

Thursday, July 19, 2007

Regular Meeting

Members:

Jane Seleznow	District 1	Mike Petouhoff	At Large
Louise Bedsworth	District 2	Parin Shah (Chair)	Mayor
Ian Kim (Vice Chair)	District 3	<i>Vacant</i>	Mayor
James Lutz	District 4	Richard Heinberg	Mayor
Shannon Graham	District 5	Patrick Tang, Esq.	Deputy City Attorney
David Room	District 6	Alice Glasner	Public Works Legislative Analyst
Richard Register	District 7		

**BUSINESS MEETING: 6:00 pm to 9:00 pm**

Hearing Room 1, City Hall, One Frank H. Ogawa Plaza

AGENDA \*

1. Roll Call and Establishment of Quorum.
2. Open Forum.
3. Approval of Draft Minutes of June 21, 2007 meeting. (A)
4. Power Point and Video Presentation: *Solving Transportation, Land-Use, and Energy Issues Using Personal Rapid Transit (PRT)*. (I/A)
5. DVD Presentation Regarding Transportation Coordinated with Land Use, Specifically, Bus Rapid Transit — Case Study: Curitiba Brazil. (I/A)
6. Working Group Status Reports:
  - a. Transportation Working Group (I/A)
  - b. Land Use and Infrastructure Working Group (I/A)
  - c. Food and Materials Working Group (I/A)
  - d. Port of Oakland Working Group (I/A)
7. Discussion of the Process and Metrics to be Utilized by the OIO Task Force to Prioritize Recommendations to Council. (A)
8. Future Agenda Items. (A)
9. Announcements. (I)
10. Adjournment.

\*The order of the items on the Agenda may be changed by the Chair.

I = Informational Item

A = Action Item



Persons may speak on any item appearing on the agenda; however, a Speaker Card must be filled out and given to the OIO Task Force administrative representative *before that item is called*. Multiple agenda items cannot be listed on one speaker card. If a speaker signs up to speak on multiple items listed on the agenda, the Chairperson may rule that the speaker be given an appropriate allocation of time to address all issues at one time (cumulative) before the items are called. All speakers will be allotted 3 minutes or less – unless the Chairperson allots additional time.

This meeting is wheelchair accessible. In compliance with the Americans with Disabilities Act, if you need special assistance to participate in the meetings of the Oil Independent Oakland By 2020 Task Force, please contact the Office of the City Administrator at (510) 238-3301. Notification two full business days prior to the meeting will enable the City of Oakland to make reasonable arrangements to ensure accessibility. In compliance with Oakland's policy for people with chemical sensitivities, please refrain from wearing strongly scented products to events.

If you have questions or concerns regarding this agenda, or to review any agenda-related materials, please contact the Oil Independent Oakland (OIO) By 2020 Task Force at (510) 238-7031.



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<http://www.oaklandnet.com/Oil/default.html>

Thursday, June 21, 2007, 6:00 pm to 9:00 pm  
Hearing Room 1, City Hall, One Frank H. Ogawa Plaza

**Draft Minutes**

Members:

Jane Seleznow	District 1	Richard Register	District 7
Louise Bedsworth	District 2	Mike Petouhoff	At Large
Ian Kim, Vice Chair	District 3	Parin Shah, Chair	Mayor
James Lutz	District 4	Richard Heinberg	Mayor
Shannon Graham	District 5	Thomas Radulavich	Mayor
David Room	District 6	Patrick Tang, Esq.	Deputy City Attorney

Task Force Members Present: Seleznow, Kim, Lutz, Graham, Room, Register, Petouhoff, Shah, Heinberg, Bedsworth

Task Force Members Absent: Radulavich

Staff Members Present: Patrick Tang, City Attorney’s Office; Alice Glasner, Public Works Committee Legislative Analyst

Business Meeting

1. Roll Call and Establishment of Quorum.
  - a. Meeting was called to order at 6:10 pm. Roll was called and a quorum was established.
2. Open Forum.
  - a. There were no speakers for Open Forum.
3. Approval of Draft Minutes of May 17, 2007 meeting.
  - a. The Draft Minutes of the May 17, 2007 meeting were unanimously approved as amended. The amendments were to Section 5.b.ix., to read, “TFM Heinberg stated that the amount of petroleum used in materials is about 12%,” and section 6.d., to add sub-section v. as follows: “Somehow “Waste Stream” would be incorporated into the work.” and sub-section vi. as follows: “All working groups would be cross-referenced with the “4 E’s” (Equity, Engagement (Public Outreach), Economy, and Environmental.”
4. Election of Chair and Vice-Chair.
  - a. A motion to elect Parin Shah as Chair and Ian Kim as Vice-Chair of the Task Force was made by Task Force Member (“TFM”) Seleznow and seconded by TFM Register. Motion passed by unanimous vote.
5. Presentation by Prof. Peter V. Schwartz, Cal Poly Physics Dept., *Navigating The Way Out of Fossil Fuel Dependence*.
  - a. Dr. Schwartz presented information on fuel efficiencies.
    - i. He compared a battery-powered (electric) engine to an internal combustion engine for two sports cars --- showing an engine efficiency at 77.4% to 12.7%, at a cost of 1.6 cents/ km to 8.4 cents/ km, respectively.
    - ii. He also compared efficiencies and costs of other fuel sources, such as ethanol, coal, natural gas, and nuclear.
    - iii. Renewable energy, such as solar and wind, specifically, look better than fossil fuels in terms of efficiencies and costs over time.

- iv. In Santa Barbara County, wind and/ or solar have the potential to supply more than the electricity demand.
  - v. If you add in storage, Santa Barbara could supply neighboring counties with excess supply.
  - vi. In terms of cost, the best way to save money on energy is to increase conservation. Fossil fuel pricing does not include externalities related to air quality, and other health and safety concerns. As fossil fuel prices go up, renewable technology will get cheaper.
  - vii. Enhancements to renewable supply, such as providing storage, diversifying sources, and transparent pricing according to the cost of production (and time of use) could bring costs down.
  - viii. Dr Schwartz's overall recommendations include: creating Community Choice Aggregation, a renewable supply; making the grid more accessible; allowing energy producers, even individuals, to sell back their excess production. Then, on the demand side, increasing transportation efficiency, enforcing conservation standards (e.g., Title 24 as a requirement for home sales), and lifestyle changes.
  - ix. Task Force Members commented that:
    - 1. Solar energy could be cheaper than what has been projected, and more desirable if people could sell power back to grid (Petouhoff).
    - 2. Cities should focus on urban design and energy efficiencies, not on perpetuation private transportation with alternative fuels (Register).
    - 3. The City of Vacaville has the largest electric fleet in the nation; in fact, they lease vehicles from Toyota and then lease them out to private citizens (Shah).
    - 4. Perhaps Oakland could assist a startup company that would transform hybrids to electric vehicles (Lutz).
  - x. There were four speakers on this item:
    - 1. Stephen LeBlanc
    - 2. Mark Gagliardi
    - 3. Zack Norwood
    - 4. Kirsten Miller.
6. Staff Report Regarding Quantity of Regular Asphalt and Rubberized Asphalt Installed by the City of Oakland in Roads and Public Rights-of-Way.
- i. Ron Ward, Supervising Civil Engineer, Department of Infrastructure and Operations, Public Works Agency ("PWA"), presented a chart illustrating oil-based materials usage in Oakland.
  - ii. An asphalt-concrete mix is used throughout the year by crews to repair potholes, speed bumps, and street base. There are also patches to streets after sewer or water main work.
  - iii. Asphalt-concrete is a tar-based aggregate sand mixture. The tar is the binder. It's also known as blacktop. It renews the life of pavement.
  - iv. Rubberized asphalt was used for three years with mixed results. They are now monitoring results and will continue to use it on an experimental basis. It is made with ground tires, which replaces the binder in the mixture, but application has been inconsistent and still needs study.
  - v. This was an Informational Report only, accepted and filed.
7. Presentation by Ian Kim Regarding Green Jobs and Eco-Equity.
- a. TFM Ian Kim made a presentation developed by the Ella Baker Center, where he is Policy Director.
    - i. We are entering the "Third Wave" of Environmentalism, which seeks to provide economic and social justices for these communities.

1. The First Wave was what we call conservation.
  2. The Second Wave was Regulation, which started in the 1960's when people began paying attention to the environmental impacts of industrialization.
  3. The conservation and regulation movements lacked a real meaningful analysis of race and class.
  4. The Third Wave is an Investment Phase – investment in “the new” (new technology, new ways of thinking of who we are and what we do, etc.).
  5. The question the Ella Baker Center asks is, “In this new Investment Phase, what does that look like for people of color and low-income communities?”
- ii. This new sector is the Lifestyles of Health and Sustainability (LOHAS) – where the “crunchy” or “granola” lifestyle is going mainstream. This includes sustainable economy ideas, ecological lifestyle, personal development, alternative healthcare, and “Green-vertising”. Many of the biggest polluters (e.g., auto manufacturers) now use Green-vertising to show they are environmentally conscious. This is a multi-billion dollar set of industries.
  - iii. Though this new economic sector of environmental consciousness and health, and related consumption patterns, is becoming more mainstream, it is the most economically stratified and racially segregated part of the U.S. economy.
  - iv. The “Clean Tech” Industry has gone from “Niche Market to Mainstream.”
    1. In 2005, “Clean Tech” (which includes renewable energy, alternative fuels, energy efficient building technology) was the fifth largest venture capital investment category in the U.S. and Canada, with \$1.6 Billion dollars in venture capital investment. The top four categories were: (1) biotech, (2) software, (3) medical devices, and (4) telecommunications.
    2. In 2006, Clean Tech jumped to # 3, at \$2.9B (behind only software (1) and biotech (2)). Investors are taking notice.
  - v. We are facing three possible futures:
    1. Eco-apocalypse
    2. Eco-apartheid
    3. Or, we want something more visionary, more inclusive: **Eco-equity**.
  - vi. Environmental problems and solutions can be made relevant to more people in society if there is discussion about real lives, health and living conditions, and a discussion around jobs. We need to find ways to break out of the “subculture” that environmentalism tends to get stuck in.
  - vii. Oakland is consistently ranked as a Top 10 Green City, due to its bold, visionary environmental leadership. Oakland is also addressing issues of poverty, public schools, crime, diversity, etc. Thus, Oakland is attempting to transform itself both environmentally and economically in a Green direction. This has a different meaning for the rest of the country.
  - viii. In Oakland there are opportunities for green-based jobs, for people not typically part of the traditional economy. Examples of Green Collar Jobs include meaningful, dignified manual labor that pays well and that is accessible to those who may have barriers to employment, such as lack of a college degree. Such jobs include manufacturing and installation of solar panels; manufacturing, assembly, and servicing of fuel efficient vehicles; construction jobs in green architecture; design and manual labor in habitat restoration or environmental remediation. There is plenty of work that cannot be outsourced or shipped overseas – we need people to physically set up fuel and distribution systems here in Oakland. Using this approach to solve some of the sustainability issues will resolve some of our social needs, as well.

- ix. How can we be sure that, as this Green Economy grows, that those who have been locked out of the poverty-, pollution-, poison-based economy can be locked in to the new, clean, Green Economy?
  - x. We need to look at the Triple Bottom Line:
    - 1. financial bottom line
    - 2. environmental bottom line
    - 3. social bottom line
  - b. Task Force responses:
    - i. Members responded positively to the presentation. They added ideas such as the urgency of the environmental, social, and economic issues presented; the importance of including health issues in Task Force discussions, that there are quality jobs in reshaping cities; and that planning for lower energy use can lead to greater equity.
  - c. There was one speaker on this item: Kirsten Miller.
- 8. Discussion of the Process and Metrics to be Utilized by the OIO Task Force to Prioritize Recommendations to Council.**
- a. This item was held over to the July meeting.
- 9. Working Group Status Reports and Recommendations:**
- a. Transportation Working Group.
    - i. Letter has been drafted seeking outside input, directed at groups, individuals, agencies, researchers, related list-serves, and others.
    - ii. Work timeline includes letter, determining baseline indicators, looking at potential metrics, and studies done elsewhere (June and July). After July, focus on analysis, create preliminary list of actions. Present methodology for evaluating most promising actions.
    - iii. Scope: (1) Reduce private auto transportation; (2) Increase efficiency of transportation fleet; (3) increase use of alternative fuels-deemed appropriate by full cycle analysis. Include private and municipal vehicles, as well as light and heavy vehicles in analysis. Be mindful of public health issues and other unintended consequences. Boundary of data to use has not been determined.
    - iv. Other Task Force Members mentioned that parameters of data could be determined by purpose of trips, or by asking ICLEI how theirs were determined.
  - b. Land Use and Infrastructure Working Group.
    - i. Working with the Planning Department and the Planning Commission will be an essential part of this group's activities.
    - ii. They will look at how the Land Use and Transportation Element (LUTE) might be amended in areas such as design standards for high density development and proposing nodes for higher and mixed-use development.
    - iii. They will evaluate whether zoning should be amended to facilitate more mixed-use and higher density, more walking and less private vehicle use.
    - iv. Work effort will include a mapping.
    - v. For infrastructure: the group will look at what the City could provide to facilitate greater use of bicycles and walking.
    - vi. This group will look at the use of development impact fees,
    - vii. and opportunities for advocacy when the City doesn't play a direct role in decision-making.
    - viii. There may be a benefit to using the city's Transfer of Development Rights to change development or land uses in the city.

- ix. The working group processes will include working with the Planning Commission, doing outreach, perhaps participating in some kind of public forum, and perhaps showing a DVD about Curitiba on KTOP.
- x. Key messages: (1) public should be informed about the history of our dependency on cars; (2) density is environmentally friendly; (3) changes in society should facilitate changes in zoning; (4) the public currently subsidizes urban sprawl (e.g., highway infrastructure).
- xi. As an example, the former Mayor's proposal to add 100,000 units to Downtown should be distributed throughout the city and should be part bringing diverse development to neighborhoods.
- xii. There was a discussion about all groups using the outreach letter produced by the transportation working group, but the final decision was that each group would produce its own letter as needed.

**c. Food and Materials Working Group.**

- i. Because the members of the group are the same as the Transportation Working Group, those involved thought it best to invest most of the time on the transportation effort.
- ii. There will, however, be some language presented at the next meeting for the final report asserting the importance of food in the fuel reduction effort, and the importance of follow-up work on this topic.
- iii. There are many groups already working on the food component, and the plastic bag ban will do a lot toward the "materials" component.

**d. Port of Oakland Working Group.**

- i. The Working Group has discussed the state of ports, fossil fuel consumption, and the different fuels used.
- ii. Questions raised include: What is the amount of fuel purchased by the Port? What is the amount of fuel burned by vehicles such as ships, trucks, and airplanes? The Port Group will find out what data is available.
- iii. Known resources include the Port Commission and Port/City Liaison committee.
- iv. There is information accessible online.
- v. There are also people in the community who are great resources and have experience with the Port, including environmental justice activists. There will be outreach to these individuals.
- vi. Other task force members offered these suggestions:
  - 1. Check on "best practices" at other ports.
  - 2. Add trains into the mix.
  - 3. Consider a scenario where the cost of fuel doubles or triples.

**e.** There was one speaker on this item: Sanjiv Handa.

**10. Report and Recommendation Regarding Proposed Plastic Bag Ban Ordinance.**

- a.** Richard Register made a motion, seconded by David Room, that the Task Force would state its support for the plastic bag ban at the Public Works Committee hearing on June 26, and that Ian Kim would convey this support during public comment on the item. Motion passed by unanimous vote.
- b.** There was one speaker on this item: Sanjiv Handa.

**11. Informational Report Regarding Resolution No. 80605, C.M.S., Extending the Term of the OIO Task Force to December 31, 2007.**

- a.** This was an Informational Report only, accepted and filed.
- b.** There was one speaker on this item: Sanjiv Handa.

**12. Future Agenda Items.**

- a.** Discussion of the Process and Metrics to be Utilized by the OIO Task Force to Prioritize Recommendations to Council (continued from tonight's agenda to the next meeting, July 19, 2007).
- b.** Status Reports from each Working Group.
- c.** Presentation by Richard Register, Eco-City Design and Layout and its Implications for Energy Conservation.”, at the **August** meeting.

**13. Announcements.**

- a.** Jim Lutz announced a seminar to take place tomorrow, Friday, June 22, 2007, at 1:30 pm, at Lawrence Berkeley National Laboratory: *Transport and CO2 Emissions in Developing Countries: Doing it right the first time.* Interested individuals should contact Barbara Adams at (510) 486-5958 to make arrangements for attending.

**14. Adjournment at 9:35 pm.**

# Power Point and Video Presentation: *Solving Transportation, Land-Use, and Energy Issues Using Personal Rapid Transit (PRT).*

Robert Baertsch and Ron Swenson will present a review of the current state of Personal Rapid Transit (PRT) which came about as a result of their work with the Santa Cruz City Council and the GTS (General Transportation System) project. The presentation will begin with a 2-minute video produced by the Institute for Sustainable Transportation in Sweden that demonstrates all of the basic principles of PRT. The characteristics include: 100% net solar powered transport without reliance on batteries; significantly reduced energy consumption compared with electric or gas powered cars; safer operation than autonomous vehicles; driverless operation freeing up time during travel; lower cost per mile of operation (including infrastructure). Although there are significant technical advantages, the barriers to introduction will also be discussed, as well as a possible roadmap that is being planned at UC Santa Cruz and other Bay Area research organizations based on massive simulations. Besides the technical issues, Mr. Baertsch and Mr. Swenson will also show that PRT can facilitate transit-oriented development by giving a powerful incentive for people to get out of their cars. This will allow parking lots and smaller streets to be reclaimed for other users and increase the tax base for the city. Next, the presentation will estimate the total cost of the system to cover the city of Oakland and will demonstrate that it will be much lower than the cost of owning a car. At the end of the presentation, a 3D view of a section of downtown Oakland will be displayed using Google Earth with a hypothetical PRT map so participants can see the distance that potential users would have to walk to the closest station. We recommend that the Oakland City Council join the GTS project so that they could be eligible for GTS funding.

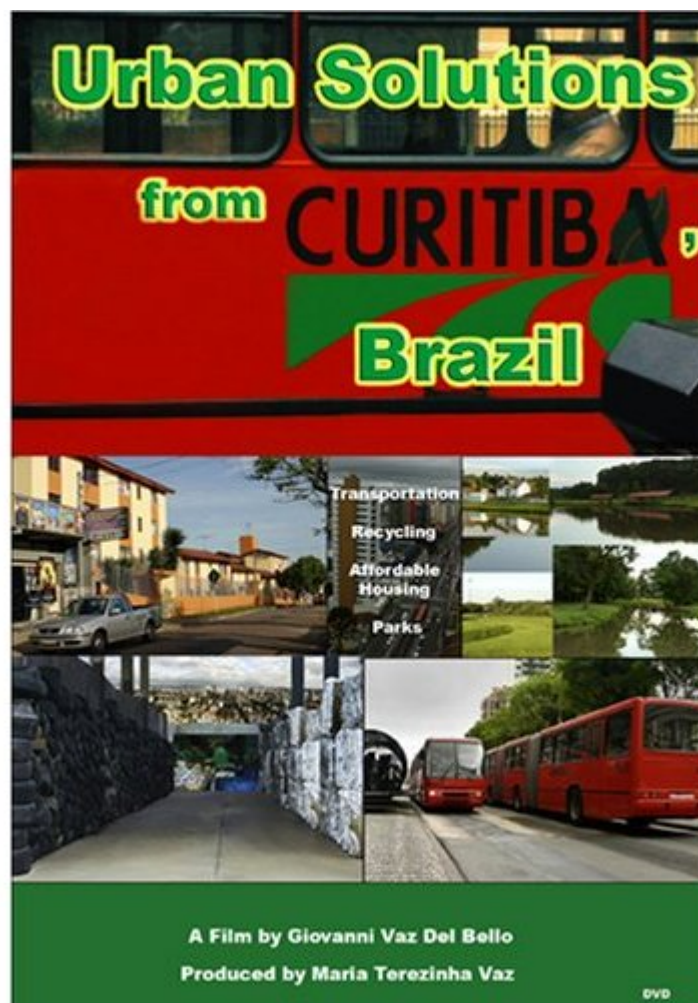
Further information is available at <http://www.solarevolution.com/prt>.

Robert Baertsch spent ten years working for the U.N. on a program management system to improve local capacity building and services to children in over 140 countries. His background in computer science and engineering and desire for public service led him to a Ph.D. program in bioinformatics at UC Santa Cruz, where he is currently working on the human genome project. He has a BS in Electrical Engineering from SUNY Stony Brook.

Ron Swenson is on the board of APSO-USA and is a co-founder of the GTS project.

DVD Presentation Regarding  
*Transportation Coordinated with Land Use,  
Specifically, Bus Rapid Transit –  
Case Study: Curitiba Brazil.*

No written materials for this item;  
15-minute DVD excerpt only.



## Working Group Progress Reports

Working Group	Members
Transportation	David Room Louise Bedsworth Richard Heinberg Shannon Graham
Land Use and Infrastructure	Richard Register Mike Petouhoff Tom Radulavich Jane Seleznow
Food and Materials	David Room Richard Heinberg Shannon Graham Louise Bedsworth
Port of Oakland	Jim Lutz Ian Kim Parin Shah

See attached Progress Reports from:

- a. Transportation Working Group
- b. Land Use and Infrastructure Working Group
- c. Food and Materials Working Group
- d. Port of Oakland Working Group

## **Oil Independent Oakland (OIO) By 2020 Task Force**

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**Transportation Working Group.  
No written materials were submitted.**

# Oil Independent Oakland (OIO) By 2020 Task Force

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## Land Use and Infrastructure (“LUI”) Working Group July 2007 Progress Report (See also attached Power Point Presentation)

### 1) Community Outreach Update

- a) **Completed.** Sent Outreach packages with Initial Scope and Key communication Message ideas to specific groups such as
  - i) Land Use and Transportation Coalition
  - ii) Sierra Club’s Smart Growth Group
- b) “Piggy Backed” on Transportation Working Group’s outreach letter
- c) **We propose *additional* coordination outreach activities**
  - i) **Pick one or more “vitality nodes” for specific outreach and in-depth work** engaging local community to further develop concepts. **E.g., Fruitvale area.**
    - (1) Local Groups such as the Unity Council or local “Project Area Committee.”
    - (2) Impacted Councilmembers.
  - ii) **We proposed a “Charette” type working session co-sponsored by the**
    - (1) Land Use and Infrastructure Working Group and the
    - (2) Transportation working GroupAnd to be conducted along with
    - (3) Oakland City Planning Staff
    - (4) BART
    - (5) AC Transit
  - iii) **Engage American Institute of Architects (AIA) or similar groups on design Standards**
- d) **Continue with Previous Outreach proposals**
  - Agendized presentation to the Planning Commission at the scoping stage and the later detailed stage, and continued planning staff coordination
  - DVD on success story in Curitiba available for KTOP.
  - Public information discussion or seminar as stand alone or in combination with other OIO working groups.

### 2) Further Developed Scope

- a) Mapping of Existing Vitality Centers with a view towards creating an **Amendment to the 1998 Land Use and Transportation Element (LUTE) of the Oakland General Plan.**
  - i) Support ABAG goal of 14,000 new units in next 14 years.
  - ii) Give specificity to General Plan, which has capacity for 160,000 new units in Oakland if fully implemented.
- b) **Evaluation/Formulation of Zoning Types that may be appropriate for different sites.**
  - i) Can feed into the overall process in Oakland of reconciling zoning and General Plan.
  - ii) Transit Oriented Development (TOD) at Transit Nodes or along Transit Corridors a la Curitiba, Brazil.
  - iii) **Urban Villages** zoning to create **access by proximity, with a hybrid-type of mixed use** that puts job centers near residential and retail to join all three legs of use diversity: live, shop, *and work*.
    - (1) Take advantage of economic trends towards increased numbers of smaller, cleaner, and more service-oriented businesses, in certain locations.

- (2) Define environmental performance standards in a CEQA context, for types of jobs inducing clean commercial/industrial uses that would be appropriate.
- (3) Identify examples of cities where this is working well and locate copies of those city's ordinances. E.g., industrial mixed-use in Vancouver.
- c) **Proactive design review guidelines for high density multifamily and streetscape, to make density vibrant and livable.**
  - i) Getting a copy of existing guidelines from the City.
  - ii) Get examples of guidelines from other cities that work well – Portland, Vancouver, others?
  - iii) Engage AIA or similar professional groups.
  - iv) Importance of transition from high density to lower densities and looking at building elevations from all four sides.
  - v) BART's guidelines.
  - vi) Flexible ground-floor story.
  - vii) Aesthetic, livable, vibrant.
  - viii) Importance of **proactive** guidelines.
- d) Infrastructure – internal and external.
  - i) Internal:
    - (1) Mechanisms for funding within City.
      - (a) "Improved Agreements" and
      - (b) "Development Impact Fees"
      - (c) Redevelopment funds where appropriate.
    - (2) Create a vision.
      - (a) Create a set of standards for streetscape furniture, etc., consistent with streetscape plan and with cohesive appearance.
      - (b) Examples of infrastructure we'd like to see that could be included in improvement agreements? Bus loading stations, bike racks, benches, electric car charging stations (doubles effective range) self charging street lights with vertical turbines, street light dimmers for dawn and dusk, potential turbines in parks.
  - ii) External and Coordinated.
    - (1) "Emery Go Round" type shuttle bus type solution for transit villages near BART stations.
    - (2) Improve structure of process for coordinating city development planning and regional transportation planning with outside agencies such as BART, AC Transit, CALTRANS, etc.
- e) Transfer of Development Rights.
  - i) Oakland has an existing TDR ordinance.
  - ii) Problems:
    - (1) Only applies to adjoining property.
    - (2) May not provide much incentive since density is already allowed.
  - iii) Coordination with Creek Protection Staff.
  - iv) Recommendations for Improvement.

3) **Need to work to further develop Community Outreach Key Messages:**

- a) How did we get to where we are at now, with automobile-dependent cities? The intentional effort by Standard Oil, GM, and Firestone to buy up mass transit in the 1930's to 1950's, and the antitrust lawsuit where they were found guilty of collusion.
- b) How density and use-diversity in coordination with transit is environmentally friendly.
  - i) Examples of where this has worked in livable cities such as Curitiba Brazil, Portland, Bogota, and Vancouver.
  - ii) Examples of groups that now support this approach
- c) How changes in clean technology manufacturing, and economic trends towards a greater percentage of jobs coming from smaller, cleaner and more service-oriented businesses, can open the door for new types of zoning that put jobs closer to living and shopping, for transit by proximity in urban villages.
- d) Examples of how much we currently subsidize automobile infrastructure and sprawl compared to transit.

### **Food and Materials Working Group July 2007 Progress Report**

The OIO Task Force came to the realization early in its deliberations that Food and Materials are two important areas of dependency and vulnerability for Oakland with regard to petroleum. However, due to time and personnel limitations, the Task Force realized it would be impossible to focus as much attention on these subjects as on Transportation and related issues such as Land Use, which together account for the substantial majority of Oakland's oil consumption.

Therefore, we decided to include the following general overview, with the recommendation that further studies of economic and societal vulnerability related to future oil supply problems for food and materials, and more detailed suggestions for reducing those vulnerabilities, be pursued further at a later date.

#### **Food**

Conventional industrial agriculture is entirely dependent on fossil fuels. Artificial ammonia-based nitrogenous fertilizers use natural gas and atmospheric nitrogen as raw materials. Much of the world's cropland has been so chemically exhausted, its topsoil so weathered and destroyed, that, without these artificial fertilizers (or extensive work to rebuild the topsoil), it cannot produce crops in the volume or at the pace that the world's population now requires. The use of farm machinery impelled by internal-combustion engines, which run on petroleum products, has freed up millions of acres of cropland from the need to grow feed for draft animals; those acres now grow food for the burgeoning human population. Without oil, farming may again require animal power, and traction animals will need to be fed. Farms always attract pests; however, the growing of monocrops, which is made economically necessary by mechanization, attracts huge numbers of insect pests. Oil provides the feedstock for making the cheap pesticides used to control these swarms of pests and to maintain crop yields.

As a result of all of this, approximately ten calories of fossil fuel energy are currently needed to produce one calorie of food energy in conventional American agriculture. (Pimentel.)

With the global proliferation of the industrial-chemical agriculture system, the products of that system are now also traded globally, enabling regions to support human populations larger than local resources alone could support. Those systems of global distribution and trade also rely on oil. Within the U.S., the mean distance for food transport is now estimated at 1,546 miles, though this distance varies greatly depending on the food item--233 miles is the average for pumpkins, 2095 miles for broccoli (Pirog, et al., 2001).

Oakland's situation is typical of that of modern cities: most food is imported from elsewhere, and most of that food is grown using prevailing fossil-fuel intensive methods.

Again, this implies a critical vulnerability for the people of Oakland. The Task Force therefore strongly recommends (1) maximizing local production of food in order to reduce the

vulnerability implied by a fossil-fuel based food delivery system; and (2) promoting forms of agriculture that rely on fewer fossil-fuel inputs.

While efforts along these lines require support at the Federal and State levels, some local polices could be extremely helpful:

- Promote Farmers' Markets and CSAs (community-supported agriculture) in any way possible.
- Promote gardening, including community gardens, rooftop gardens, and school gardens.
- Favor local and organic production over conventional food for school food programs and other purposes that are under the control or influence of the City government.

Oakland is already pursuing such efforts as a result of [Resolution No. 79680 C.M.S.](#) (adopted January 17, 2006), in which the City Council authorized the Mayor's Office of Sustainability to develop an Oakland Food Policy and to plan for thirty percent local area food production. As a consequence of that Resolution, UC Berkeley graduate students Serena Unger and Heather Wooten conducted the Oakland Food System Assessment, which is available online at <http://oaklandfoodsystem.pbwiki.com/>.

Since these efforts were initiated in response to concerns somewhat different from those motivating the work of this Task Force, further study is warranted to determine whether additional strategies are required to ensure food security for the citizens of Oakland in an increasingly oil-constrained world.

## **Plastics and Chemicals**

About 5% of oil consumed in the U.S. annually (about 1 million barrels per day) goes into the manufacturing of plastics and chemicals. While this is a small proportion of the total oil consumed, it is crucial to the American economy.

Petrochemicals are made by "cracking" oil, a process of breaking hydrocarbon molecules apart with intense heat and sometimes a chemical catalyst, and are the raw materials for an uncountable number of materials both frivolous and essential. Some of the more common petrochemical building blocks of our industrial world are ethylene, propylene, and butadiene. Further processing of just these three chemicals produces products as common, diverse, and important as disinfectants, solvents, antifreezes, coolants, lubricants, heat transfer fluids, and of course plastics.

One of the most important petrochemicals, ethylene, can polymerize into polyethylene, a plastic used to make everything from toys to food containers and furniture. Ethylene can also react with chlorine to produce ethylene chloride, which can then be used to produce vinyl chloride, or its polymerized form, polyvinyl chloride (commonly known as PVC or vinyl), another important plastic. PVC is used in everything from building construction materials to clothing to toys.

Clearly, future oil supply problems will affect the entire chain of industrial products that incorporate these chemicals. The citizens and economy of Oakland will obviously be impacted, and it is difficult to imagine a scenario in which that impact could be entirely eliminated absent

policies and practices implemented globally and nationally. Nevertheless, there are things that Oakland could do to reduce its vulnerability to these economic consequences of oil depletion.

Needed policies and practices must focus on two strategies: (1) identifying alternative materials made from renewable sources to replace petrochemicals; and (2) devising strategies to reduce the amount of materials required and consumed.

Plastics and other products now composed of petrochemicals can be made from corn, hemp, and other crops. A few companies such as NatureWorks (a division of Cargill) and Dow Chemical are actively pursuing such alternatives.

From the standpoint of consumers, it would be a tragic mistake for the industry to postpone making the lengthy and costly transition to alternative feedstocks until forced to do so by rising oil prices and shortages. In that case, entire supply chains might be disrupted, causing costs for products of all kinds to rise precipitously. Instead, the shift must be proactive, encouraged through corporate and government policy. As one example, last year, WalMart announced its intention to use bio-renewable materials for all of its packaging.

Research into and development of alternative materials could provide Oakland with an opportunity for jobs growth.

The replacement of petrochemical-based materials with renewable alternatives is not without problems, however. To replace the entire stream of plastics and other oil-based materials in the U.S. economy with crop-based materials would further strain an agricultural system already stressed by the increasing mandate to produce biofuels in addition to food. Moreover, many chemical processes that incorporate renewable feedstocks are energy-intensive, which means that the expansion of those processes would entail increased energy consumption.

Therefore the second strategy, finding ways to use less, will be of even greater importance in the long run. In the opinion of the Task Force, the banning of the use of plastic bags in Oakland represents a good first step in this direction. ([The proposed plastic bag ban Ordinance](#) is scheduled for adoption by the City Council on July 17, 2007.)

## **Road Materials**

One of the two most important road-paving materials is asphalt (the other is cement, a natural gas-dependent material), which is a low-grade component of petroleum. As higher grades of oil will likely tend to be used preferentially during the coming years, it is unlikely that asphalt prices will rise as high or as quickly as those for "light sweet crude oil." Nevertheless, prices for conventional road materials will escalate substantially, making road building and road repairs more problematic as time goes on.

The following are recent figures for oil-based materials usage for road building and repairs in Oakland, as supplied by the Public Works Agency.

**Oil Based Materials Usage, in Tons**  
**For The City of Oakland, 2002 - 2007**

<b>Description</b>	<b>FY 02-03</b>	<b>FY 03-04</b>	<b>FY 04-05</b>	<b>FY 05-06</b>	<b>FY 06-07</b>	<b>TOTAL</b>
Asphalt Concrete (AC)- CIP Overlays	30,098	17,165	42,377	10,205	14,032	113,877
AC for Pothole crew	2,400	2,400	2,400	2,400	2,400	12,000
AC for Base Repair, Speed Bumps	5,000	5,000	5,000	5,000	5,000	25,000
Rubberized AC	24,869	17,388	12,850	0	0	55,107
Cold Patch AC	112	90	90	135	158	5858
Slurry Seal	127	180	0	0	0	307
Parks, Streetscape, and Sewer	6709	8174	6508	6242	6,000	33,633
<b>TOTAL</b>	<b>69,315</b>	<b>50,397</b>	<b>69,225</b>	<b>23,982</b>	<b>27,590</b>	<b>240,509</b>

**NOTE:** In FY04-05, the Public Works Agency began the Street Resurfacing ACTIA Project, which accounts for the higher AC Overlay quantities.

The Task Force recommends that the City of Oakland investigate alternative materials for these purposes. One promising possibility is a material made from clay mixed with alkaline chemicals, which is being used increasingly in Zambia and other African nations. According to one report, the new material, besides being environmentally friendly, is both cheaper and more durable than conventional asphalt (see <http://allafrica.com/stories/200706220926.html>).

## Oil Independent Oakland (OIO) By 2020 Task Force

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### Port of Oakland Working Group ("PWG") July 2007 Progress Report

The PWG is finding that there is a significant amount of information that needs to be gathered (both by the group and the Port of Oakland) prior to any actual recommendations on reducing oil dependence being brought forward to the OIO Task Force.

The group has been in contact with a variety of individuals within the Port of Oakland, other staff in the City of Oakland and outside experts on port related matters. We will continue to cull information from these sources in an effort to develop a clearer understanding of oil use at the three types of Port uses (air, marine, facilities).

The data that is emerging is primarily related to Air Quality, and GHG emissions. This will need to be translated into actual oil use by the Port. Finally, the data that is present does not include any information about the Airport. The PWG is seeking ways to find this type of data.

Below are the individuals we have had the most contact with and useful sources of information related to the Port.

#### **Main Contacts:**

(1) James Fine, PhD (USF) - James pointed us toward the Environ study on emissions at the Port, which is being developed now. He said that using the emissions data from Environ, we could back-calculate oil consumption estimates (not too different from what ICLEI did with their GHG study for Oakland). James also said that CARB is doing a Health Impact Assessment that includes collecting data about emissions -- the first rough draft of that research will be available some time in the next month or so. So Environ-plus-CARB will provide the most comprehensive data to date -- all of this research is being done for the first time, and it's unclear to me right now exactly when this data will become available or how easy it will be to access it.

(2) Delphine Prevost (Port of Oakland) - she is managing the Maritime Air Quality Improvement process, and is the point of contact with Environ. She may be the best person to reach about collecting any available data.

(3) Margaret Gordon (West Oakland Environmental Indicators Project) - She is a longtime environmental justice activist in West Oakland who has just recently been nominated by the Mayor for appointment to the Port Commission. That appointment is pending approval from City Council on 7/17.

**Port Outreach Related to Air Quality:**

As part of the Port's on-going outreach and education efforts related to air quality planning and various incentives, the Port of Oakland and Bay Area Air Quality Management District (BAAQMD) are co-hosting an educational & informational workshop entitled "Seaport Operations and Air Quality". The workshop will feature presentations by:

- \*Key seaport businesses
- \*Labor
- \*Port of Oakland Maritime Division
- \*BAAQMD Incentives and Outreach Division

The workshop will provide an overview of how different seaport businesses operate, within the larger context of air quality planning.

**August 1, 2007**

**4 pm to 7 pm**

**Port of Oakland Exhibit Room**

**530 Water Street, Oakland CA**

RSVP to Delphine Prevost at [dprevost@portoakland.com](mailto:dprevost@portoakland.com) or 510-627-1141.

**Other Sources of Information:**

Link to the Port's web page about the Maritime Air Quality Improvement Plan:

- main page:  
[http://www.portofoakland.com/environm/prog\\_04c.asp](http://www.portofoakland.com/environm/prog_04c.asp)
- documents for download (links to several \*PDF files):  
[http://www.portofoakland.com/environm/prog\\_04c\\_info.asp](http://www.portofoakland.com/environm/prog_04c_info.asp)

Discussion of the Processes and Metrics  
to be Utilized by the OIO Task Force  
to Prioritize Recommendations to Council.

(There is no written report for this item  
as no specific decision-making models  
are being considered at this time.)

**[END OF AGENDA]**