A G E N D A

600 NORTHEAST GRAND AVENUE | PORTLAND, OREGON 97232 2736
TEL 503 797 1700 | FAX 503 797 1797

METRO

Meeting: **FUTURE VISION COMMISSION**

Date: June 27, 1994

Day: Monday

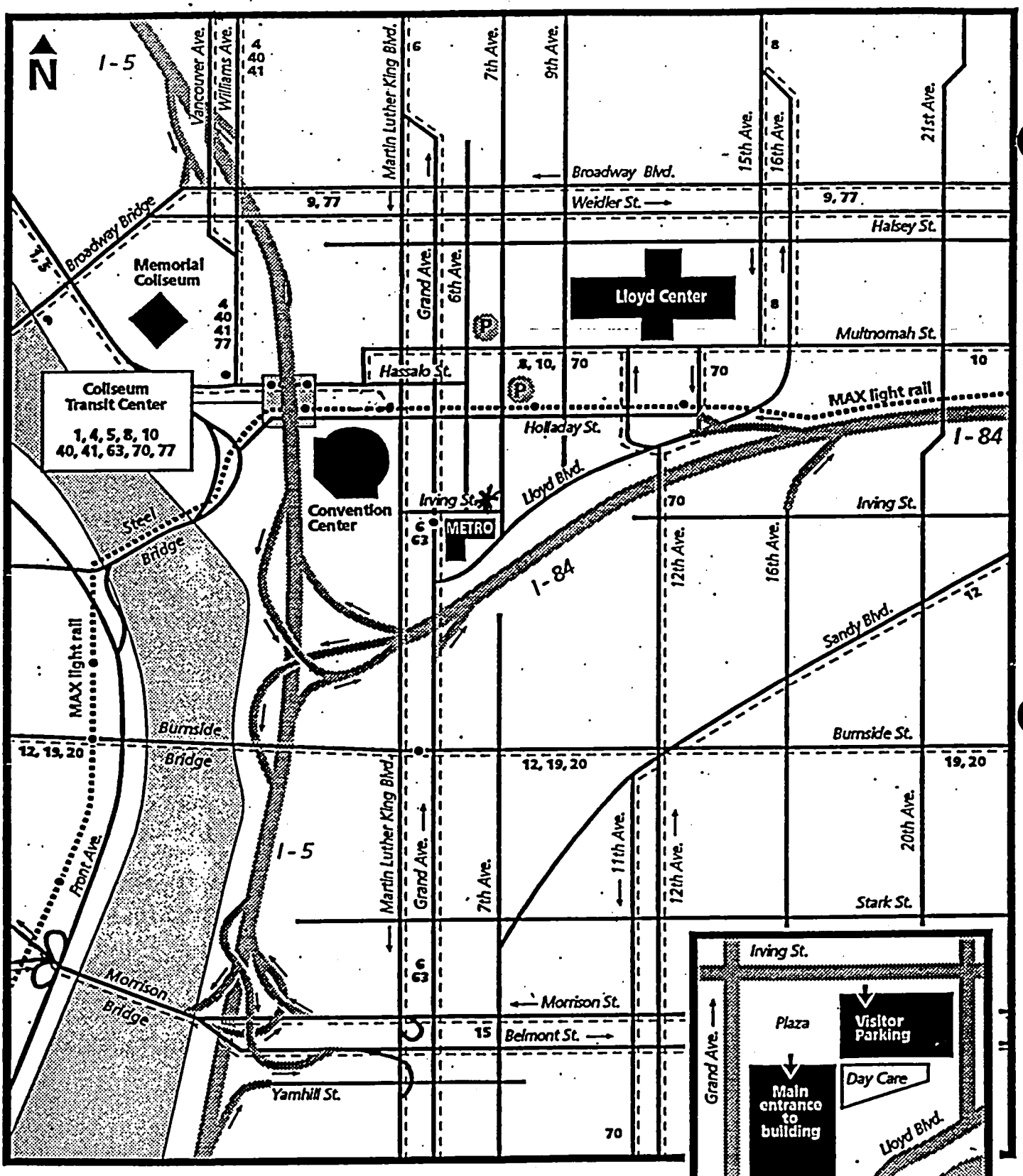
Time: 4:00 p.m. - 6:30 p.m.

Place: Metro, Room 370

	Approximate Time
1. CALL TO ORDER	10 minutes
2. ROLL CALL	
3. PUBLIC COMMENT	
4. OTHER BUSINESS	
5. MINUTES June 13, 1994 minutes. Approval.	
6. FULL COMMISSION WORK SESSION Review of the joint meeting, Ethan Seltzer's memo and workplan for the coming months	130 minutes
7. OTHER/PUBLIC COMMENT on Items not on the Agenda	10 minutes

Reminder - Mark your calendars for the July 27th (5:00 p.m.) MPAC/JPACT/Future Vision/Metro Council Region 2040 work session.

To assure a quorum members please R.S.V.P. to Barbara Duncan at 797-1562 if you are unable to attend.



Legend

- = bus route
- = freeway
- 70 = bus number
- = max
- = street
- = bus/max stop
- (P) = public parking; $2 half day, $4 full day

METRO

Enter Metro visitor parking from Irving Street (time limit 4 hours per visit). Enter Metro Regional Headquarters from the plaza.

FUTURE VISION COMMISSION
Meeting Summary, June 13, 1994

Members in attendance: Len Freiser, Chair; Wayne Lei, Robert Liberty, Peggy Lynch, Peter McDonald, Susan McLain, Alice Schlenker, Fred Stewart and Rod Stevens.

Others in attendance included: Barbara Duncan, Ken Gervais and Ethan Seltzer.

[Members met for more than an hour in the mapping and policy subcommittees.]

I. Call to Order and Roll Call
The meeting was called to order at 5:25 by Chair Freiser.

II. Public Comment - none

III. Minutes
The minutes of June 6th should be corrected to show that Peter McDonald was in attendance. They were unanimously approved with that correction.

IV. Other
Peggy Lynch shared an article that appeared in the Hillsboro Argus, "Up or Out" on the 2040 project.
Bob Textor stated that congratulations were due to Mike Houck and Robert Liberty who are finalists in the Northwest District Association "Community Awards of Excellence" for contributions to the environment. Robert Liberty is also a finalist in the contributions to better government category.

V. Presentation for Joint Meeting
Robert Liberty practiced the presentation to be presented at the Joint MPAC/JPACT/Future Vision meeting on June 15th. Members commented on the presentation and discussed what items should be covered.

There was discussion on what should be included in the packet of information that will be presented at the meeting and how the Commission can get feedback from MPAC and JPACT members on the draft vision document and map.

The Commission viewed the Region 2040 video.

The meeting was adjourned at 6:35 p.m.

Respectfully submitted by Barbara Duncan.

Portland State University

P.O. Box 751, Portland, OR 97207-0751

MEMORANDUM

June 20, 1994

To: Members of the Future Vision Commission

From: Ethan Seltzer

Re: Next Steps

Congratulations on what I have heard was a good showing at the joint meeting on June 15! You've worked hard and you have product to show for it. We now need to shape the next three to six months of your activities. With a draft in hand, it seems to me that you have two central questions before you:

1) Public Review - How shall we involve the broader community in the review and revision of the work you've done to date? How can that review and revision process be linked to the work that the Council will do upon receiving your proposed vision? We have talked about several "waves" of comment, each time asking for the advice of a growing group of stakeholders. It turns out that on June 27, Metro will be initiating a wave of interviews and contacts with a group of stakeholders regarding the 2040 study, and that we can begin our process in conjunction with those efforts. In any event, a process for your draft needs to be overseen by the Commission and should commence as soon as possible.

2) Product to the Council - What needs to be done to assemble the final product for the Council? What should the Commission anticipate in the work it will do over the next few months so that both its product is clear and compelling, and the Commission is in a position to offer its assistance to the Council during the adoption process? At a minimum, the Commission needs to create a checklist to guide its work that answers the following questions:

- Have all of the Charter mandates been addressed? Ken Gervais will have a list of mandates for your review at the next meeting. My impression is that the one needing the most consideration is the way in which you address carrying capacity.

- Are the implementation steps clear, consistent, stated in an active voice, and directed at the relevant "sponsors"?

- What should the final product look like? The review and revision process will help with identifying strengths and weaknesses. Some have suggested that the final product, not including appendices, should be shorter than it is now, spirited, and illustrated using maps, images, and tables.

Finally, the Commission should consider how it wants to offer its services to the new Metro Council to assist with adoption. For example, the Commission might want to contact both the old and new councils soon after the November election to bring them up to speed, and to offer to hold hearings or to serve in other roles during the adoption phase.

Conducting your work in subcommittees has worked well to date. My suggestion is that you consider working in subcommittees again, with one focusing on the checklist that Ken is preparing and one focusing on the implementation steps. The full Commission needs to discuss the form of the final product, and the process that you want to follow for incorporating suggested revisions during the next few months.

continued...

Two final notes. First, due to travel and vacation schedules, I will be sharing facilitation responsibilities with Ken Gervais. Second, Metro is planning a major mailing in late August regarding 2040. They will be sending out 40,000 to 50,000 pieces and have allotted 2 "pages" and a map for the Future Vision. This is anticipated in the schedule, below.

What follows is a schedule of meetings for the next two months, predicated on the Commission's desire to meet weekly. Please come prepared to discuss this schedule on June 27.

June 27 Agenda: Review joint meeting, review checklist and discuss subcommittees for completion of vision and schedule, discuss first mail out of draft (content, mailing list).
Product: First mail out.
Facilitator: Ken Gervais

July 4 HOLIDAY

July 11 Agenda: Presentation by Nancy Wilgenbusch re Education in 2040, further discussion to clarify charges for subcommittees and begin work
Product: Subcommittee charges and organization
Facilitator: Ken Gervais

July 18 PICNIC AT PETER'S!

July 25 Agenda: Review Comments received to date, discuss FVC involvement in preferred alternative discussion on July 27
Product: Preparation for July 27 joint meeting.
Facilitator: Ethan Seltzer

July 27 JOINT MPAC/JPACT/FVC MEETING RE 2040 PREFERRED ALTERNATIVE

August 1 NO MEETING

August 8 Agenda: Review joint meeting, discuss upcoming 2040 newsletter opportunity, discuss second mail out, meet in subcommittees
Product: Plan for second mail out, subcommittee work
Facilitator: Ken Gervais

August 15 Agenda: Subcommittee discussions
Product: Subcommittee work
Facilitator: Ethan Seltzer

August 22 Agenda: Discuss FVC contribution to 2040 Newsletter (to be sent to 40,000 to 50,000, FVC can contribute 2 "pages" and map)
Product: Design of product
Facilitator: Ethan Seltzer

August 29 Agenda: Review draft newsletter submission
Product: FVC newsletter contribution
Facilitator: Ethan Seltzer

See you in July. Thanks!

ES:ae

June 27, 1994

DISCUSSION POINTS

CHARTER REQUIREMENTS

Population within carrying capacity to maintain quality of life

Restoration/Preservation of land and other resources for future

Settlement Patterns, New Communities, and additions to UGB

Legitimizing the Vision

With:
- public,
- stakeholders
- council
- Oregon/Washington and surrounding local govts.

ViA:
- Stakeholder response
- Two pages plus map in Preferred Alt. report
- Hearings within Metro District
- Meetings with States and locals

Refinement of the Vision

What it is and how it fits with other planning/policies

How it should be accomplished

How to measure and monitor progress

How it will feel/look (Ten essentials)

SOME NOTES ON NEW VISIONS

From Anthony Downs New Visions for Metropolitan America, the Brookings Institution, Washington, D C, 1994. 256p.

This largely economic analysis begins by asserting that growth management usually increases the cost of land and housing and is economically inefficient, exacerbating the isolation of urban poor. p. 4

Five elements of the "American Dream" are single family housing, an automobile, low rise work space in a park like setting, small community with its own government, no poverty in sight. And all of these working together to reinforce each other. p. 6

Flaws in the above are: sprawl which leads to congestion, lack of affordable housing (especially in newer areas), inability to provide and pay for infrastructure, inability to locate "LULU"s because of "NIMBY"s, externalization of costs onto those least able to pay but with the least clout to avoid them, and loss of open space. These too are mutually reinforcing. pp 7ff

There is a need for leadership to show people they must change the way they lead their lives. pp 15f

Problems to be overcome include: regional problems with only local governments, incentives to parochialism (especially avoidance of costs and problems), and the resulting social and economic hierarchy. pp 29f

In another version he says problems are: security, child poverty, poor education, and a non-integrated work force. p79

Elements of a vision are: residential patterns, transportation, jobs location, governance of land uses, affordable housing p 123-4. His options include something like our base case (without our present limitations, let er rip), our "B" with much higher densities, and our "C" with new towns and nodes. He discounts the whole idea of regional government as too difficult to attain.

Evaluation criteria for vision are: effectiveness, appeal to self interest, cultural acceptability, internal consistency, compatibility with existing patterns of development. p 124

Among the barriers to success for achieving transportation goals are what he calls "triple convergency", i.e. when new roads are built they draw traffic from three sources: from parallel roads, from those avoiding roads at peak hours and from those using transit. This results in very little, or only short term improvement in rush hour traffic.

c:\downs (copy in Future Vision Library) Ken Gervais 6/20/94

ROBERT B. TEXTOR
3435 N.W. Luray Terrace
Portland OR 97210
Tel: 503/223-6370 Fax: 503/223-2521
Cellular: 503/936-0663
Internet: 73143.1570@compuserve.com

Mon June 27, 1994

To: Members of the Future Vision Commission

From: Bob Textor

Re: Contextualizing the Future Vision Statement

Dear Colleagues:

Our Future Vision Statement, like any, will be incomplete unless it takes highly probable future context into explicit account. It doesn't need to spend thousands of words describing this context in exquisite detail, but it does need to be written with an **awareness** of this context, and this awareness must be **evident** to sophisticated readers, who otherwise might find our document unacceptable.

Example: science and technology have already given us such "infotech" innovations as the personal computer and the fiber optic cable. Within five to ten years infotech will almost certainly give us the capability for any two persons, anywhere, anytime, to communicate with each other -- by pager, voice, fax, or data -- without either knowing where on Earth the other is. The technology for this service is in hand, and the business organization for it is going forward rapidly.

These capabilities are clearly a part of the future context of life in the Metro Region. There is little doubt that they will exist and will be used. However, **how** they will be used is a separate question. These capabilities present opportunities, but also dangers. One of the responsibilities of any group like ours

is to envision, in broad terms, ways to seize the opportunities in a socially positive way, and to minimize the dangers.

Thus, in my judgment our Vision Statement has to say **something** about infotech. We might choose to say it succinctly, e.g. something as brief as:

- public policy will provide educational opportunities for our people to take full advantage of the new information technology in developing good jobs in the global marketplace; and
- telecommuting will be encouraged as one means of reducing congestion and pollution.

Alternatively, we might choose to go a bit further and say something about a vision in which government, education, business, industry, and civic organizations collaborate to make the Metro Region a world-class infotech center.

The point is, though, that in this case we need to say something that is reasonable, and clearly so. Otherwise, a thousand infotech specialists working for our local electronics industries and businesses are going to think that we are naive, and, accordingly, discount everything **else** we have to say.

Having said the above, let me now enter a general caveat about technology in general. As we say whatever we decide to say about technological context, it is important that our vision not blindly or carelessly **depend** on technological innovations that have yet to emerge adequately. This could amount to a cop-out, or a form of denial. Example: when I visited the Citizen Input session at Tualatin High School last week, one highly vocal citizen stressed the need for several new freeways, adding casually that in a few years we would all be driving electric cars, so that air pollution would not be a problem. Personally, and subject to correction, I believe that electric cars will become at least fairly common at some point during the next fifty years -- but quite possibly later than some people think. We should not, in my opinion, simply **assume** that this innovation will quickly come to our rescue. Rather, we should visualize

decent management of congestion and air pollution **without** depending heavily on assumptions about the electric car. Then, as history unfolds, if the electric car does become common fairly soon, so much the better.

One way to take future context into account is to look at a list of carefully developed assumptions about that context. Attached is a short article that contains 83 such succinctly-expressed assumptions about what life in the world will be like approximately midway through our visualization period. Some of these assumptions might be useful to us. The author of the article is Joseph Coates, a respected futurist and consultant with a scientific and public policy background.

Cheers,

Incl: 7 pages of
Coates article.

The HIGHLY PROBABLE FUTURE

83 Assumptions about the Year 2025

By Joseph F. Coates

Before we can plan the future, we must make some assumptions about what that future will be like. This inventory of "highly probable" futures, developed by Coates & Jarratt, Inc., provides a foundation for getting started.

Assumptions about the future are not like assumptions in a geometry exercise. They are not abstract statements from which consequences can be derived with mathematical precision. But we need to make *some* assumptions about the future in order to plan it, prepare for it, and prevent undesired events from happening.

The following 83 statements about the year 2025 were developed for Project 2025: Anticipating Developments in Science and Technology and Their Implications for the Corporation, sponsored by 18 large organizations in the United States and Europe. The project's goal is to explore how science and technology are likely to reshape society over the next three decades.

Some are assumptions drawn from the project. Others, such as the estimates of future population, come from public or highly credible private statistical and mathematical analyses of trends. Still others result from integrating a wide

range of material; one such assumption is that we will be moving toward a totally managed globe. To present the underlying arguments supporting each of these highly reliable statements (which amount to forecasts) would require a massive report. We have, therefore, presented these statements about the future as simply and in as straightforward a manner as possible.

A few of these assumptions have a normative, or goals-oriented, aspect to them. The assumption, for example, that per capita energy consumption in the advanced nations will fall to 66% of the 1990 level is definitely not a trend extrapolation but a judgment about the confluence of social, political, economic, environmental, technological, and other concerns. Readers are urged to formulate and review alternatives that might characterize the next 30 years and test how those alternatives affect any other thoughts, concepts, beliefs, or conclusions about the future.

What follows is an inventory of high-probability statements about the year 2025 in two categories:

A. Scientific discoveries and research and technological developments and applications.

B. Contextual, that is, those factors forming the social, economic, political, military, environmental, and other factors that will shape or influence scientific and technological developments. These contextual areas form the environment for the introduction and maturation of new products, processes, and services in society.

These high-probability assumptions are the underpinnings to understanding how any particular area may develop under the influence of new scientific, technological, social, political, or economic developments.

It would be nice to suggest that these developments are inevitable, but few developments are. Nonetheless, the convergence of evidence indicates that these developments are of such high likelihood that they form an intellectual substructure for thinking about the year 2025.

Science and Technology IN THE YEAR 2025

Managing Our World

1. Movement toward a totally managed environment will have proceeded substantially at national and global levels.

Oceans, forests, grasslands, and water supplies make up major areas of the managed environment. Macroengineering—planetary-scale civil works—will make up another element of that managed environment. Finally, the more-traditional business and industrial infrastructure—telecommunications, manufacturing facilities, chemical plants, electric-generating facilities, and so on—will be a part of managed systems and subsystems.

Note that total management does not imply full understanding of what is managed. But expanding knowledge will make this management practical. Total management also does not imply total control over these systems.

2. Everything will be smart—that is, responsive to its external or internal environment. This will be achieved either by embedding microprocessors and associated sensors in physical devices or by creating materials that are responsive to physical variables such as light, heat, noise, odors, and electromagnetic fields, or by a combination of these two strategies.

Amid maps and monitors, a British Telecom network manager gets up-to-the-minute information on worldwide telephone network. The world and all its systems—natural and manufactured—are increasingly coming under human management. (Assumption 1)

PHOTOS: LONDON PICTURES SERVICE

Managing Human Health

3. All human diseases and disorders will have their linkages, if any, to the human genome identified. For many diseases and disorders, the intermediate biochemical processes that lead to the expression of the disease or disorder and its interactions with a person's environment and personal history will also have been explicated.

4. In several parts of the world, the understanding of human genetics will lead to explicit programs to enhance people's overall physical and mental abilities—not just prevent diseases.

5. The chemical, physiological, and genetic bases of human behavior will be generally understood. Direct, targeted interventions for disease control and individual human enhancement will be commonplace. Brain–mind manipulation technologies to control or influence emotions, learning, sensory acuity, memory, and other psychological states will be available and in widespread use.

6. In-depth personal medical histories will be on record and under full control of the individual in some form of a medical smart card or disk.

7. More people in advanced countries will be living to their mid-80s while enjoying a healthier, fuller life.

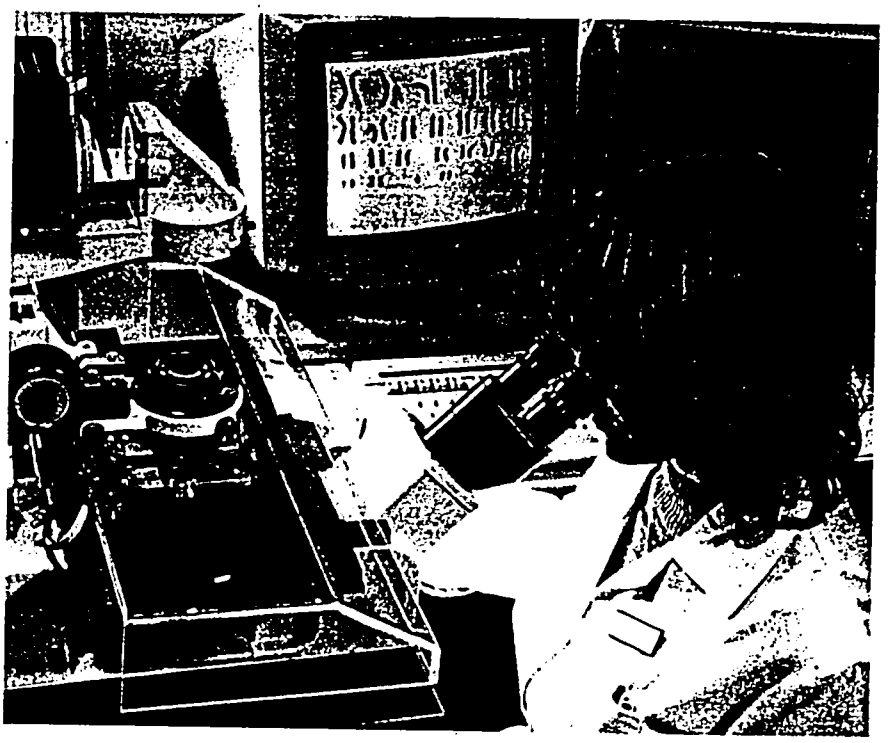
8. Custom-designed drugs such as hormones and neurotransmitters (chemicals that control nerve impulses) will be as safe and effective as those produced naturally within humans or other animals.

9. Prosthesis (synthetic body parts or replacements) with more targeted drug treatments will lead to radical improvements for people who are injured, impaired, or have otherwise degraded physical or physiological capabilities.

Managing Environment And Resources

10. Scientists will have worked out the genome of prototypical plants and animals, including insects. This will lead to more-refined management, control, and manipulation of their health, propagation, or elimination.

11. New forms of microorganisms, plants, and animals will be commonplace due to advances in genetic engineering.



Genetic abnormalities in an unborn baby are scanned by medical researcher. All human ailments that have a genetic link will be identified and mapped by 2025. (Assumption 3)

12. Foods for human consumption will be more diverse as a result of agricultural genetics. There will be substantially less animal protein in diets in advanced nations, compared with the present. A variety of factors will bring vegetarianism to the fore, including health, environmental, and ethical trends.

13. There will be synthetic and genetically manipulated foods to match each individual consumer's taste, nutritional needs, and medical status. Look for "extra-salty (artificial), low-cholesterol, cancer-busting french fries."

14. Farmers will use synthetic soils, designed to specification, for terrain restoration and to enhance indoor or outdoor agriculture.

15. Genetically engineered microorganisms will do many things. In particular, they will be used in production of some commodity chemicals as well as highly complex chemicals and medicines, vaccines, and drugs. They will be widely used in agriculture, mining, resource upgrading, waste management, and environmental cleanup.

16. There will be routine genetic programs for enhancing animals used for food production, recreation, and even pets. In less-developed countries, work animals will be improved through these techniques.

17. Remote sensing of the earth will lead to monitoring, assessment, and analysis of events and resources at and below the surface of the earth and ocean. In many places, *in situ* sensor networks will assist in monitoring the environment. Worldwide weather reporting will be routine, detailed, and reliable.

18. Many natural disasters, such as floods, earthquakes, and landslides, will be mitigated, controlled, or prevented.

19. Per capita energy consumption of all types of goods and services in the advanced nations will be at 66% of per capita consumption in 1990.

20. Per capita consumption in the rest of the world will be at 160% of per capita consumption in 1990.

Scientist studies rice's resistance to salt at the University of Sussex in England. New and improved foods will result from genetic manipulation. (Assumption 12)

21. Resource recovery along the lines of recycling, reclamation, and remanufacturing will be routine in all advanced nations. Extraction of virgin materials through mining, logging, and drilling will be dramatically reduced, saving energy and protecting the environment.

22. Restorative agriculture (i.e., "prescription" farming) will be routine. Farmers will design crops and employ more-sophisticated techniques to optimize climate, soil treatments, and plant types.

Automation and Infotech

23. There will be a worldwide, broadband network of networks based on fiber optics; other techniques, such as communications satellites, cellular, and microwave will be ancillary. Throughout the advanced nations and the middle class and prosperous crust of the developing world, face-to-face, voice-to-voice, person-to-data, and data-to-data communication will be available to any place at any time from anywhere.

24. Robots and other automated machinery will be commonplace inside and outside the factory, in agriculture, building and construction, undersea activities, space, mining, and elsewhere.

25. There will be universal, on-line surveys and voting in all the advanced nations. In some jurisdictions, this will include voting in elections for local and national leaders.

26. Ubiquitous availability of computers will facilitate automated control and make continuing performance monitoring and evaluations of physical systems routine.

27. The ability to manipulate materials at the molecular or atomic level will allow manufacturers to customize materials for highly specific functions such as environmental sensing and information processing.

28. Totally automated factories will be common but not universal for a variety of reasons, including the cost and availability of technology and labor conflicts.

29. Virtual-reality technologies will be commonplace for training and recreation and will be a routine part of simulation for all kinds of physical planning and product design.

30. In printed and—to a lesser extent—in voice-to-voice telecommunication, language translation will be effective for restricted but practically significant vocabularies.

31. Expert systems will be developed to the point where the learning of machines, systems, and devices will mimic or surpass human learning. Certain low-level learning will evolve out of situations and experiences, as it does for infants. The toaster will "know" that the person who likes white bread likes it toasted darker, and the person who chooses rye likes it light.

Satellite images of the earth are studied at National Remote Sensing Centre in Hampshire, England. Space-based monitoring of the environment will help us predict the weather as well as mitigate or prevent natural disasters. (Assumptions 17 and 18)

32. The fusion of telecommunications and computation will be complete. We'll use a new vocabulary of communications as we *televote, teleshop, telework,* and *tele-everything.* We'll *e-mail, tube,* or *upload* letters to Mom. We'll go *MUDing* in cyberspace and mind our *netiquette* during virtual encounters.

33. Factory-manufactured housing will be the norm in advanced nations, with prefabricated modular units making housing more flexible as well as more affordable.

34. In the design of many commercial products such as homes, furnishings, vehicles, and other articles of commerce, the customer will participate directly with the specialist in design.

35. New infrastructures throughout the world will be self-monitoring. Already, some bridges and coliseums have "tilt" sensors to gauge structural stress; magnetic-resonance imaging used in medical testing will also be used to noninvasively examine materials for early signs of damage so preventive maintenance can be employed.

36. Interactive vehicle-highway systems will be widespread, with tens of thousands of miles of highway either so equipped or about to be. Rather than reconstruct highways, engineers may retrofit them with the new technologies.

37. Robotized devices will be a routine part of the space program, effectively integrating with people. Besides the familiar robotic arm used on space shuttles, robots will run facilities in space, operating autonomously where humans are too clumsy or too vulnerable to work effectively.

38. Applied economics will lead to a greater dependency on mathematical models embodied in computers. These models will have expanded capabilities and will routinely integrate environmental and quality-of-life factors into economic calculations. One major problem will be how to measure the economic value of information and knowledge. A Nobel Prize will be granted to the economist who develops an effective theory of the ecoriomics of information.

Population Trends

39. World population will be about 8.4 billion people.

40. Family size will be below replacement rates in advanced nations but well above replacement rates in the less-developed world.

41. Birth-control technologies will be universally accepted and widely employed, including a market for descendants of RU486.

42. The population of advanced nations will be older, with an average age of 41.

43. The less-developed world will be substantially younger but will have made spotty but significant progress in reducing birth rates. However, the population of these countries will not stop growing until sometime after 2025.

44. The majority of the world's population will be metropolitan, including people living in satellite cities clustered around metropolitan centers.

45. World population will divide into three tiers: at the top, World 1, comprising advanced nations and the world's middle-classes living in prosperity analogous to Germany, the United States, and Japan; at the bottom, World 3, people living in destitution; and in the middle, World 2, a vast range of people living comfortably but not extravagantly in the context of their culture. We use the terms *World 1, World 2,* and *World 3* for the emerging pattern of nations that moves us beyond the post–World War II nomenclature.

46. A worldwide middle class will emerge. Its growth in World 2 and to a lesser extent in World 3 will be a powerful force for political and economic stability and for some forms of democracy.

Worldwide Tensions

47. There will be worldwide unrest reflecting internal strife, border conflicts, and irredentist movements. But the unrest will have declined substantially after peaking between 1995 and 2010.

48. Under international pressures, the United Nations will effectively take on a peace*making* role to complement its historic peace*keeping* role.

49. Widespread contamination by a nuclear device will have occurred either accidentally or as an act of political/military violence. On a scale of 1 to 10 (with Three Mile Island a 0.5 and Chernobyl a 3), this event will be a 5 or higher.

50. Increasing economic and political instabilities will deter business involvement in specific World 3 countries.

51. Despite technological advances, epidemics and mass starvation will be common occurrences in World 3 because of strained resources in some areas and politically motivated disruptions in others.

52. Supranational government will become prominent and effective, though not completely, with regard to environmental issues, war, narcotics, design and location of business facilities, regulation of global business, disease prevention, workers' rights, and business practices.

53. There will be substantial environmental degradation, especially in World 3. Governments will commit money to ease and correct the problem, but many will sacrifice long-term programs that will prevent the problems from happening in the first place.

54. There will be shifts in the pattern of world debtor and creditor

Pylon supporting electric power lines is prepared for a new job: carrying fiber-optic cable. By 2025, there will be a broadband, fiber-optic-based network of networks circling the world. (Assumption 23)

countries. Japan's burst economic bubble, the ever-growing U.S. debt, and Germany's chronic unemployment problems are harbingers of things to come.

55. NIMBY ("Not In My Back Yard") will be a global-scale problem for a variety of issues, ranging from hazardous-waste disposal to refugees to prisons to commercial real-estate ventures.

56. Migration throughout the world will be regulated under new international law.

57. Terrorist activity that crosses international borders will continue to be a problem.

The Electronic Global Village

58. Global environmental management issues will be institutionalized in multinational corporations as well as through the United Nations and other supranational entities.

59. A global currency will be in use.

60. English will remain the global common language in business, science, technology, and entertainment.

61. Schooling on a worldwide basis will be at a higher level than it is today. Education may approach universality at the elementary level and will become more accessible at the university level through distance-education technologies.

62. In the advanced nations, lifelong learning will be effectively institutionalized in schools and businesses.

63. There will be substantial, radical changes in the U.S. government. National decisions will be influenced by electronically assisted referenda.

64. Throughout the advanced nations, people will be computer literate and computer dependent.

65. Worldwide, there will be countless virtual communities based on electronic linkages.

66. There will be a worldwide popular culture. The elements of that culture will flow in all directions, from country to country. In spite of the trend toward "demassification" in both information and production, the global links of communications and trade will ensure that ideas and products will be *available* to all, whether they like it or not.

67. The multinational corporation will be the world's dominant business form.

68. Economic blocs will be a prominent part of the international economy, with many products and commodities moving between these porous blocs. The principal blocs will be Europe, East Asia, and the Americas.

69. Universal monitoring of business transactions on a national and international business basis will prevail.

70. Identification cards will be universal. Smart cards will contain information such as nationality, medical history (perhaps even key data from one's genome), education and employment records, financial accounts, social security, credit status, and even religious and organizational affiliations.

Public Issues and Values

71. Within the United States there will be a national, universal health-care system.

72. In the United States, the collapse of the Social Security system will have led to a new form of old-age security such as one based on need-only criteria.

73. Genetic screening and counseling will be universally available and its use encouraged by many incentives and health choices.

74. There will be more recreation and leisure time for the middle class in the advanced nations.

75. The absolute cost of energy will rise, affecting the cost of trans-

Face-to-face, yet far from each other, colleagues link up through videoconferencing equipment. "Virtual communities" will arise via telecommunications. (Assumption 65)

portation and goods movement. Planners will reallocate terrain and physical space to make more-efficient use of scarce resources. In other words, cities will be redesigned and rezoned to improve efficiencies of energy in transportation, manufacturing, and housing, etc.

76. There will be a rise in secular substitutes for traditional religious beliefs, practices, institutions, and rituals for a substantial portion of the population of the advanced nations and the global middle class. The New Age movement, secular humanism, and virtual communities built on electronic networking are a few harbingers.

77. Socially significant crime—i.e., the crimes that have the widest negative effects—in the advanced nations will be increasingly economic and computer based. Examples include disruption of business, theft, introduction of maliciously false information, and tampering with medical records, air traffic control, or national-security systems.

78. Tax filing, reporting, and collecting will be computer managed.

79. Quality, service, and reliability will be routine business criteria around the globe.

80. Customized products will dominate large parts of the manufacturing market. Manufacturers will offer customers unlimited variety in their products.

81. Economic health will be measured in a new way, including considerations of environment, quality of life, employment, and other activity and work. These new measures will become important factors in governmental planning.

82. GNP and other macroeconomic measures and accounts will include new variables such as environmental quality, accidents and disasters, and hours of true labor.

83. Sustainability will be the central concept and organizing principle in environmental management, while ecology will be its central science. □

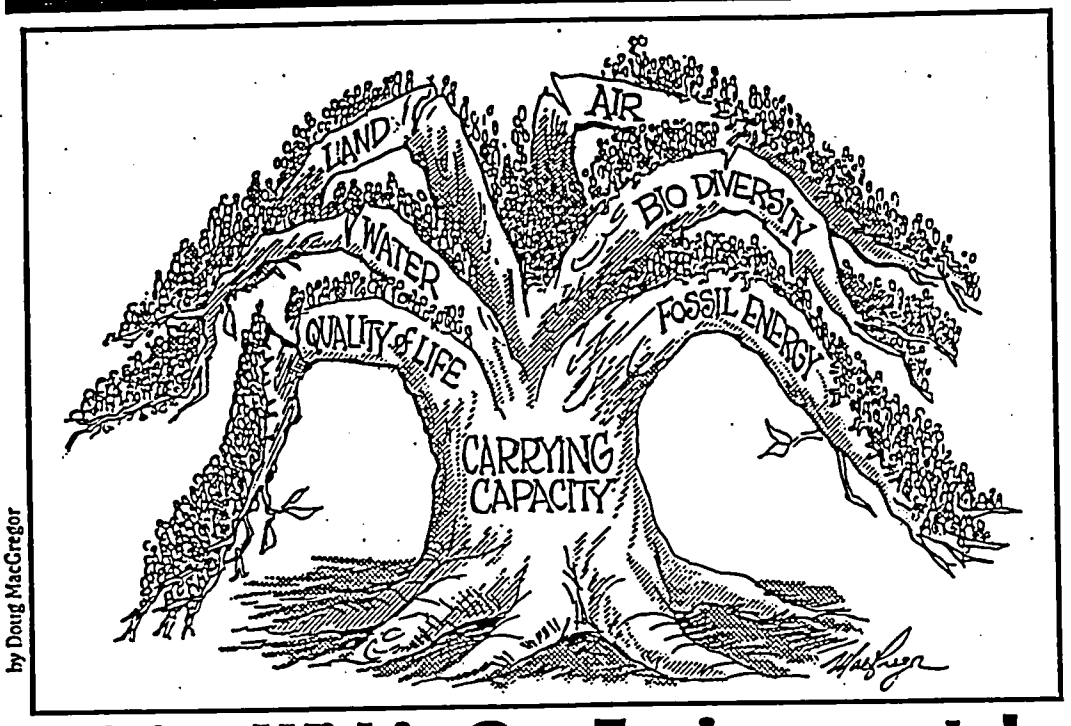
About the Author
Joseph F. Coates is president of Coates & Jarratt, Inc., 3738 Kanawha Street, N.W., Washington, D.C. 20015. Telephone 202/966-9307; fax 202/966-8349. He will be speaking at the World Future Society's Annual Meeting, "Toward the New Millennium: Living, Learning, and Working," July 24-26 in Cambridge, Massachusetts.

This article is based on work for Project 2025: Anticipating Developments in Science and Technology and Their Implications for the Corporation. The author thanks the sponsors for allowing this material to be used.

CARRYING CAPACITY NETWORK

CLEARINGHOUSE BULLETIN

Vol. 4, No. 6 June 1994



by Doug MacGregor

Living Within Our Environmental Means: Natural Resources And An Optimum Human Population

by Rachel F. Preiser

In a recently published report, "Natural Resources and an Optimum Human Population," Cornell University professor Dr. David Pimentel has presented some sobering statistics indicating the insufficiency of world resources to sustain a rapidly-expanding human population. On February 21, 1994 at the annual meeting of the American Association for the Advancement of Science (AAAS) in San Francisco, Dr. Pimentel indicated that even if humans succeed in using rapidly diminishing resources more efficiently, the planet can sustain a "quality" standard of living for only two billion people while still maintaining environmental integrity. The report also concluded, "For Americans to continue to enjoy a high standard of living and for society to be self-sustaining in renewable energy and food and forestry products, given U.S. land, water, and biological resources, the optimum U.S. population is about 200 million."

Land and Water Supply

In order for people to live in "relative prosperity," the world population — currently 5.6 billion and growing at a rate of 1.7 percent — will have to be reduced to 2 billion. The magnitude of this problem becomes apparent when one considers that the world population is expected to double in the next 41 years. According to Dr. Pimentel's statistics, the U.S. population — now 260 million — would have to be reduced by about 60 million people, even though actual trends suggest that the U.S. population will double over the next 63 years.

Continued on page 2

Calls To Action!

Fear of Population Decline

A recent article in the *Washington Post* had the ominous headline "Worried Germany Grapples With Population Shortage: Low Birth Rate, Increase in Elderly May Strain Labor Force." According to Negative Population Growth (NPG), Germany is one of the very few countries that has stopped population growth. If it were not for immigration, Germany would actually have a decrease in total population. NPG believes that in a severely overpopulated world, population decline should be viewed as a positive development, not a cause for worry. While abundant scientific evidence has clearly elaborated the consequences and dangers of continued population growth, NPG contends that misconceptions and misinformation too often characterize media coverage of population issues.

Negative Population Growth (NPG) would like you to help correct this problem by educating the media, policymakers, politicians, community leaders and anyone else who promotes the advantages of population growth. Whenever you see

Living Within Our Environmental Means: Natural Resources And An Optimum Human Population

Dr. David Pimentel is a professor in the Ecology and Systematics Department of Cornell University. The report, "Natural Resources and an Optimum Human Population," is the result of a year-long study with research for the resource analysis and projections conducted by Dr. David Pimentel and Dr. Marcia Pimentel, a human ecologist at Cornell, as well as Cornell students Rebecca Harman, Matthew Pacenza and Jason Pecarsky. Rachel Preiser is a science writer and graduate student at Cornell. The full study was published in the May 1994 issue of *Population and Environment*. Inquiries and orders should be addressed to Subscription Department; Human Sciences Press, Inc.; 233 Spring St.; New York, NY 10013-1578. Participants can obtain a copy of the report from CCN by calling (800) 466-4866.

Of the 260 million Americans, 32 million live in poverty, a problem that is not merely one of distribution. If the U.S. population continues to use cropland, water, and fossil energy at present rates while permitting population growth along current trends, shortages of essential goods and services will be experienced across the entire population. Technological development has enabled humans to push productivity from our land, water, energy resources almost to its environmental limits. However, expanding production to environmental capacity has its price in increasing the environmental degradation that ultimately makes this level of production and the population growth it has encouraged unsustainable.

The world food supply comes almost entirely (98 percent) from the land: food and fiber crops are grown on 12 percent of the earth's total land area, while the remaining 24 percent of the land is used as pasture to graze livestock that provide meat and milk products. Forests cover an additional 31 percent of the earth's land area, while the remaining 34 percent is too cold, dry, stony or steep to be suitable for agriculture or grazing.

About 15 million hectares (1 hectare is about 2.5 acres) of new land are required each year to support the earth's steadily expanding population. Unfortunately, more than 10 million hectares of arable land are severely degraded and must be abandoned each year due to water and wind erosion, salinization, and water logging. Since topsoil formation proceeds at a painstakingly slow rate of about 2.5 cm every 500 years, arable soil is being degraded at a rate that far exceeds our environment's replacement capacity. The 15 million hectares of new land required each year to sustain growing population are thus being taken largely from the world's forests; however, the consequent deforestation is producing a shortage of the raw materials used to make paper products essential to a "quality" standard of living. In short, efforts to compensate for the deficiency of land resources by redistributing limited resources can and will continue to be felt in the decreasing availability of food and other products on which our present standard of living depends.

The increase in human population and the demands on agricultural production to sustain world population growth not only create a strain on the earth's limited arable land resources, but also produce a tremendous draw on its water resources. While 24 percent of reservoir water is depleted yearly due to evaporation alone, 87 percent of the world's fresh water supply—and 85 percent of the U.S. fresh water supply—is consumed by agricultural production.

In addition to the human population's indirect demands on the water supply to fulfill its growing agricultural needs, an individual requires three liters (1 liter is about 1.06 quarts) per day of fresh water for drinking and a minimum of 90 liters per day for cooking, washing, and other domestic needs. Because, like topsoil, groundwater resources are renewed at an extremely slow rate of about one percent per year, the largest threat to the surface and ground water supply is the inequality between consumption of fresh water and its replacement by the environment. This problem is further compounded by pollution due to sewage, pesticides, and chemical wastes, which makes some portion of this limited resource unsuitable for human drinking and agricultural use. Under such circumstances, the average U.S. citizen uses about 400 liters of water per day, or more than four times as much water as Europeans use.

Irreplaceable Biodiversity

In addition to crop and livestock species on which we depend for food and other essential products, humans depend in more subtle, yet equally vital ways on a rich reservoir of other species in our agroecosystems. There are no technologies to substitute for many of the services that wild biota provide, including pollination of crops and wild plants, recycling of manure and other organic wastes, degrading of chemical pollutants, and purification of water and soil. Bees, for example, play an essential and irreplaceable role in the pollination of nearly $30 billion worth of U.S. crops annually.

Yet worldwide approximately 150 species of plants and animals are lost per day due to deforestation, pesticide use, and pollution. To preserve essential natural biological diversity, about one-third of the terrestrial ecosystem would need to be set aside to provide food, shelter, and protection for these valuable species, an allotment made impossible by

continued on p.4

CARRYING CAPACITY NETWORK
CREATING A SUSTAINABLE FUTURE

National Board of Directors: Virginia Abernethy, Albert A. Bartlett, Herman E. Daly, David F. Durham, K.R. Hammond, Edith Lavin, David Pimentel

National Board of Advisors: Robert Costanza, Kingsley Davis, Anne H. Ehrlich, Paul R. Ehrlich, Brock Evans, William Griffiths, Robert Kaufman, L. Hunter Lovins, Daniel Luten, Gaylord Nelson, Nancy Sue Pearlman, Marcia Pimentel, Claudine Schneider, Edgar Wayburn

Executive Director/Editor: Monique A. Miller
Publications Coordinator: Ed Lytwak
Outreach Coordinator: Brian A. Yates
Development Coordinator: John Jacobson
Production/Layout: Jennifer Correa
Interns: Christine Chumbler, Rachel Lamangan

Carrying Capacity Network, Inc. (CCN)
1325 G Street, NW Suite 1003
Washington, DC 20005
800-466-4866
202-879-3044
ISSN 1066-5404
EcoNet: CCN@igc.apc.org

HOT TOPICS

Welfare Reform

As U.S. population continues to grow both by natural increase and high levels of immigration, law and policy makers are struggling with rising demands for welfare services, spiraling costs, and increasing competition for limited financial resources. With local, state, and federal budgets already severely overburdened, government leaders on all levels are being forced to recognize limits to spending and to make difficult decisions on how to fund essential programs. Within this context, the question of who will pay for welfare reform has become an increasingly divisive, high stakes issue.

At the center of the controversy are the legal immigrants, refugees, asylees, and other non-citizens who are eligible for federal public assistance funds in four major categories: Supplemental Security Income, Medicaid, food stamps, and Aid to Families with Dependent Children (AFDC). Most immigrants can qualify for benefits after an initial three-year period during which their sponsors are liable for support.

According to the CCN-commissioned national study done by Rice University economist Dr. Donald Huddle, the 19.3 million legal and illegal immigrants who have settled in the U.S. since 1970 generated net public assistance costs of $42.5 billion (above the $20.2 billion they paid in taxes) in 1992 alone. One of the biggest problems with the present system is that although immigration policy is determined at the national level, about two-thirds of the immigrants receiving welfare live in just three states: California, Florida, and New York. Another study done by Dr. Huddle, the *Net Costs of Immigration to California*, found that in California eighty percent of major program costs are paid from state or local funds.

Recently, moderate and conservative House Democrats, known as the Mainstream Forum, have joined Republicans in advocating welfare reform based on cutting off most benefits to non-citizens rather than raising taxes. With the exception of emergency medical care, their proposal would end welfare for non-citizens under the age of 75. While the Clinton Administration is looking to more limited reductions in benefits and other taxes to fund immigrant welfare, these proposals have provoked adamant opposition from pro-immigration groups and some Hispanic legislators who contend that needy immigrants should not bear the burden for problems in the welfare system.

One aspect of the problem that neither side has fully considered is the relationship of job displacement, welfare, and immigration. Dr. Huddle's national study estimates that the 2.07 million U.S. workers displaced in 1992 by immigrants generated taxpayer funded assistance costs of $11.9 billion dollars. Most realistic proposals to address welfare reform for citizens center on providing the means for these people to become self supporting: training, education and jobs. A crucial question is how many of 1992's approximately 1.4 new immigrants directly compete with the native poor, minorities, and disadvantaged for low-skill jobs as well as contributing to wage depression in areas where income is needed most. So far, attempts to reform welfare have not addressed how to create the additional jobs necessary to help citizens off welfare roles, provide for those already unemployed, and keep the massive influx of new immigrants from becoming dependent on government handouts.

The emotions and controversy surrounding non-citizen welfare reform proposals indicate just how difficult these kinds of problems become once the U.S. accepts responsibility for immigrants by allowing them to become legal residents. Those looking closely at how to fund welfare reform are asking whether U.S. immigration policy is based more on accommodating special interests rather than realistically considering the capacity of our economy and welfare system to take care of citizens and immigrants already in the country.

While reforming the welfare system to reduce benefits available to immigrants already in this country would save money, by far the greatest costs are related to the 11.1 million legal and illegal immigrants projected to enter the U.S. during the next ten years under current immigration law and enforcement policy. According to Dr. Huddle, future levels of immigration are projected to generate net public sector costs of $668.5 billion (after subtracting taxes that immigrants pay). These costs represent the greatest potential savings to the taxpayer from reforming welfare. Indeed, nearly three quarters of the immigrants and corresponding costs are due to legal immigration. Immigration limitation groups point out that these costs could be substantially reduced by a single act of Congress without negatively impacting anyone already receiving welfare benefits.

In examining the environmental, budgetary, and economic impacts of immigration in connection

continued on p. 4

Calls To Action!

an article like this in your local newspaper, NPG asks that you write to the editor and point out the misconceptions or misinformation. When you read about or hear of politicians, policymakers or community leaders advocating positions that deny the consequences of population growth — NPG says, "don't just get mad, help them get educated!"

To help you become better informed or to include as part of your educational efforts, NPG has a wide variety of short papers (mostly 4 to 6 pages) written by experts and designed to offer a clear, concise summary of a particular aspect of the population issue. For instance, before responding to the above mentioned article you might want to obtain a copy of the *NPG Forum* paper "Too Many Old People or Too Many Americans?" by Lindsey Grant. This paper addresses the misconception that stabilizing population growth means that there won't be enough young workers to support the elderly.

Individual papers cost $1.00 each or $.25 each for orders of ten or more. To order papers or to obtain a list of publications write Negative Population Growth; P.O. Box 1206; Teaneck, NJ 07666-1206 (201) 837-3555.

State Population Initiatives Continue

The January 1994 "Calls to Action!" reported on the efforts of New Hampshire Citizens for a Sustainable Population to have the state Congressional delegation initiate legislation to establish a national population policy. Similar efforts now beginning in California, Colorado and Pennsylvania, along with pending legislation in New Jersey, demonstrate the growing grassroots support for a national population policy. Population activists are not waiting for Washington to take the lead and are once again showing that a few dedicated individuals can make a difference.

In New Jersey, "An Assembly Concurrent Resolution memorializing the Congress and President of the U.S. to

HOT TOPICS

with alternatives for the future, a key question for Congress is whether the U.S. economy can indeed provide enough jobs for those newly entering the labor market. These entrants include those resulting from natural population growth, those currently unemployed, those who need jobs to get off welfare and the projected one million a year new immigrants. In attempting to realize savings by reforming the welfare system, available choices actually include both cutting entitlements to those already receiving benefits and the (generally disregarded) option of reducing the number of new immigrants that our welfare system and economy can support *before* they are legally accepted into this country.

Portland has a problem!
+ more growth will solve it!!!

U.S. POPULATION:

AS OF APRIL 1, 1994
259,957,172
AS OF APRIL 1, 1950
151,718,000

The United States exhibits the lowest level of contraceptive use and the highest rate of unintended pregnancy and abortion in the developed world. (Zero Population Growth, 4/92, as reported in *Population Zappers*, January 25, 1994, Mike Hanauer, 617-862-5927.)

Toxic Waste Trade

Many typically think of carrying capacity in terms of the resources a population needs from the environment, such as food or water. However, another aspect of carrying capacity is the environment's ability to absorb toxic waste and pollution. Exporting wastes outside of local, regional or national borders remains a popular way for dealing with the problem—an approach which in effect is importing the carrying capacity of other regions to absorb that waste.

Mitigating the environmental damage caused by pollution and toxic wastes has resulted in costly regulations. In the last decade, polluting industries have discovered it is often cheaper to pay others (such as economically strapped third world nations) to accept their waste rather than comply with regulations in their own countries. This has given rise to a multimillion dollar international waste trade business. Often the receiving nations lack the expertise to know what they are getting into, as well as the technological resources to safely treat or even contain the toxic wastes. Despite their need for hard currency, some developing nations have banned the importation of foreign wastes, but lack the resources to successfully enforce the laws.

The United Nations (U.N.) estimates that about 400 million tons of hazardous wastes are produced globally each year, 98 percent of it in the 24 wealthy nations of the Organization for Economic Cooperation and Development (OECD). In 1989, a group of nations concerned about this waste trade met at the first Basel Convention which later led to a weakly-worded treaty that allowed free trade in all wastes between all 64 member nations. The United States, which exports nearly three million tons a year (totaling less than one percent of its toxic waste), has refused to become a contracting member or ratify the treaty but does attend the conventions as an observer.

At the most recent Basel Convention meeting on March 25, the developing nations joined forces to finally demand a ban on the toxic waste trade altogether. The United States opposed the ban along with Germany, Japan, Australia, Canada, Finland and the U.K.—what Greenpeace calls the "sinister seven"—but as an observer, the U.S. did not have a vote. The opposing member nations reluctantly agreed to support the general ban on international waste trading in the face of insurmountable support from the majority of member nations. The ban on the export of waste specifically destined for final disposal is effective immediately, while exports of wastes for recycling will be illegal beginning December 31, 1997.

While the U.S. is not bound by the treaty, there is a bill before Congress that does address how the U.S. would interpret, implement, and enforce such a ban. While thinking about these global issues, it is also important to examine the local and regional connections, especially the disposal and transfer of municipal solid waste. Remember, regardless of the scale of trade in wastes, from international to municipal, if an entity has to export its waste, it is arguably living beyond carrying capacity.

For more information on the Basel Convention's ban on the international trade in toxic waste, the current legislation before Congress, or how to get your community to address it's own waste stream, contact Greenpeace Toxic Trade Campaign, 1436 U Street, NW, Washington, DC, 20009, 202-462-1177.

Living Within Our Environmental Means

Continued from page 2

the demands annual worldwide population growth continues to make on land and water resources.

Energy

Energy is necessary to drive all forms of human activity: it is indispensable to the technologies on which we increasingly rely to produce an adequate supply of food and other basic commodities essential to a "quality life." Although worldwide, humans utilize about 50 percent of all solar energy captured by photosynthesis, this source is inadequate to meet production needs. This has created a heavy reliance on fossil fuels to meet the demands of an expanding population for energy to drive industrial production, transportation, construction, heating, and the packaging of goods.

Developed nations consume close to 80 percent of the world's fossil energy, 25 percent of which is used by the U.S. alone. Fossil energy dependence in different U.S. economic sectors has increased 20 to 1000-fold in the past 40 years, suggesting how heavy reliance on this finite resource has become.

continued on page 7

Continued from page 2

At current rates of consumption, the known and discoverable potential oil reserves in the U.S. will last only 10-15 more years. Although coal supplies have a better prognosis, they currently account for a comparatively small part of fossil fuel consumption.

In 1850, with a population of 23 million, the U.S. derived 91 percent of its energy from the sun in the form of wood biomass. Today 93 percent of U.S. energy use comes from fossil fuels, while solar biomass energy provides a mere 3.5 percent of energy needs. Under current conditions of scarcity, it is essential that the U.S., as well as other developed nations, reduce their consumption of fossil energy, returning to a reliance on renewable solar energy. Dr. Pimentel's report suggests that, by cutting energy use in half while exercising strict control over population growth, the U.S. would have sufficient fossil energy reserves (particularly of coal) to make the necessary transition to a renewable energy economy over the next 100 years — if we start now. Unfortunately, the shortage of uranium and the problems of nuclear waste disposal prevent nuclear energy from being a suitable "renewable" replacement for disappearing fossil fuel supplies.

If the U.S. population were to decrease according to the report's prescriptions, it might be possible to return to a greater dependence on solar-based biomass energy, alleviating some of the pressure on our rapidly dwindling fossil fuel supply. Unfortunately, since most of the biomass produced by the U.S. consists in agricultural crops and forest products essential to supply food, fiber, pulp and lumber, a very limited portion of biomass is available as an energy source. In addition, the shortage of arable land severely limits the possibility of expanding our biomass production for energy. Dr. Pimentel's report suggests that even to increase our collection and harnessing of solar energy five-fold would require the use of 10 percent of the U.S. land area for solar systems and then would provide for only 40 percent of our current energy consumption.

What Can We Do?

While humans can attempt to compensate for shortages in some prime resources (like arable land) by manipulating the distribution of other prime resources (like water), the overall possibility of such supplementation is restricted by environmental degradation due to the demands of an increasing population and unsustainable agricultural practices. This report indicates the necessity of developing alternative strategies for living within our environmental means.

According to Dr. Pimentel, significant quantities of fossil energy might be conserved if (as a part of our move to greater reliance on renewable energy sources) we make better use of manure instead of fossil-based fertilizers to enhance our agricultural soils while also reducing use of fossil-based pesticides. Along with these revisions of agricultural techniques, Dr. Pimentel suggests that a return to crop rotation in growing crops like corn would stem soil erosion and conserve soil and water resources as well. While saving energy these changes would also promote a more sustainable agricultural use of the environment.

Nevertheless, even the most diligent conservation efforts will be effective only if they are accompanied by stopping population growth. If returned to a self-sustaining renewable energy system, the earth will be able to support a population of approximately two billion people living in relative prosperity. Dr. Pimentel recognizes that "a drastic demographic adjustment to two billion humans will cause serious social, economic and political problems," but insists that "continued rapid population growth will result in even more severe social, economic and political conflicts—plus catastrophic public health and environmental problems." At current growth rates, the earth's population could reach an environmentally impossible 12 to 15 billion in the year 2100. In order to prevent the disastrous worldwide poverty and privation that such a population increase would produce, the report recommends profound revisions in our relationship to the environment and an end to population growth.

The report concludes with both a warning and promise.

> "Decision making tends to be based on crises; decisions are not made until catastrophe strikes. Thus, decisions are *ad hoc*, designed to protect or promote a particular aspect of human well-being instead of examining the problem in a holistic manner. Based on past experience, we expect that leaders will continue to postpone decisions concerning human carrying capacity of the world (Fornos, 1987), maintenance of a standard of living, conservation of resources, and the preservation of the environment until the situation becomes intolerable, or worse still, irreversible.
>
> Starting to deal with the imbalance of the population-resource equation before it reaches crisis level is the only way to avert a real tragedy for our children's children. With equitable population control that respects basic individual rights, sound resource management policies, support of science and technology to enhance energy supplies and the environment, and with all people working together, an optimum population can be achieved. With such cooperation efforts we would fulfill fundamental obligations to generations that follow — to ensure that individuals will be free from poverty and starvation in an environment that will sustain human life with dignity." ▲

Calls To Action!

axiom: On the local, state, national, and global level, every problem of the environment such as pollution, loss of biodiversity, etc.; every problem of social justice such as racism, sexism, unequal distribution of wealth, etc.; every economic problem such as unemployment, inflation, etc.; every problem related to resource scarcity and conflict, such as war, famine, etc.; every social problem such as crime, homelessness, schoolroom chaos, etc. is made worse by increases in population. *Conversely, all these problems would be easier to solve if populations were not growing or were smaller.*

This statement is widely believed to be true. CCN challenges our readers to submit exceptions, substantive rebuttals, or contradictions to this statement, i.e., to cite specific cases where a cause and effect relation can be demonstrated in which a population increase can be shown to result in the solution of any of these (or any other) problems rather than making them all worse. A summary of the results of this challenge will be reported on in a future issue.

National High School Debate Topic

During the 1994/95 school year, approximately 100,000 high school debaters, ages 9-12, from all 50 states will be debating the following topic: "Resolved: That the U.S. government should substantially strengthen the regulation of immigration to the U.S." CCN along with other organizations concerned with the immigration issue have been asked to submit informational materials to The National Federation of State High School Associations, (11724 Northwest Plaza Circle, Kansas City, Missouri 64153) for possible inclusion in a catalog of resource materials available to local high school debating groups. High school students are encouraged to contact CCN directly for more information on the connection between immigration, U.S. population growth and the environment at 1325 G St. NW, Ste. 1003, Washington, DC 20005 (800) 466-4866.

RISK

Continued from A24

science of dubious value and its assertion that poor people and minority groups are at higher risk is never substantiated.

The project report admits that statewide data for minority "hot spots" do not exist and that "monitoring data to describe actual human exposures to most pollutants are also not available."

Nevertheless, in a supplementary section on environmental education, the report says: "The fact that poor people and people of color tend to live in areas that are more heavily polluted should be addressed in the classroom."

The state's business community wasn't alone in expressing skepticism about some aspects of the report. Even as it was being formulated, the part dealing with "peace of mind" invited comparison with the much-lampooned task force on self-esteem created four years ago by state Assemblyman John Vasconcellos (D-Santa Clara).

Even environmentalists who worked on the study worry that some of the more subjective aspects of it will detract from its overall value.

"There are some squishy areas that can make you a bit queasy. No doubt about that," said Lawrie Mott, a scientist with the Natural Resources Defense Council and a member of the advisory committee that reviewed the study.

Still, Mott defended the effort to consider social welfare as part of the risk assessment project.

"The project was trying to find a way to integrate value judgments into risk assessment. It was another way of telling the regulatory agencies that there are other factors to consider besides statistics."

Mott and others emphasized the importance of moving beyond cancer studies as the only true measure of risk assessment.

"From the beginning, all of us said there is so much uncertainty about the [cancer] data, and it leaves out so much about other health hazards," said Carol Henry, who was the ranking EPA official assigned to the project until moving to the federal Department of Energy last March.

"In past studies, a whole range of non-cancer problems haven't been factored into risk assessment," Henry said. "Reproductive, neurological, respiratory and other effects that may not have death as an end point. We show them to be a major concern in this study."

Cal/EPA's Newest Hazard: Risks to Peace of Mind

By FRANK CLIFFORD
TIMES ENVIRONMENTAL WRITER
LA Times 6/11/94

After a 2½-year study involving hundreds of people around the state, California has come up with a new and controversial method of evaluating environmental risk that downplays the traditional role of science and takes into account people's values, opinions, fears and anxieties.

Intended to guide decision-making by the state's Environmental Protection Agency, the new approach to risk assessment already is provoking an outcry in the business community. Critics argue that such broad, subjective criteria will create new layers of regulation and endless obstacles to development.

"It's the most comprehensive, ambitious of its kind ever undertaken," said James Strock, state EPA secretary.

Although similar efforts in other states have tended to prioritize risks on the basis of their effects on healthy adults, the California Comparative Risk Project would attach a higher priority to environmental problems that have a disproportionate effect on children or minority populations, or if they are seen as disrupting the social welfare of a community or even its peace of mind.

Peace of mind pollution? Yes, indeed. The 640-page report, expected to be released this month, defines peace of mind as: "Good mental health, trust of governing institutions, access to reliable information, personal security and healthy personal relationships."

The report, obtained by The

Please see RISK, A24

RISK: New Way of Assessing Hazards

Continued from A1

Times in advance of its release, takes its most subjective turn in a chapter that says an environmental problem can threaten people's social welfare if it mars a view of a pleasing landscape or damages a child's "view of their world as a safe and nurturing place."

The project is based on the premise that science-based risk assessment is too uncertain given its heavy reliance on animal test results that may not apply to humans. While government regulators wait for the definitive studies on the dangers of agricultural pesticides or industrial emissions, pollution can run rampant, goes the thinking behind the project.

"This is the first major project of its kind in the country that basically owned up to the fact that totally relying on experts and technical data is too narrow an approach," said John Moore, a Washington risk-assessment consultant who spent 20 years at the National Institutes of Health and the federal Environmental Protection Agency. Moore was a member of the project's advisory committee.

According to the report, "Risk is the likelihood of harmful effects, including human disease or death, damage to ecosystems, property losses and anxiety about the future."

"The study tells us to look at 'hot spots,'" said Charles Shulock, the state EPA's chief deputy director of environmental health hazard assessment.

"It tells us to look at farm worker communities exposed to high levels of pesticides, children who are more vulnerable to respiratory diseases, or subsistence fishermen who may ingest dangerously high levels of mercury because they eat more fish."

The project divides environmental risks into three categories: human health, ecosystem health and social welfare.

The most serious hazards to human health include: secondhand tobacco smoke, radon, ozone, and an assortment of chemical contaminants, such as mercury and arsenic, found in fish and drinking water.

Cited among the highest risks to ecological health are greenhouse gases released from the burning of fossil fuels; clear-cutting of forests and diversion of water from rivers and estuaries, particularly in the San Francisco Bay Delta system.

The social welfare category repeated several types of risks listed elsewhere and added pesticides, lead and particulate matter.

A collaboration of people representing government, business, environmental organizations, academia and community groups, the study has been a hot potato from the outset, with business critics frequently challenging the methodology.

A recent imbroglio has delayed the public release of the report, which had been scheduled for release Tuesday.

Last week, Michael DiBartolomeis Jr., an EPA toxicologist who coordinated the work of citizen volunteers and government technocrats, suddenly quit the project, citing interference by Strock.

DiBartolomeis objected to Strock's decision to interrupt the printing of the study in order to append Strock's views of the project, some of them critical. DiBartolomeis says that the cost of the study, about $350,000, will go up another $20,000 as a result.

Strock's action aroused suspicions among some of those who participated that he was succumbing to pressure from business interests.

But Strock said he is only trying to explain how the study would be used. "This is in no way an attempt to undermine the independence of the report," he said, noting that he was making no changes in the body of the study or its conclusions.

Strock said his memo does take issue with some of the project's conclusions, but he said his disagreements do not lessen the value of the project, which he said

LOS ANGELES TIMES

would play a prominent role in setting future agency priorities.

He also denied that his memo, which he has not released, is in response to a lengthy critique of the project by an industry lobbying group, the California Council for Environmental and Economic Balance.

Regarding the project as a recipe for runaway regulation of industry, the Council for Economic Balance said the work is rife with political rhetoric, its

Please see RISK, A25

SOME NOTES ON NEW VISIONS

From Anthony Downs New Visions for Metropolitan America, the Brookings Institution, Washington, D C, 1994. 256p.

This largely economic analysis begins by asserting that growth management usually increases the cost of land and housing and is economically inefficient, exacerbating the isolation of urban poor. p. 4

Five elements of the "American Dream" are single family housing, an automobile, low rise work space in a park like setting, small community with its own government, no poverty in sight. And all of these working together to reinforce each other. p. 6

Flaws in the above are: sprawl which leads to congestion, lack of affordable housing (especially in newer areas), inability to provide and pay for infrastructure, inability to locate "LULU"s because of "NIMBY"s, externalization of costs onto those least able to pay but with the least clout to avoid them, and loss of open space. These too are mutually reinforcing. pp 7ff

There is a need for leadership to show people they must change the way they lead their lives. pp 15f

Problems to be overcome include: regional problems with only local governments, incentives to parochialism (especially avoidance of costs and problems), and the resulting social and economic hierarchy. pp 29f

In another version he says problems are: security, child poverty, poor education, and a non-integrated work force. p79

Elements of a vision are: residential patterns, transportation, jobs location, governance of land uses, affordable housing p 123-4. His options include something like our base case (without our present limitations, let er rip), our "B" with much higher densities, and our "C" with new towns and nodes. He discounts the whole idea of regional government as too difficult to attain.

Evaluation criteria for vision are: effectiveness, appeal to self interest, cultural acceptability, internal consistency, compatibility with existing patterns of development. p 124

Among the barriers to success for achieving transportation goals are what he calls "triple convergency", i.e. when new roads are built they draw traffic from three sources: from parallel roads, from those avoiding roads at peak hours and from those using transit. This results in very little, or only short term improvement in rush hour traffic.

c:\downs (copy in Future Vision Library) Ken Gervais 6/20/94

From Seattle VISION 2020 update Progress Report May '94

PART 1 Introduction

"Vision is the art of seeing things invisible...if you can dream it, you can do it...the horizon leans forward, offering you space to place new steps of change...."[1]

What is VISION 2020?

We are a region truly blessed, with forests and farms, mountains and streams, friendly people, thriving small towns, and prospering big cities. Yet like any region, we have our problems. We know what we want, and especially what we do not want.

Numerous surveys of people in this region have found the same over-riding concerns and hopes. Traffic is congested and frustrating; we want to be able to get around safely and efficiently. We want safe neighborhoods and housing that's affordable; we're concerned about what growth and sprawl are doing to the quality of our lives. We want good jobs and a strong economy. We don't want to become "another California."

VISION 2020 is the long-range growth and transportation strategy for the central Puget Sound region. It sets our sights on the horizon, and says this is what we have, this what we want, and these are some of the changes we want to make to keep our dreams alive well into the future. It is a flexible plan, designed to be updated and adapted to changing times and needs.

VISION 2020 was adopted collectively in 1990 by the region's cities, towns and four counties -- King, Kitsap, Pierce and Snohomish -- following three years of public forums, briefings, meetings, surveys, technical reviews, and consideration of alternatives.

VISION 2020 responded to the need for "a shared vision...that fosters a range of strategies to achieve containment of growth and conservation of open space, better transit and ridesharing use, reduced dependence on single-occupant vehicles, more energy efficient and less-polluting development patterns, and a more equitable distribution of economic growth that benefits all areas of the region...."

At that time, federal law required metropolitan areas around the country to have a general transportation strategy to remain eligible for federal transportation funding. VISION 2020 satisfied that requirement for our region. It also responded to other specific and anticipated requirements in federal and state transportation, air quality, and growth-related laws.

Now, new federal and state requirements, emerging issues, and progress and change require that VISION 2020 be updated.

This PROGRESS REPORT is designed to:

- provide general information about VISION 2020 and how the region has responded so far,
- identify major issues that must be and could be included in the VISION 2020 update, and
- stimulate agency and citizen involvement in advancing issues to the next level in the upcoming months.

[1] from Jonathan Swift, Walt Disney, and Maya Angelou.

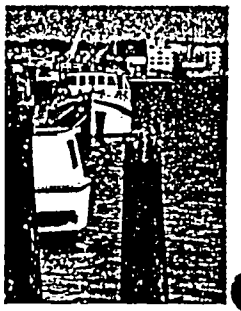
This report has four sections. The Introduction provides an overview of VISION 2020, the reasons it needs to be updated, some general issues to be addressed, the role of the Puget Sound Regional Council in the update, and a brief description of the update process. Part Two gives examples of progress the region has made related to VISION 2020. Part Three discusses the issues to be addressed in the update. And Part Four indicates how to get involved, and includes a general schedule of events related to the update.

What is the "vision" of VISION 2020?

Our regional vision in VISION 2020 is for diverse, economically and environmentally healthy communities, framed by open space, and connected by a high-quality, efficient transportation system. VISION 2020 calls for containing growth by restricting the expansion of urban areas, thereby limiting the extent of sprawl into surrounding farmlands, forests and open spaces.

VISION 2020 is an integrated growth and transportation strategy. It recognizes that how we accommodate growth -- where we choose to grow and what areas we choose to protect -- is inextricably linked with how we travel. Where and how development occurs is a key to what kind of transportation is required; where transportation is available, development naturally follows; and the kinds or modes of transportation available can help determine the kind of development that occurs, and can have a major impact on our neighborhoods, our communities, and the quality of our lives.

This region has achieved national and international recognition for its spectacular natural areas and resources, its aerospace, high technology, and other prominent enterprises, and its rising stature in world trade.



Recognition and a strong economy bring growth. In the 30 years before VISION 2020 was adopted, our population grew by 1.2 million people; another 1.4 million residents and 860,000 more jobs are forecast for the region by 2020.

The region's growth has fueled a building boom, with new subdivisions, shopping malls, office campuses and parking lots consuming land at a fast rate. These sprawling development patterns, together with more people, more cars, and more miles being driven, created traffic congestion and worsened air pollution. Demand for housing pushed housing prices out of reach for many low-income and moderate-income families.

VISION 2020 responds to several pressing questions: Where will the new residents live and work? How will we all get where we need to go? And how can we maintain a high quality of life for future generations?

VISION 2020 attempts to answer these questions by focusing development in urban areas and increasing housing options and affordability, to provide more flexibility and choice in where we all live and work, including those who cannot afford their own car or whose mobility is limited due to age or physical challenge.

It promotes transportation choices such as transit, carpooling, biking and walking, to slow down the increase in traffic delays, and to provide options to driving alone, to save money, improve air quality, lower fuel consumption, and provide for more efficient freight movement.

It seeks to make the best and most efficient use of our lands, and preserve open space, resources, natural beauty and recreational opportunities.

And, it seeks to make the most of our financial resources, by encouraging growth in areas served by existing public services, and promoting ridesharing for more efficient use of our transportation investments.

By establishing a long-term vision for the region, our growth and transportation strategy provides the framework for improved mobility, economic prosperity, and environmental protection and enhancement; it provides a guide for local planning efforts, and the means to monitor our collective progress toward these regional goals.

Why update VISION 2020 now?

The VISION 2020 update is needed to reflect changes to state and federal laws and to keep our collaborative, imaginative vision for the year 2020 current and focused.

Much has changed since VISION 2020 was adopted in 1990. The most significant changes have been the passage of the federal Intermodal Surface Transportation Act (ISTEA) and the state Growth Management Act (GMA).

ISTEA requires this region to adopt a Metropolitan Transportation Plan that is much more detailed than the existing transportation provisions of VISION 2020. The GMA requires cities and counties to develop local and countywide growth management policies and plans; it requires our region to have multicounty growth management policies; and, it requires that plans be consistent with each other.

VISION 2020 is being updated to respond to these mandates and changes through region-wide consideration of:

- a detailed Metropolitan Transportation Plan that responds to specific federal deadlines and requirements;
- refinements of existing VISION 2020 policies based on local plans and additional policies developed in accordance with the Growth Management Act;
- an economic element resulting from the development of a regional economic strategy, and other possible additions based on regional policy work; and
- regional benchmarks or "yardsticks" against which our progress toward implementing VISION 2020 can be measured.

Editor's Notebook

By Mark L. Zusman

Tracks of Their Cheers

Edward Bivens Jr. was struck by the cleanliness. "One morning they were scraping gum off the sidewalk in front of the Benson," says the mayor of Inkster, Mich. "It was amazing!"

For Sam Halloin, the four-term mayor of Green Bay, Wis., it was the 200-foot blocks. "Those short blocks downtown make it a very friendly place for walkers," the seventysomething mayor says. "Particularly someone my age."

And for Grace Nichols, who governs St. Charles, Mo., it was the green spaces. "You have wonderful parks."

But what most impressed those I spoke to at the annual U.S. Conference of Mayors held at the Portland Hilton this past week was something quite different: It was our mass transit systen

"If only we could get our stuff together the way you have here," says Bill T. Smith, mayor o Boca Raton, Fla. Get our stuff together is in fact what we have done. No one person takes the credit, no single agency deserves all the honor. But a collection of elected officials, neighborhood agitators and forward-thinking busir types ought to be feeling pretty good about the accolades showered them by this nation's mayors during the past several days. For what these mayors saw is something that many thought could not be dor

"If only we could get our stuff together the way you have here."

—Boca Raton Mayor Bill T. Smith

Consider that, 25 years ago, the Portland area was without a rea mass transit system. What it did have was a privately owned bus co pany on the brink of bankruptcy. It also had a downtown that was withering and a foolish chamber of commerce that wanted to build 12,000 more parking spaces downtown to compete with the suburl

Then Gov. Tom McCall and the Oregon Legislature came to tl rescue. Not only did they pass a bill allowing the formation of publ transit districts, but they did something equally courageous—they created a financing mechanism. They knew that transit systems do survive by the farebox alone and that the benefits of mass transit—reduced gridlock and air pollution, and the opportunity to coordin transportation patterns with sensible development—accrue even fc those who never ride a bus. So a payroll tax was created—a .006 p cent levy on salaries. In the metropolitan area, that tax brought in more than $95 million last year—70 percent of Tri-Met total revenues and the largest reason that today it is a financially stable government agency.

Twenty-five years ago, Tri-Met began operation. It bought buses, moved out to the subur and began to plan for the Transit Mall—a 22-block downtown oasis where public transit, not car, would be king. There was nothing else like it in the entire country.

Then, in the late '70s, the collective energy and wisdom of this region challenged political physics. The irresistible force of the Mount Hood Freeway, a falsely named ribbon of concre slated to be plowed through eastern Multnomah County, was repelled. In its place came a number of road improvements and the construction of MAX, a 15-mile light rail line betwee downtown and Gresham. Months before MAX opened in 1986, onetime Republican guber-natorial candidate Norma Paulus criticized light rail in large part because her chief opponent former Mayor Neil Goldschmidt, was one of its principal architects. She even went so far as suggest that—because light rail was such a boondoggle—we take the keys to the trains and th them away.

Paulus lost the election and MAX is a hit. It serves 25,000 riders daily; its success is the r why the west side spur of light rail—an 18-mile jaunt from downtown to Hillsboro—is unde: construction.

At a time when faith in government is ebbing, it's worth pointing out that in November 1 metropolitan voters approved Ballot Measure 5, the property tax limitation initiative. In that same election they also passed, by a 3-1 ratio, a $125 million bond to help construct west sic MAX. In Portland, support for mass transit is a strong as a Torrefazione espresso.

Tri-Met is not an unqualified success. Ridership on our mass transit accounts for just 4 percent of all trips taken in its service district. Although this figure is high compared with otl American cities, it is far lower than European ridership. Moreover, while the commercial co struction adjacent to transit downtown and in the Lloyd District has been impressive, east Portland has not experienced a similar growth in transit-related development.

Still, as I spent the afternoon on a liquefied-natural-gas-powered bus and then on a MA train with several dozen mayors, it was impossible not to see their admiration. They were m by the architectural wonder of our light-rail stations and the way in which the new home fo Trail Blazers will take advantage of mass transit—so that even Clyde Drexler won't have an excuse not to park and ride. But they also were awed by something far less concrete—the w in which a variety of agencies, governments and other interests worked together for a comm purpose. "You don't understand," one mayor confided to me. "I can't even get my counte at the county to return my phone call."

It is this memory of Oregon that our visitors will take home with them. Not our division gay rights. Not our battles over school funding. Not our declining faith in the Oregon Legis Not even our struggles with juvenile crime. Rather, they will carry home the sense that this part of the world that, properly educated, has the skill and the energy to overcome enormo challenges. It's a message worth remembering ourselves as we confront those very problem

If you wish to reach me, you can write, phone or fax (243-1115). Those of you who are wired can als send me E-mail. My address is MLZ1@aol.com