensued. To make matters worse, the driving public collectively changed its fueling habits and (rather than driving with tanks well below the half way mark) chose to keep tanks as close to full as possible. This transfer of demand for storage of liquid fuel from the suppliers reserves to our collective automobile tank, created a fuel deficit in which drivers waited in long lines at gasoline stations to keep their tanks topped off. In recent years, the relationship between the governments of Venezuela and the United States has deteriorated. Early in 2008, Venezuela chose to do business with Total France.

International Competition: As other countries produce more goods and their populations both grow and demand a higher standard of living, competition for the remaining resources rise. Venezuela this year also signed an agreement with China to purchase oil (even though Venezuela is on the Atlantic Coast and China is on the Pacific). Considering that the U.S. considers South America in its sphere of influence, the potential for heightened tensions is nontrivial.

Terrorism: A 2005 report by the Institute for the Analysis of Global Security said ... *terrorists no longer need to come to the U.S. in order to wreak havoc in our energy system. They can achieve the same degree of damage by going after energy targets in their home base where they enjoy support on the ground.* *11 Heightened political instability in some oil producing countries broaden the potential for sabotage. Oil pipelines and similar conduits are difficult to guard due to the great distances that they can span. Recent sabotage in Nigeria, Iraq are good examples of both the vulnerability and fragility of these systems.

War: An attack on a nation that produces or is near oil producers could be a problem. For example, Iran has stated that if they are attacked, they would sink a ship in the Strait of Hormuz. Since 20% of worldwide oil production flows through the strait, such a disruption would have very serious supply consequences. *1c

*1c- http://www.eia.doe.gov/cabs/World_Oil_Transit_Chokepoints/Hormuz.html

*<http://www.infoplease.com/ipa/A0908125.html>

*11- <http://www.iags.org/n0328051.htm>

PUBLIC TRANSIT FUNDING:

Perhaps one of the more significant issues that our city faces is the willingness on the part of the taxpayer and their representatives to make financially dear and politically demanding decisions. As the peak gains traction, it will be more difficult to redirect limited funds to public transit as the costs for ALL city services will be following an upward trajectory. In a recent conversation, David Fridley*12 commented that “one conundrum that SF hasn’t faced up to, as most cities, is the problem of trying to promote mass transit at a time when oil prices are going up, which in turn pushes up the costs of mass transit, which in turn pushes up the fees for mass transit, which in turn discourages people from using mass transit when it should be a first choice. ... it’s going to be hard to wean people from their cars when the costs of alternatives keep rising in pace. Ultimately, all forms of transportation are going to be a lot more expensive, public or private, but how do we manage the transition to change behaviors?”

*12- David Fridley, economist, physicist, co-instigator of the SF peak oil resolution

TRANSPORTATION LOADS

The combination of higher transportation fuel costs and environmental concerns are driving a growth in the use of public transportation. This has sparked a growing ridership with crowds lasting from early morning into the evening on many lines. One questionable approach to controlling overcrowding*13 is to raise fares, thus discouraging ridership. Additionally, ideas such as charging for bicycles onboard CalTrain are being seriously discussed. These are short sighted and highly counterproductive, and should be resisted. **RICHARD, MENTION NO-FEE PUBLIC TRANSPORTATION FOR THE CITY HERE AS SHOWN IN (WHERE IS THAT REPORT LINK ????)**

*13- This is highly counterproductive in terms of energy efficiencies and undermines efforts to move the populace to public transportation.

PUBLIC TRANSIT COST CONSTRAINTS

A San Francisco Civil Grand Jury *14, reported in June 2007 that “Any increase in MUNI fares would be a disincentive for people to use public transit as an alternative to the automobile, the later being more convenient but more polluting than transit.

**14- Can San Francisco Keep its promise to reduce greenhouse gas emissions (not online, need to place in URL) p 13*

- Roadway, Tunnel and Bedway maintenance deferral
- New equipment, maintenance and retrofit deferral

Intercity Vulnerabilities 1-9 (9 is highest vulnerability) based upon fuel source (must build rational criteria for this)
 (Vulnerability = authority to access supply, vehicle efficiency per passenger mile, potential for systemic disruption)
 Rationing scheme, let's do an overview of what we might want. NOTE THAT THE BELOW NUMBERS ARE PLACEHOLDERS
 AS I TRY TO FIGURE OUT SOME METRIC TO APPLY

	Gasoline	Diesel	Nat. Gas	Hybrid	Electric			
CARS	8	8	7	6	4			
CALTRAIN		6						
COMMUTER BUS		6	7	5	4			
GG TRANSIT								
AC TRANSIT								
SAMTRANS								
FERRIES		6						
2 WHEEL MOTORIZED	6				5			
BART					4			
TAXI	8	8	7	6	5			
COMMUTER VANS	5	7	7	5	5			
COMM. TRUCKS								
COMM. VANS								

In-City Vulnerabilities 1-9 (9 is highest vulnerability) based upon fuel source (must build criteria for this)
 (Vulnerability = authority to access supply, vehicle efficiency per passenger mile, potential for systemic disruption)

	Gasoline	Diesel	Nat. Gas	Hybrid	Electric	Bikes	Walking	Discretionary %
CARS								
LIGHT RAIL MUNI METRO								
BUS								
FERRIES								
2 WHEEL MOTORIZED								
BART (IN-CITY)								
PARATRANSIT								
TAXI								
JITNEYS								
COMM. TRUCKS								
COMM. VANS								
EMERGENCY VEHICLES								
CITY SERVICE VEHICLES								
GARBAGE COLLECTION								

NOTE: I need to come up with a list of components that define vulnerability beyond energy supply

- Parts
- New Equipment Availability and Cost
- Roadway Maintenance (Bernie?)

BART

- IN CITY NEEDS CONTENT HERE

DELIVERY SYSTEMS:

- Food Delivery Issues (overlap - Jason)
- Supply Delivery Issues

HOSPITAL VEHICLES

- UCSF
 - Parnassus Campus
 - Mt. Zion Campus
 - Mission Bay
- SF General (already have some leads)
- *Laguna Honda*
- *Kaiser Permanente*
 - *Geary Campus*
 - *French Campus*
- *Cal Pacific*
 - *California Campus*
 - *Davies Campus*
 - *Pacific Campus*
 - *East Campus*
- *Chinese Hospital*
- St. Francis Memorial
- St. Luke's
- St. Mary's

Part 3: RECOMMENDATIONS

(THIS SECTION PRESENTLY IDEAS ONLY AS RECOMMENDATIONS TBD BY DATA STILL OUTSTANDING)

Separate what we can prepare for from what's beyond our control and scope

- **A PRIORITIES LIST**

- Bicycle
- Funding Public Transport
 - MUNI
 - Bus Rapid Transit - Expand
 - Regenerative braking retrofits on MUNI light rail
 - Bus Electrification on additional lines
 -
- Time Shift rush hours by cooperating with key large employers in SF
 - SF City should be doing this NOW
- *Reconfigure key corridors to separate foot, bike and auto*
 - *Bike Safe Transit*
- Demonstration Projects

- **BIKING**

- Bicycle Plan, get it unstuck!
- Bike (bus/trolley) Corridors
 - Market St.
 - Other ideas here
- Bike Boulevards
- Bike Safe Transit?? Separate and PROTECTED paths for bikes. This is the way it works in Holland, etc. Much safer and this will bring in people concerned with safety (i.e. older folk).
- Bikes on bay bridge- Or at least a bike shuttle to get cyclists across the bridge
- Paris-like Velib rental/bike sharing system
- Parking and Protection
 - Registering Bikes
 - Licensing Bicyclists
 - Ticket auto and bike transgressors
 - Bike Theft unit at Police funded by bike registration costs
 - Expanded Bike Storage Facilities at Transbay and major city BART locations
 - Bike Racks Citywide

- **WALKING**

- There's a direct correlation between distance, topography and the willingness of individuals to walk (need stat here). MUCH MORE HERE, HOW TO PROMOTE WALKING... **NEED IDEAS FOR THIS PART!**

- **ROADWAY MAINTENANCE**

-

- **FUNDING**
 - *How does (and can) The City generate sufficient revenue for expanded transportation demand?*
 - *City infrastructure tax?*
 - *Bond measures*
 - *Redirect present taxes*
 - *Alternative to more funds: Since capacity constraints on motorized public transport is costly to surmount, it's important to assist the public in using bicycles and walking. This is a cost effective way to offset additional investment in bus/trolley infrastructure.*

- **MUNI**
 - **MUNI SYSTEM-WIDE**
 - **MUNI Pass Individual Subsidies - Sliding scale based upon income?**
 - **Address Transit Effectiveness Plan**
http://www.spur.org/documents/020608_article_01.shtm
 - *Raise public funding for MUNI by a considerable amount with specific objectives*
 - *Hire more drivers*
 - *Change driver rules (rk)*
 - *Chicken or Egg issue (rk)*
 - *Which came first, low passenger ridership or low service levels leading to low passenger ridership?*
 - *Maintain what's left of SF right-of ways, ban development on what's left (rk)*
 - *Expand MUNI yards, DO NOT allow these properties to be sold off! Add additional yards*
 - **BUS**
 - **BRT (bus rapid transit), expand**
 - **Bus priority- get cars out of the way to speed up service**
 - **Ticket, ticket, ticket transgressors**
 - **No Parking Corridors (to assist busses) (or expanded no parking hours)**
 - **Take out or modify parking to assist busses and traffic flow on certain medium density streets (example here)**
 - **Bus impediment fines (assign traffic policing authority to support ticketing vehicles), use fines to support the ticketing function)**

- **AUTO RELATED**
 - **Street Control**
 - **Speed bumps to slow everyone down**
 - **Traffic Calming**
 - **Slower legal speeds**
 - **Ticket more vehicles when they transgress**
 - **Use parking (meters & facilities) as a pay-per event**
 - **Addl. funds must go towards public transit improvement**
 - **City residents (those with SF address on Drivers License) get some offset based upon income, out-of-towners get no offset (is this a good idea??)**
 - **Exceptions: Some fair way to get into downtown for handicapped**

- Tax on vehicles based upon
 - Weight
 - Fuel type
 - Registration fees (older cars get cheaper to register, so this may not be so good, at least not on its own)
 - Have lower rates (or exclude from tax) for certain classes of vehicles
 - Über Small Gas Cars (Smart Cars)
 - Motorcycles and Motor Scooters (possible exclusion from tax)
 - Über Small Electric Cars
- *Are SUVs the jitneys of the future???*
 - *Perhaps it's time to consider rules changes to allow drivers to pick up paying passengers. This could be enforced by a 2-way electronic wireless ID system which would confirm to both the driver and the rider legitimacy.*
- **TWO WHEEL MOTORIZED**
 - Expand parking opportunities for Motorcycles and Motor scooters by providing more specialized parking
- COMMERCIAL VEHICLES**
 - Non peak hours for delivery
 - Ticket for blocking traffic, (Townsend between 5th and 3rd) as example of impact at Safeway where delivery trucks take up a turn lane, block busses, etc.
 - Post Office Delivery issues
 - Food/Shopper Delivery
 - Jeanne mentioned a supermarket with a jitney to take shoppers back home
 - An energy efficient delivery/pickup system for UPS, Fedex, DHL etc.
 - Perhaps local "caches"
 - More on-foot with cart, less vehicle centric
- **CITY VEHICLE REPLACEMENT**
 - Cars, Trucks and Vans
 - Plan on purchase of smaller and more efficient vehicles, perhaps plug-in hybrid type for employee-use vehicles
 - Emergency vehicles should be able to run on diesel?
 - Streetcars, Trolleys and Busses
 - Vehicle weight should be considered in assessment of vehicle purchases as accelerating mass is a primary underlying component in energy use.
- **PARKING**
 - Implement congestion pricing
 - In-building bike parking
 - Do not deter 2 wheeled motorized transport by excessive parking charges relative to automobiles (example: Sutter public parking lot, up to 2 hours for automobile = \$2, parking by motorcycle/scooter a flat \$5 fee).
 - Expand Motorcycle/Scooter (significantly) motorized 2-wheel garage parking
 - 2 Wheel motorized street parking: exclude from downtown use fees
 - Reduction 4-wheel parking spots downtown (perhaps just less full size parking spots)
 - Mobility Issues would keep same or more handicapped spots as the population ages (alternatively there would be a need for additional paratransit)
 - Dedicated small vehicle parking (SVP Zone)
 - Resize x% of parking spots and designate as "special vehicle" parking like the Smart and other

- Über small vehicles

- **BRIDGES**
 - Light rail on Bay Bridge and Golden Gate. Assess simplest way to retrofit lanes to allow additional mass transit to/from the city. Perhaps large “confluence lots” which would be fed by busses, jitneys, commuter cars, etc. This could serve downtown SF (and lower the number of cars, allow for more alternative transport forms in downtown) if, for example, the light rail were to continue on MUNI track.

- **TELECOMMUTING**
 - As the cost of transit rises, it will become even more important for employees who do not need to be onsite daily to be able to work from home or at neighborhood office centers. Community centers should be built and/or expanded and could be used for this purpose during the workday.
 - Internet access: It is far past the time for San Francisco to have free or low cost wi-fi throughout the city. This would promote the opportunities for telecommuting.

- **DEMONSTRATION PROJECTS**
 - Trial retrofit program for MUNI regenerative braking
 - Trial PROTECTED bike lane for one corridor or run (perhaps where there were multiple bike/auto accidents)
 - Trial neighborhood Office Center to test as an alternative to telecommuting
 - Trial program with Vectrix (or other) Electric Motor scooters (these are very sexy and fast so there’s a cool motivating factor here which might get some out of their automobiles), vehicles would be leased with insurance etc.
 - More here TBD

SUMMATION

(THIS SECTION IS A PRELIMINARY DRAFT AND SUBJECT TO MAJOR CHANGES AS THE DATA COALESCE)

Although San Francisco has significant transportation advantages, the sharp escalation in the costs of liquid fuels and other energy sources will have profound impacts city transit and commercial delivery. Responding to these impacts will involve changes in transport use. To be successful, we must make alternatives to individual motorized vehicles an attractive and easily accessible option. In the public transport realm, reliability, regularity and capacity must all be addressed to the greatest degree possible. Changes in how we send and receive materials (including food) will require

Public transit capacity, reliability and regularity are essential if we hope to mitigate some of the more major impacts of peak energy. The limitations on capacity of our public transit system are being expressed in an ever growing ridership and more vehicles running close or at capacity. Load mitigation to the scale necessary can only be addressed with a very substantial investment in expanding our transit infrastructure. It is paramount that The City does not wait until the full effects of peak energy are entirely obvious as the economic impacts of peak will force the costs of materials, equipment, parts, maintenance and other energy inputs sharply higher.

If there is good news in this transportation section, it's that bicycle ridership citywide for the period 8/2006-8/2007 is up by 15% *z and a Market Street 2008 *Bike to Work Day* count *zz shows a 30% increase in bicycle ridership over the previous year! This growth can have a very positive impact on the need for other public transportation modes. In particular, the European study by Orfeuill and Salomon *xxx show a willingness of many motorized public transit users to switch between motorized and non-motorized modes. If this holds true for San Franciscans, expanding support and infrastructure for bicycling and walking lowers the **rate** of expansion necessary for motorized public transport.

Something positive here, possibly about walkable San Francisco, but our community must agree to act now.

*xx- <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1447996>

*xxx- The journey to work: a century of change ??? Confirm this

*z- MTA City Count 2007 (2008 data will be available late September)

*zz- MTA City Count