



## METRO

Meeting: FUTURE VISION COMMISSION  
 Date: September 27, 1993  
 Day: Monday  
 Time: 4:00 p.m. - 6:30 p.m.  
 Place: Metro, Room 363, Council Annex (*note room change*)

Approximate  
Time  
 5 minutes

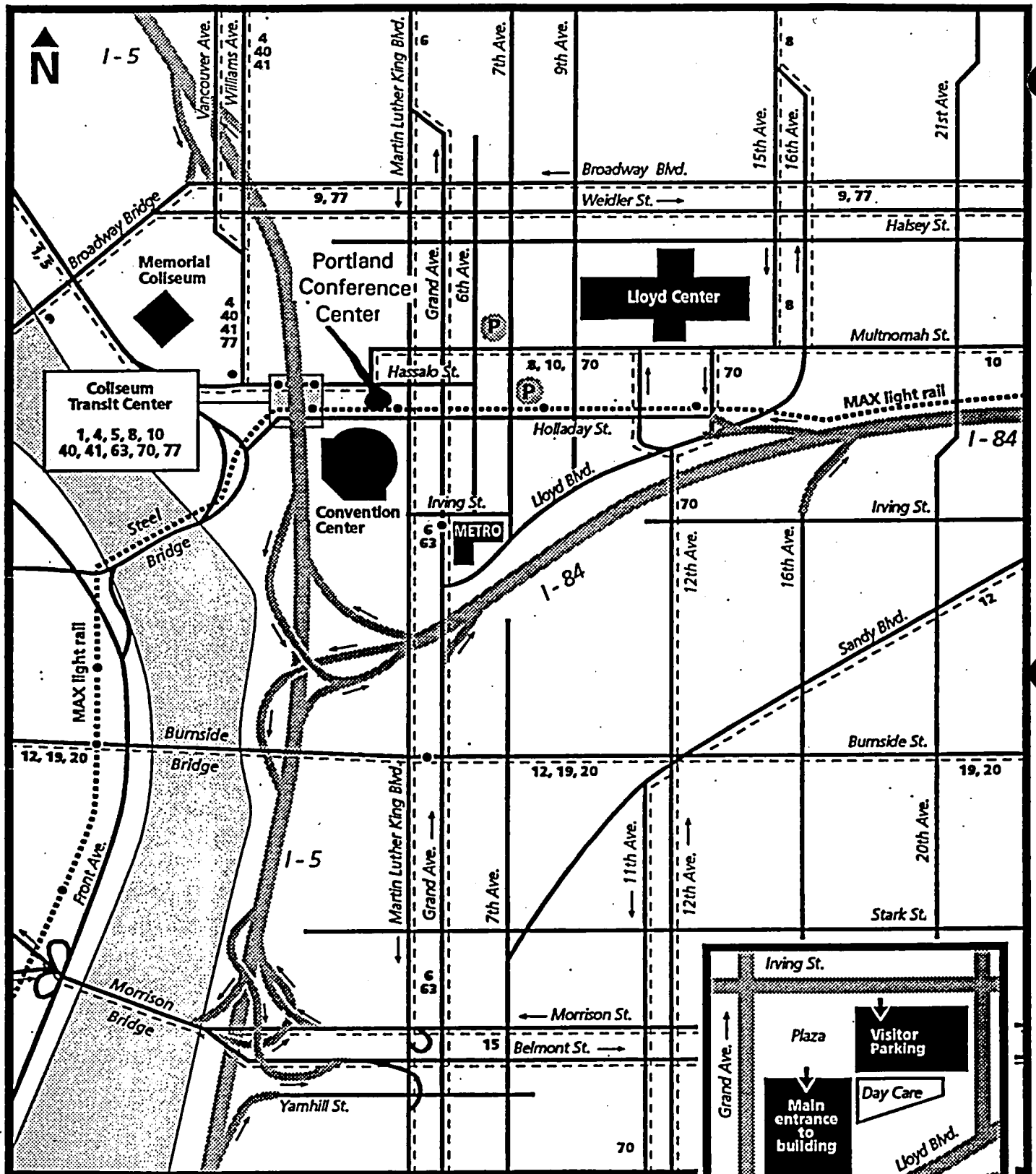
1. CALL TO ORDER
3. ROLL CALL
2. PUBLIC COMMENT (*two minute limit, please*)
4. MINUTES  
Approval of September 13, 1993 Minutes
5. NATURAL ENVIRONMENT and ICONS 90 minutes
6. TOURS/PHOTO CONTESTS and other topics including Growth Conference 30 minutes
7. PUBLIC COMMENT on Items not on the Agenda 5 minutes
8. OTHER

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Other items in packet:

Article "The New Pioneers" provided by staff  
 Article "Electric Vehicles ...." provided by Wayne Lei  
 Article "Yesterday, Today and Tomorrow..." provided by Robert Textor  
 Future Vision Commission and Staff Roster provided by staff  
 Regional Growth Conference brochure provided by staff

Please R.S.V.P. to Barbara Duncan at 797-1750  
 by September 24th if you are unable to attend



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**FUTURE VISION COMMISSION**  
**Meeting Summary, September 13, 1993**

Members in attendance: Len Freiser, Chair; Ron Correnti, Judy Davis, Mike Gates, Wayne Lei, Robert Liberty, Peter McDonald, Susan McLain, John Magnano, Alice Schlenker, Ted Spence, Rod Stevens, Fred Stewart and Robert Textor.

Others in attendance: Karen Buehrig, Andy Cotugno, Barbara Duncan, Ken Gervais, Gail Ryder and Ethan Seltzer.

**I. Call to Order and Roll Call**

The meeting was called to order at 4:10 by Chair Freiser and a quorum was declared.

**II. Public Comment - none**

**III. Minutes - approval of August 30th minutes.**

Motion: Robert Liberty moved for approval of the minutes as submitted, Peter McDonald seconded the motion and it was unanimously approved.

There was a discussion on meeting times, meeting a half hour earlier was suggested. The Commission decided to revisit the issue at the first meeting in December.

Bob Textor offered interviewing services, to help the Commissioners focus their thoughts on future vision. The interviews would be one on one and confidential for the Commissioner's use only. Discussion followed on this subject. It would be up to each Commissioner whether to share the tapes or not. This is voluntary, Commissioners who are interested should contact Bob Textor.

**IV. Proposed Timeline Discussion**

Ethan Seltzer distributed a draft timeline with a meeting by meeting breakdown of activities. He identified four topic categories from the Commission's discussions:

- the natural environment
- sense of place
- economic vitality
- community and social well being

Ethan Seltzer stated that the topics progress from geographic setting to social and community issues. By the end of April 1994 a revised draft of the document would be available. By the first meeting in June, the Commission would be ready to make a recommendation to the Metro Council.

There was a discussion on the four topic areas. There was also discussion on how the FVC's recommendation fits in with the Regional Framework Plan. Ethan Seltzer stated that the Charter directs the Metro Council to "consider" FV in its Framework Plan and other regional activities. FV is a preface to the Regional Framework Plan with Region 2040 forming a bridge between the two projects. FV provides a context for the Framework Plan. Ethan Seltzer stated that the schedule allows the commission to develop a FV statement by next summer, and then allows 6 - 9 months to work on refinement and implementation.

Commissioners stated they liked the schedule. Other comments on the schedule were that the draft date may be ambitious, the schedule gets the commission moving ahead quickly, it provides for public and expert comment and more of the work tasks from the retreat could be included.

Other issues discussed included:

- have a vision first, then seek comment
- the working groups provide opportunity for those who want more information on a topic
- what staff time is available for additional research
- whether to write the document first or vision first and fill out the document later

Ethan Seltzer stated that proposed staff generated studies for the FVC are:

- 1) a report on carrying capacity
- 2) a report on regional settlement patterns
- 3) a report on quality of life, including a summary of regional vision documents and surveys
- 4) a public contact plan, which will be coordinated with the Region 2040 process, and
- 5) a document on technical assistance that may be required by the commission.

Wayne Lei asked about the survey asking members if there were areas in which they felt a need for more information mentioned at the last meeting. Ethan Seltzer responded that staff can call Commissioners before the next meeting, or they can call staff.

Robert Liberty proposed a timeline based on the Table of Contents that was produced at the FV retreat. Andy Cotugno stated that there should be a blend of Liberty and Seltzer's timelines. Andy requested that by the next meeting, the Commissioners have ideas of reports needed from staff.

#### **V. Discussion of the Geographic Boundaries of the Region**

General agreement was reached on Robert Liberty's idea that the region should be from the crest of Cascades on the east, the crest of the coast range on the west, the Lewis river on the north, and somewhere south or just north of Salem on the south boundary.

Discussion on what constitutes the vision's geographic region followed. A series of boundaries, overlays or circles of influence may be appropriate, moving from the larger to the more specific. The largest being the Pacific Rim, then the West Coast, and finally, a greater Metropolitan region.

Other comments included:

- need to recognize different boundaries; economic, cultural, air and water sheds, etc.
- importance of I-5 corridor, from Vancouver B.C. through Washington and Oregon
- Metropolitan region no longer a three county area, but considerations should include Columbia, Clark, Yamhill and Marion counties

**Motion:** Peter McDonald moved to accept Robert Liberty's boundary as above. Wayne Lei **amended** the motion to include other boundaries as well such as air sheds, water sheds, cultural boundaries.

Alice Schlenker stated that work on the maps should start soon. Ethan Seltzer suggested an atlas, showing different elements of concern and their boundaries. Andy Cotugno suggested the Commission refer to an "area of concern", not necessarily an area of influence. Chair Freiser asked Commissioners if they would accept the map as recommended by Robert Liberty and Peter McDonald as a working document. Commissioners agreed.

The meeting was adjourned at 6:40p.m.

Respectfully submitted by Barbara Duncan.

**Future Vision Commission  
Draft Workplan  
September 27, 1993**

What follows is a proposed schedule for Commission activity, meeting by meeting, through next July. Please note that the schedule is predicated on preparing the Commission to comment uniquely from its vantage point on the Region 2040 urban form alternatives next summer. The Region 2040 process gives the Commission the opportunity to both provide a unique perspective to the Metro Council and to test the utility of the vision statement prepared by that date.

The underlying premise in this workplan is that the Commission will first develop a vision, then verify it, revise it, and test it again. In this process, the Commission may want to develop subcommittees to explore specific topics as needed to fully investigate the implications of both the present trends for the metropolitan area and the Commission's own thinking about the path that we ought to be on.

The Commission will begin with a discussion of what ought to be kept, changed, and added for each of four topic categories. The topic categories have been identified using the notes from previous Commission meetings and are proposed to be:

- 1) The Natural Environment - topics to include air, water, wildlife habitat, native vegetation, energy, land
- 2) Sense of Place and the defining Icons for our Communities (built environment and cultural landscape) - topics to include greenspace, landscape, historic structures, settlement patterns, cultural resources, community values and aspirations, transportation, urban form, urban design, rural form, housing density and affordability
- 3) Economic Vitality (access and opportunity for both employers and employees) - topics to include economy, telecommunications, education
- 4) Community and Social Well-being (our social contract with each other) - topics to include education, safety, social delinquency and crime, community values and aspirations

This list can be revised and rearranged. After the fifth meeting, the Commission will have a draft "vision" statement that can be used as the basis for discussions with invited commenters. Further review and revision of the vision statement will take place following incorporation of comments, other public contact, and background studies.

The Commission may want to move the schedule back somewhat in order to ask for and receive information needed by commission members to enable them to participate fully in the discussion. This would also have the advantage of providing a logical time for a tour. Note that the photo project would be targeted to coincide with the Commission's discussion of Sense of Place and defining Icons.

Please note that this schedule only goes through the first ten months. Keep in mind that a second phase of Commission activity, concerning implementation and preparing for a substantive linkage between the Future Vision and the Regional Framework Plan, will be developed in the months ahead.

**Begin Step 1:**

**1) *Commission Discussion I - The Commission will begin by discussing:***

***-- boundaries for the work of the Commission; and***

***-- what, within those boundaries, ought to be kept, added, or changed in the metropolitan region. Commission members would be asked to organize their thoughts according to specific categories, including landscape, natural resources, communities, economy, education, culture, families, and linkages. Complete by end of October.***

- |        |   |   |                     |
|--------|---|---|---------------------|
| (Sept) | 1 | Environment   | Calendar            |
|        |   | Product: discussion of what should be kept, changed, added plus specific information needed by the Commission to understand current trends and options. Appoint drafting subcommittee. Begin identification of commenters. Review background studies list.      |                     |
| (Oct)  | 2 | Sense of Place/Icons  | Contact Plan/Slides |
|        |   | Product: discussion of what should be kept, changed, added plus specific information needed by the Commission to understand current trends and options.   |                     |
|        | 3 | Economic Vitality   | Summary/follow-up   |
|        |   | Product: discussion of what should be kept, changed, added plus specific information needed by the Commission to understand current trends and options.   |                     |
| (Nov)  | 4 | Community/Social  | Summary/follow-up   |
|        |   | Product: discussion of what should be kept, changed, added plus specific information needed by the Commission to understand current trends and options.   |                     |
|        | 5 | Review Draft  | Assist Drafters     |
|        |   | Product: revise draft produced by drafting subcommittee for distribution to invited commenters and for use in public workshops and events associated with Region 2040. Develop list of specific questions for commenters to assist with first round of testing. |                     |

**Begin Step 2:**

**2) *Invited Commenters - The Commission has indicated a desire to invite community leaders into the process at an early date. To make the most of their time, and to focus their comments on the task before the Commission, the results of the Commission's discussion will be written up and provided in advance to invited commenters. Invitees will be asked to consider the same set of questions as the Commission -- what should be kept, added, and changed -- and to comment on the results of the Commission's discussions to date. Ongoing through April.***

<u>Meeting</u>	<u>Commission Discussion</u>	<u>Staff Work</u>
(Dec) 6	Commenters	Finish Scheduling Commenters
	Product: Response to draft vision and to questions posed by the Commission to be used in revising the draft or identifying issues needing discussion and resolution by the Commission in subsequent steps.	
7	Commenters	Summarize
	Product: Response to draft vision and to questions posed by the Commission to be used in revising the draft or identifying issues needing discussion and resolution by the Commission in subsequent steps.	
(Jan) 8	Commenters	Summarize
	Product: Response to draft vision and to questions posed by the Commission to be used in revising the draft or identifying issues needing discussion and resolution by the Commission in subsequent steps.	
9	Commenters	Summarize
	Product: Response to draft vision and to questions posed by the Commission to be used in revising the draft or identifying issues needing discussion and resolution by the Commission in subsequent steps.	
(Feb) 10	Commenters	Summarize
	Product: Response to draft vision and to questions posed by the Commission to be used in revising the draft or identifying issues needing discussion and resolution by the Commission in subsequent steps.	

#### **Begin Steps 3 and 4:**

***3) Commission Discussion II - Based on what it hears, the Commission will revise the results of its first discussion and define background studies needed to provide a reality check on the product of the its discussions to date. Complete by December.***

***4) Testing and Revision - The background studies will be used by the Commission to test the ideas in its discussion to that point, and to help establish the relationship between and relative priority of the elements to be kept, added, and changed. Complete by May.***

- 11 Review Background Docs. Link to doc.  
Product: Review of background reports and presentation of additional information needed to test the vision against present trends and options, charter mandates, and other issues brought to the table by Commission members, commenters, and the public.
- (Mar) 12 Review Background Docs. Link to doc./summarize  
Product: Review of background reports and presentation of additional information needed to test the vision against present trends and options, charter mandates, and other issues brought to the table by Commission members, commenters, and the public.

- |                |    |   |                           |
|----------------|----|---|---------------------------|
| <u>Meeting</u> |    | <u>Commission Discussion</u>  | <u>Staff Work</u>         |
|                | 13 | Discuss and Revise  | Discussion Q's.           |
|                |    | Product: Review of background reports and presentation of additional information needed to test the vision against present trends and options, charter mandates, and other issues brought to the table by Commission members, commenters, and the public. Develop instructions for drafting subcommittee as it prepares revision. |                           |
| (Apr)          | 14 | Discuss and Revise  | Summarize/Assist Drafters |
|                |    | Product: Review of background reports and presentation of additional information needed to test the vision against present trends and options, charter mandates, and other issues brought to the table by Commission members, commenters, and the public. Develop instructions for drafting subcommittee as it prepares revision. |                           |
|                | 15 | Review Draft  | Assist Drafters           |
|                |    | Product: Revised draft vision. Region 2040 briefings.   |                           |

**Begin Step 5:**

***5) Document Editing and Public Review - Discussion with the public and decisionmakers to focus and refine the vision statement. Complete by September.***

- |       |    |  |                  |
|-------|----|--|------------------|
| (May) | 16 | Commenters   | Devel. Disc. Q's |
|       |    | Product: Review revised draft with commenters with particular emphasis on the utility of the draft for informing land use and growth management decisions locally and regionally. Region 2040 briefings. |                  |
|       | 17 | Commenters   | Summarize        |
|       |    | Product: Review revised draft with commenters with particular emphasis on the utility of the draft for informing land use and growth management decisions locally and regionally. Region 2040 briefings. |                  |
| (Jun) | 18 | Discuss and Revise   | Write Disc. Q's  |
|       |    | Product: Produce revised draft. Region 2040 briefings.   |                  |
|       | 19 | Test against 2040  | Assist Drafters  |
|       |    | Product: Commission's view of the alternatives based on the vision.  |                  |
| (Jul) | 20 | Draft 2040 Comments  | Write Disc. Q's  |
|       |    | Product: Comments for Metro Council.   |                  |
|       | 21 | Implementation   | Draft Comments   |
|       |    | Product: Begin development of implementing chapters.   |                  |



Discussion Papers  
Initial List  
September 27 1993

- 1) Study Area Atlas - an atlas for the study area that shows boundaries and other features associated with charter mandated topics and the 8 to 16 areas of interest identified by the Commission at its August 3rd retreat. Particular attention will be paid to showing, wherever feasible, linkages beyond the study area.
- 2) Carrying Capacity - the Charter asks the Commission to consider carrying capacity issues associated with the land, air, and water resources of the region. There are several important issues to be dealt with here, not the least of which is that carrying capacity, applied to metropolitan urban development, can be a relative concept. First, what is the experience with applying the carrying capacity concept to a metropolitan region? Has there been any effort to look at issues like education and economy in addition to more natural resource-based concerns associated with air, land, and water? Second, what are the issues that should be considered for each category--land, air, water--including such issues as density, safety, community identity, and others? Third, what kind of criteria could the Commission use to incorporate carrying capacity into its formulation of the Future Vision. The product of this investigation will be a research paper culminating in recommendations for the use of the carrying capacity concept in the deliberations of the Commission.
- 3) Settlement Patterns - the Charter makes specific reference to both present and future settlement patterns as a context for the work of the Commission. A background report will be developed that looks at the evolution of settlement patterns in the region, the forces that generated them, an appraisal of the operation of those forces today, and the likely generators for existing and new settlement patterns in the future. The report should review the options for creating "new communities" or for channeling growth to outlying communities. This report may include additional work on telecommuting, and will coordinate with ongoing efforts at the Oregon Department of Energy to investigate the use of telecommuting for energy conservation in the state.
- 4) Values and Visions - there have been a number of "value" studies in the metropolitan area and the state in recent years, and a growing list of locally produced visions for area communities. This background report will assemble as much of this information as possible, summarize it, and identify common or unique themes.
- 5) Implementation - the relationship between the Future Vision, Region 2040 Plan, and the Regional Framework Plan need to be spelled out, with particular attention to options for implementing the Future Vision through the other plans over time. Also to be included is a review of non-regulatory and non-statutory options available for consideration by the Commission. Approaches to implementation need to consider Charter mandates for consideration of carrying capacity, including attention to the economic and education resources of the metropolitan area and the potential for creating "new communities".

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9/93

# The New Pioneers

BY DAVE FROHNMAYER

**O**REGONIANS have a recurring nightmare: Demon Californians speed north in their Cadillacs, fleeing the crime, congestion and pollution they've caused in their own state, pockets bulging with cash from selling their overpriced Santa Monica homes. They settle next door, push unwanted development, increase pollution, jack up property values, vote down school funding and make fun of loggers. They're not like us. And they're taking over.

The fear of "Californication" has been around so long it has become an accepted part of the Oregon psyche. In recent years it has seen new life as a flood of out-of-state arrivals has swept into the state. But it's time to dispel the nightmare. It's time for Oregonians to wake up and face the massive population changes that Oregon is experiencing — an historic shift carrying profound political, economic and cultural implications. It's time to shed the cartoon images and politically comfortable stereotypes and recognize that the new pioneers arriving in the state bear little resemblance to the California demons. They are instead reassuringly familiar — although they bring their own set of problems and promises.

And they're coming in numbers that approach the fantastic. During the celebrated immigration period of the old Oregon Trail, roughly a 22-year span between 1843 and 1865, a total of about 50,000 settlers came to Oregon. That trickle of about a dozen pioneers a day was enormously important. It gave us the images and values, the laws and mores that have defined Oregon for more than a century.

But the covered wagons can't compare to what's happening now. During five short years between April 1985 and April 1990, more than

400,000 new immigrants arrived in the state — about 220 a day. And that's just the beginning. According to Portland State University's Center for Population Research and Census, another 300,000 immigrants will arrive between 1990 and 2000, and another quarter-million in the decade following that. If the projections are accurate, that means the arrival of nearly a million new pioneers — the population equivalent of two Portlands — during the 25 years between 1985 and 2010. Two new pioneers will arrive for every baby born in Oregon during this period.

That's where the headlines come from that say "A Million New Arrivals for Oregon" — but it is a somewhat misleading figure. Total population growth results from a combination of the new in-migrants, births, deaths and out-migrants, those leaving the state to try their fortunes elsewhere. While Oregon's overall rate of population growth is nearly twice the national average, it is noteworthy that in recent years, for every three newcomers trekking into the state, two native Oregonians have left. The result is a fast-changing population mix. Fewer than half of the citizens in Oregon were born here. And somewhere between 20 and 35 percent of today's Oregonians, depending on the estimate, have been here less than ten years.

*In the past  
eight years,  
enough  
people  
have moved  
to Oregon  
to fill another  
Portland.  
Who are they?  
How are they  
changing  
the state?*

It's no wonder that we're seeing a reaction among some of the state's old-timers. Drivers with California plates report dirty looks and rude catcalls. "Don't Californicate Oregon" bumper stickers have reappeared. When Oregonians in a recent survey were asked to finish the sentence, "My biggest fear for Oregon is..." the number-one answer was "Overpopulation." Number two was "Becoming like California."

But a closer look at some surprising recent data about the new pioneers should help dispel some of the concerns. A fresh analysis of U.S. Census data for people arriving in Oregon between 1985 and 1990 shows that the new pioneers are not who we fear they are. Rather than retirement age, they are, on average, younger than the state's established population: 60 percent of arrivals to the state since 1985 are less than 35 years

old, and only 8 percent are above retirement age (compared to 12 percent of all Oregonians). Their race and ethnicity generally mirrors the state's established pattern, with one exception: Hispanics make up more than 9 percent of the new pioneers, a proportion three times higher than in the state as a whole. In terms of education, the new arrivals have the natives beat: one in three over the age of 25 has earned at least a college bachelor's degree (compared to one in five long-term Oregonians); one in ten

has a master's or doctorate. Yet they're not well-to-do: three out of four new pioneer families earn less than \$40,000 per year.

It is true that, on a state-by-state basis, the greatest number of Oregon's new pioneers come from our neighboring state to the south



— more than 25,000 a year — but Californians still comprise only one-third of the total in-migration. Washington is the next biggest source, contributing more than one-tenth of the new pioneers (but it receives more than it gives — see "Magnetic North," p. 27). Foreign citizens make up almost that big a portion, and nearby Northwestern states — Montana, Idaho and Colorado — contribute a sizeable share. A mere 4 percent of the new pioneers hail from the East Coast (New England or the Middle Atlantic states).

A surprisingly large portion of new pioneers, about one-third, hail from the nation's heartland, that wide swath of middle America sweeping down from Minnesota to Texas — the same trans-Mississippi area that produced most of the hard-working pioneers who came over the old Oregon Trail. Instead of Angelenos, think Sooners and Buckeyes, and you'll come closer to the flavor of the new immigrants.

More important for our state's future than where the new pioneers originated, though, may be their particular destination within the state. This is an observation I share with Bill Wyatt, a former state legislator who now heads the Oregon Business Council. The OBC recently conducted the

Oregon Values Survey, the most ambitious study ever undertaken to discover the beliefs that Oregonians hold in common. The survey explored in depth the attitudes of more than 1,000 people demographically selected to provide a highly reliable social science survey. The sample encompasses the views of all congressional districts, all regions, all corners of Oregon. The study is reassuring in many respects, because it demolishes stereotypes and caricatures that shows that we have far more in common than the social cynics amongst us — especially those who seek to profit from our differences — might propagate for their divisive purposes.

But when examining the data on new arrivals — defined in the study as those who had arrived within the past ten years — we found concentrations of different new pioneers in different parts of the state. And it is this different concentration that will prove much of the political impact of new pioneers.

The great majority of the newcomers — young, highly educated, somewhat lower-than-average income — are settling in the Portland metropolitan area, Washington, Multnomah and Clackamas counties attracting

*The new arrivals in the state bear little resemblance to California demons.*

largest numbers. When compared to long-term Oregon residents of the same age, the values of these "new urbanites" are almost indistinguishable. They're career-driven and strongly family-oriented, with a deep affinity for the environment and a higher-than-average belief in education and the value of government services.

But look in central Oregon and you'll find a different kind of newcomer. Wyatt calls them "lifestyle refugees," older-than-average, wealthier, more highly educated people than their native Oregonian neighbors, with much stronger pro-environment beliefs. Their effect on this relatively low-population area has been considerable: In the two years between 1990 and 1992, the population of Deschutes County shot up more than 10 percent. You can already see the effects of the changes — both politically and economically — around Bend.

In southern Oregon the pattern again changes. Here we see what I'll call the "midlife elite," the oldest newcomers, including many over age 65, with slightly higher incomes and considerably more education than their long-established Oregon neighbors. In the past two years Douglas County, for instance, has seen twice as many retirement-age newcomers arrive than it has people under 65. But they don't fit the stereotype of the "selfish retiree": They are more interested in funding education and government services than the typical southern Oregonian.

The Oregon coast is a fourth magnet for immigrants. Retirement and visitor industry representatives are infusing new diversity into communities that have traditionally relied on timber and fish for their income, and populations are generally rising. (Curry County on the south coast, for instance, has added more than 10 percent to its population in the past two

years, many of them older than average.) The impact of the new arrivals is especially intense in low-population coastal communities, and the pressure on coastal watersheds and affordable housing may become an issue in the near future. But the pattern is not uniform. On the north coast, Tillamook and Lincoln counties are losing some of their over-65 population while gaining younger immigrants. This goes against the stereotype of older, fixed-income residents becoming trapped in declining resource-based economies.

**T**aken together, these migration trends could have a strong effect on Oregon's political culture — if the new pioneers are heavy voters. The Oregon Values Survey indicates that they may not be as likely to vote as long-term residents, which correlates with their youth — voter participation goes up with age — but also may reflect a feeling among newcomers of being out of the mainstream.

Even if participation is relatively low, however, one major factor is clear: A host of new voters in an area shortens a politician's half-life. Independent of any legislation on term limits, these massive shifts in population mean a decline in any office-holder's long-term political capital. We can look for a host of new faces in the coming years, a new volatility in the electorate. After all, what good is long-term name recognition when one in five voters weren't here ten years ago?

In addition, the clustering of distinct subgroups of new pioneers will have different effects in different parts of the state. Portland may keep on being Portland — just bigger — since the new pioneers there generally share common values with the same-age population

they're joining. Ironically, this may further estrange Portland from the rest of the state by enhancing its perceived — and all-too-often real — political insularity. But in central and southern Oregon we will witness a culture clash as richer, more educated, more lifestyle-flexible newcomers go head-to-head with a native population whose economic options are becoming more limited.

Much of the political outcome will depend on what the newcomers take the time to understand about the history and traditions of their new home. Will they appreciate the contributions — much less the names — of our political legends, McCall and Morse, Hatfield and Neuberger, Charles McNary and Oswald West? Will they understand our political roots, the battles we've fought, the scar tissue we've accumulated, to get clean government and a clean environment, the national path we've blazed on everything from river clean-ups and public beach laws to the Bottle Bill? Will they appreciate the darker side of Oregon's political history, from the brief reign of the Klan and the old alien exclusion laws to current attempts to use narrowly defined issues to break the electorate into warring political tribes? Will we see a new consensus based on letting elected officials determine the laws, or further vengeful use of the initiative process to undermine the capacity of representative institutions to function? In order to feel a part of Oregon they will have to build a sense of personal ownership; to own the future, they will have to know our past.

*We simply  
haven't room  
for hundreds of  
thousands of  
new arrivals,  
many of whom  
are now renting  
short-term as  
housing prices  
throughout  
the state  
inexorably  
rise.*

*In central  
and southern  
Oregon we  
may witness  
a culture clash  
as richer, more  
educated  
newcomers go  
head-to-head  
with a native  
population  
whose economic  
options are  
becoming more  
limited.*

These political questions will be made more pressing by the economic and environmental impacts of the flood of new pioneers. There is no evidence that the newcomers are more prone to suffer from social ills such as child abuse and drug abuse than the resident population. But some things will change. Because of their youth and lower-than-average incomes, new pioneers in the Portland area may increase the need for social safety-net programs – prevention of teenage pregnancy, health insurance, for instance – not by bringing new problems to the state but by exacerbating current ones. Because young adults commit a disproportionately high number of crimes, more youths will also mean a greater burden on the justice system. People generally and mistakenly link rising crime to government ineptitude rather than the size of the 18- to 24-year-old population. But in Oregon the changing demographics of a growing youth culture will inevitably increase problems of crime. New pockets of particular social need may also be created. Increases in the Hispanic population, for example, may require new thinking about bilingualism in schools and greater cultural sensitivity in some towns and counties.

Clearly there will be an inflationary effect on housing costs. We simply haven't room for hundreds of thousands of new arrivals, many of whom are now renting short-term as housing prices

throughout the state inexorably rise. Unlike the 1840s, none of the new pioneers can claim hundreds of acres of free land. For those who want elbow room for recreation, state parks and public lands will be the answer – but we haven't built a new state park in Oregon in years, and we've cut the budgets of those that exist. There will be a new strain on public services from roads to sewer systems. Growth/no-growth issues, from the role of the Land Development and Conservation Commission to the question of limited use of wilderness areas will take center stage, with traditional bastions of anti-government sentiment suddenly feeling the effects of more pro-government newcomers.

**T**his is a relatively quick overview of a great many potential changes linked to the coming of the new pioneers.

It is not too early to start thinking of ways to deal with any negative trends now, before they outrun our ability to deal with them.

One effect needs particular attention. Tens of thousands of the new pioneers are young parents with children. As those children grow and have children of their own, we will see an added burden on an educational system that is already, during these times of budgetary restriction, showing signs of great strain.

The Oregon Values Survey reinforces the fact that Oregonians – especially the new pioneers – place a high priority on education. We know it deeply, intuitively and very broadly. Sixty-six percent – fully two-thirds of Oregonians surveyed – believe that wages for those with “only a high school education” will actually drop over the next ten years. This “competence index” is well known and

well appreciated. It fuels the deep personal insecurity that has so disrupted our present political system. Sixty percent of Oregonians believe that successful Oregon businesses in the future will produce more advanced products and more valuable services, and that they will require high levels of education and skills from their workers. Fifty percent – half of the respondents – believe that Oregon education is doing a bad job of providing the skills that are necessary to compete in a global economy. In other words, adding my own editorial gloss to this data, in a substantial way we Oregonians appreciate the admonition of H.G. Wells: “Civilization is in a race between education and catastrophe.”

At the Key Industry Summit in Portland last March, many observers were startled by the unanimity of a special response by representatives of all 11 major industrial sectors represented at the meeting. They insisted that higher education, a strong higher education community in Oregon, was absolutely essential to the economic well-being of each of their respective industries. Beyond that, higher education acts as a strong magnet for the growth and development of our Oregon economic base generally. Interestingly, that same call was echoed by industries not thought traditionally to be dependent upon high technology or the knowledge industries. Yet agriculture, fisheries and forestry are all now “high tech,” or dependent upon it. They require the assistance of minds and research capabilities in higher education in order to flourish.

Our need for education, especially higher education, is increasing and will accelerate sharply. By the year 2000 there will be a 40 percent increase in the number of Oregon high school students who will want a college education, native sons and daughters as well

as children of the new pioneers. At the same time, the access of young Oregonians to higher education is being choked off by Measure 5's selfish and insidious budget wreckage. Where are those who now hold office-based family-wage jobs going to be without the personal capacity to obtain continuing life-long training and technological expertise? A person who possesses a college or university degree will, on the average, earn \$1,000 a month more every month of a lifetime than a person who does not possess that credential. That is a powerfully reliable indicator of where the family-wage jobs of the future will exist. The reality is that we're going in exactly the wrong direction. In the years since Measure 5 has passed, 70 programs throughout Oregon institutions of higher education have been cut.

There won't be a place for those who depend upon low, or at least affordable tuition. In order to make up for budgetary shortfalls, tuition in Oregon state system schools has gone up an average of 58 percent between the years 1990 and 1994. Higher education's share of the state general fund in the past five years has fallen from 17 percent to 10 percent. The most recent survey I heard was the most alarming. If current trends continue, by the year 2001, one out of two Oregon high school graduates will not be able to go to a public or private or community college in the state of Oregon.

This gets us back to the migration out of Oregon. If we care about the future, we should be spending more time worrying about what we are losing than about false caricatures of those who are joining us. Many of the out-migrants, I fear, are young men and women unable to take advantage of the quality of life that is drawing hundreds of thousands of better-educated new pio-

neers to the state. The reason many of them are unable to participate in the Oregon dream is because they are being denied a fair chance at higher education. A stark fact: because of this brain drain, businesses in the year 2001 will import two workers for every Oregonian that they hire because of the changing nature of the employment and education pattern in this state. That's just eight years away.

Imported workers. New pioneers. This is still in many ways the Eden at the end of the Oregon Trail, the same dream destination that pulled the original pioneers across the plains and mountains. It is a place where people will come and always have come because of their beliefs, their vision and sense of opportunity. The new pioneers want the dream, too, the dream of a good place to raise their children, a clean and pristine environment, a better life.

To borrow that wonderful line from the movie *Field of Dreams*, "If we build it, they will come." We have the capacity here to live and enjoy life to its fullest with our families. As we do so, we still can have world-class jobs to employ our people and put bread on the table, and to solve our social ills. That's possible. No economic prophet yet forecloses that possibility for us.

We must keep our eyes on that dream, and rid ourselves of the nightmare. "Californication" is a chimera. We need to see that the values of the new pioneers and the values of those already established in the state are close enough to be indistinguishable. Take a look in the mirror: If we are afraid of the new immigrants, then we're afraid of ourselves.

*Former Oregon Attorney General Dave Frohnmayer is dean of the UO School of Law. His last piece for Old Oregon was "The New Tribalism."*

## Magnetic North

Only one state in the U.S. attracts more people from Oregon than it sends. And it's right across the river.

Why the Washington pull? A similar physical environment, a more diversified economy, a bigger, trendier metropolitan center in Seattle — all these play a part.

But there's another factor that may, in the long run, be much more important: Washington is investing in higher education.

In Vancouver, the state is spending \$100 million to build a new Washington State University campus. I was recently told by a legislator from that state that their higher education strategy is very deliberate. State lawmakers sat down and explored the ways in which education is tied inextricably to Washington's economic development. They saw the need for a long-term plan to build it. And they rose to the challenge to build capacity to deal with the changing global economy and their state's future.

They understand that young people who go to college in a given state tend to stay there. And in Washington, they intend to keep their best and brightest.

In Oregon, by comparison, we are practicing what I would call affirmative disinvestment. By cutting our higher education budgets, by sending more of our young people out of state to seek opportunity, we are sending messages that say, "No Vacancy," "We Don't Need You," "We Don't Care."

The link between higher education and economic development is strong and well-documented (see "Shutting Down the Future," p. 32). But perhaps the best evidence of all comes from the Oregonians you can see heading across the Columbia — voting with their feet for a better future.

— D. F.



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## ***Electric vehicles become the future in competition on EV infrastructure***

WASHINGTON—Planners are integrating electric vehicles into future municipal landscapes, envisioning flywheel chargers at curbside to help avoid peak-load charging, neighborhood outlets for overnight charges and tiny rental EVs at commuter stations.

Five states now require that 2 percent of all vehicles sold have zero emissions by 1998 and 10 states have legislative initiatives, according to Philadelphia Electric Co.

In Washington, D.C. in May, winners were announced for "The Electric Vehicle and the American Community," a contest to create infrastructure ideas to support electric vehicles. Edison Electric Institute, electric utilities, the auto industry, architects and the federal government were sponsors. The Department of Energy donated \$100,000 in prize money.

"The Odyssey Team" won the grand prize by showing days in the life of "Ms. D.C. Sparks," a typical Cambridge, Mass., resident in 2008, who uses drive-up charging units that include a flywheel energy storage system to avoid large utility loads. Short-term rental EVs, "Station Cars," help commuters to major transit stations run local errands. Other areas include a solar-power retrofitted parking garage and "electric bollards" for recharging EVs on neighborhood streets.

More than 15 awards honored the entrants with the most innovative visions of EV-related applications.

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Wed Sep 15/93

To: Members of, and Staff to, the Metro Future Vision  
Commission

From: Bob Textor

Re: A Closer Look at Telecommuting

Dear Colleagues:

At our last meeting we had some good preliminary discussion about the projected extent of telecommuting, and its implications. Thanks to Ethan's work, we also got materials on what some of the experts think will be the impact of telecommuting on transportation, congestion, pollution, etc. Ethan characterized these materials as being possibly on the conservative side.

To help further in grounding our thinking, I inclose the attached article by Nick Sullivan that appeared in the Tenth Anniversary issue of Home Office Computing. This article<sup>1</sup> gives you a somewhat closer-in background on this phenomenon, and for that reason may be of value to you in forming your own judgment as to how important a trend it is, and what some of its implications are, for the total Metronian way of life.<sup>2</sup>

Cheers,



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<sup>1</sup>The article was kindly provided by Elaine Friedman, author of The Facts of Life in Portland.

<sup>2</sup>Personally, after reading this article, I am inclined to feel that there is somewhat more likelihood that I will underestimate the potential of this trend, than overestimate it.

# Yesterday, Today, Tomorrow...

## THE EVOLUTION OF THE HOME OFFICE

**T**en years ago, when this magazine started, no one tracked the number of home offices. In fact, compared with today, relatively few people worked from home. Futurist-author Alvin Toffler's electronic-cottage concept, first put forth in his book *The Third Wave*, was in the back of people's minds, kind of a vague reminder that we might be heading into a new world. But with computers like the 5K Commodore VIC 20, 300-baud modems, and communications software that required a Ph.D. in engineering to master, the door to the electronic cottage was locked for anyone but committed technophiles.

That changed quickly, as you know, and we were there to track every misstep, half step, and giant step as legions of professionals dropped out (both voluntarily and involuntarily) of corporate life and walked into a work-at-home world not unlike the one Toffler had described. Today, Link Resources, a market research firm that conducts the annual National Work at Home Survey, tells us that there are 41.1 million people who do some income-producing work from home and that nearly 60 percent of them use computers. What happened in the last 10 years? What will happen in the next 10? For our 10th anniversary issue, the editors of HOME OFFICE COMPUTING decided to take a look back and ahead at the continuously evolving home-office phenomenon.

1983 - 1984

### HAVE COMPUTER, WILL WORD PROCESS

In the early days of this magazine (then called *Family Computing*), our primary focus was education, en-

tertainment, and personal/household management. Nonetheless, foreshadowing our future, our first issue included a story about Karen Blackburn, a mother with young children who ran a part-time word processing business, making about \$10 an hour. "If I can make enough to pay my business expenses, go on a nice vacation, and still maintain the family, I feel I've contributed a lot," she said.

While mothers looking to integrate themselves back into the work world constituted a big part of the first wave of computer-based home businesses, after-hours corporate employees were another major first-wave group. In the October 1983 issue, Charles Gajeway, a financial analyst at Merrill Lynch, described his solution to overdoing overtime: He bought a 28-pound Compaq transportable so he could fiddle with Lotus 1-2-3 at night in the bosom of his family. "Before I bought a computer for my home, I wore myself thin carrying one back and forth," wrote Gajeway, who still contributes to the magazine. "But that's in the past. I've finally achieved a balance between life at work and life at home."

While much of the computer industry referred dismissively to "home computers," contrasting them with the real thing, this magazine never adopted that insulting nomenclature. We always knew that once people brought computers—whether they were small or big, cheap or expensive—into their homes, they would use them for more than just fun and games. Even the puniest computer was powerful in the right hands. IBM learned that consumers didn't really want a so-called home computer when it brought out the IBM PCjr (nick-



*Did you read us when we were Family Computing? Even in our first issue (September 1983), we ran an article about a home-based business.*

By Nick Sullivan

named the "Peanut"), an emasculated version of the real thing that had rubberized Chiclet keys and was

system standard, and game machines were used for business. Many people used TVs as monitors in those

## Inexpensive IBM compatibles turned ordinary corporate professionals into prospectors looking to start businesses.

basically laughed off of the market.

If you were the first or second person on your block to own a computer, you immediately became the leading computer expert, consultant, word processor, mailing list manager, church fund-raiser, and publisher. After getting hugged for help by enough people, computer owners learned they could charge for their services. For example, Kris U'Ren started a computer tutoring business called One on One in Petaluma, California, in 1983, operating as a kind of country doctor who made house calls at the bargain rate of \$12 an hour. Her specialties: the Apple IIe, Franklin Ace, Commodore 64, Atari 800, and TI-99/4A.

People serious about doing business with a computer bought the IBM PC, Apple IIe, or Kaypro—all 64K to 128K monster machines that displayed 80 columns of text on a line, but each incompatible with the others. The Kaypro and its CP/M operating system were about to go the way of the dodo; the IBM PC, riding the 1-2-3 craze, was marketed to corporate buyers; and the Apple IIe, which had been the business computer in the early days of VisiCalc, was positioned as an educational machine to make way for the Macintosh.

There was no operating

days and audiocassette recorders as storage devices. People spent months agonizing over what to buy. Others walked away in a daze. Still others hit the bullet and bought an IBM.

1985-1986

### LOW-COST IBM COMPATIBLES (AND THE MAC)

By 1985, the idea that an electronic home office could compete with a corporate office went from pie-in-the-sky to pie-on-the-plate. The Tandy 1000, introduced at the end of 1984, was a watershed product—the first IBM compatible that cost less than \$1,000 and carried a trusted brand name. Until then, consumers had to choose among the high-priced IBM PC or XT, available through IBM Product Centers; Compaq, which was a little less expensive but still geared for corporate sales; or a slew of little-known and no-name clone-makers such as Blue Chip and Eagle. But the Tandy 1000, along with the Korean-made Leading Edge Model D, ushered in a new era of IBM compatibles that turned ordinary corporate professionals into wild-eyed prospectors looking to start their own businesses.

Around the same time, Apple put the 512K "Fat Mac" on the market, and to supplement it, the first laser

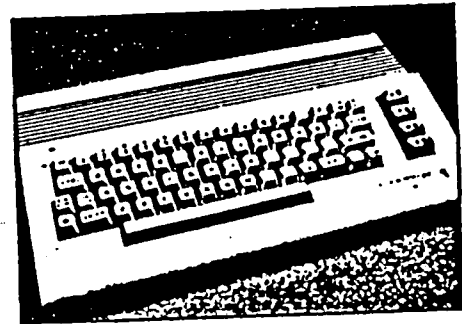
printer, the Apple Laser-Writer, was introduced. Together, computer and printer immediately made an impact on the way people presented themselves. Creating good-looking printouts of a simple business letter, let alone a presentation, on an IBM PC was almost impossible, except for techni-

cally sophisticated users. Using a Mac and a laser printer, almost anyone could look good. The trio of the Mac, the Laser-Writer, and PageMaker gave birth to a whole new computer application—desktop publishing—that instantly created new business opportunities. Suddenly, people at home could design pages that looked better than what was produced by many corporate workers, who were lost in the DIP switches on the back of their trusty Epson dot-matrix printers.

"All I could think of was, 'Let me out of here,'" said Bob Walcher, who left his job in 1985 at age 49 to start a desktop-publishing business in San Diego. "I was already using the Apple IIe and a dot-matrix printer to produce newsletters for my business when PageMaker came out for the Mac. It seemed like a natural, so I took the chance." He wasn't the only one.

In 1985 Link Resources ran its first National Work at Home Survey, which showed 13.3 million people worked at home in some capacity. That same year, the Bureau of Labor Statistics

fielded its first survey of home-based businesses, weighing in with 18.3 million. Faster, cheaper computers with hard-disk drives (10MB was standard on the IBM PC/XT), 1200-bps modems, and the fact that many adults had learned how to use computers at



*The Commodore 64—one of the first 64K computers—combined the CPU and keyboard into one small box. While used mainly as a game machine, the C-64 also served as a small-business computer.*

work laid the foundation for what was to become the explosive home-office market.

As a magazine, we were more interested in how computers were being used than in the technology itself. Ellen Brooks, we found, left her position as director of advertising at American Express in New York City to start her own advertising agency in Malvern, Pennsylvania. Pepper Keenan left a job in the declining oil business to start a real estate appraisal business (with a Tandy 1000) in Metairie, Louisiana. And Charlene Weiss, who was a supervisor for the National Opinion Research Center in Chicago, moved to Arizona when her husband was transferred—and kept her job. These people were different from the word processors and consultants who had characterized home businesses just two years before. They were full-

Until

time, national, and corporate—and no one else was writing about them.

1987

**OUT OF NOWHERE, THE FAX**  
The emergence of the fax machine as an easy-to-master, low-cost business tool—spearheaded by the Canon FaxPhone 10, which broke the \$2,000 price barrier in late 1986—accelerated the movement started by low-cost IBM compatibles. Suddenly, people could communicate instantaneously as long as they knew how to dial a telephone. Maybe the electronic cottage wasn't just for high-tech nerds; maybe

1980s was the conscious decision many from the baby-boomer generation were making to forge a new workstyle. For one thing, the rapid growth in the number of two-income couples with young children was beginning to take its toll on many people, who felt they could regain some measure of control over their lives as well as work by setting up a home office. For another, corporate America had too many middle managers, as the massive baby-boom generation surged up the corporate ladder until the rungs got too narrow to hold everyone. Those being squeezed were frustrated

1989-1990

#### FIRE INTO SUCCESS

A year later, a disturbing new trend began to rob the home-office phenomenon of its enthusiasm: Corporations were laying off employees in droves. The brave new independent professional of the mid-1980s, who had mastered technology, who wanted out of corporate bureaucracy, was being joined by a less-confident, less-independent, and often older middle manager or professional who had been shown the down elevator.

Getting fired summarily was a bitter pill to swallow. "Saying it felt like the rug was pulled out from under me is an understatement," said Veronika B. Carella, whose job as a manager at a *Fortune* 500 firm was cut while she was on maternity leave.

Even if the recession were to end, those who had been spared the corporate guillotine began to feel that their necks were next in line. After a while it became clear to everyone but the Bush Administration that the country was in a deep recession. At the same time, it was clear that the layoffs hadn't been sparked by the recession—they had started in the early 1980s but were exacerbated by the poor economy. Corporate America had changed forever.

1991-1993

#### WE GET WIRED

As if in response to the ur-

gent needs for low-cost, high-powered technology that would help people create business, the pace of product introductions and improvements accelerated rapidly. Communications revved up noticeably. The clunky fax boards of the late 1980s turned into no-nonsense fax/modems; the standard 2400-bps transmission speed was upped to 9600-bps and then to 14,400-bps; scratchy answering machines were replaced by slick voice-mail products and services that were able to offer multiple mailboxes; cellular phones shed weight and price. Computing kept pace, too. The 286 and 386 computers that weren't fast enough to run Windows well were replaced by inexpensive 486s; notebooks dropped weight and added power; laser printers fell below the \$1,000 mark. Longtime technology buffs upgraded for the 1990s;



*Back in 1985, the advent of the Macintosh, LaserWriter, and PageMaker trio allowed people like Bob Walcher to start a home-based desktop-publishing business at age 49.*

even managers and executives could work from home anytime they needed.

Until the fax machine hit, many home-based businesses catered primarily to local markets, cut off from the corporate world. But once the fax machine became the coin of the corporate realm, it opened up whole new worlds for corporate employees: They began their own entrepreneurial activities selling professional services, often back to the companies they had just left. Heck, if you went hog-wild, you could even buy a \$3,000 laser printer to use at home and match your office-bound colleagues font for font.

1988

#### THE NEW

##### AMERICAN DREAM

Besides the empowering technological advances, what stuck out in the late

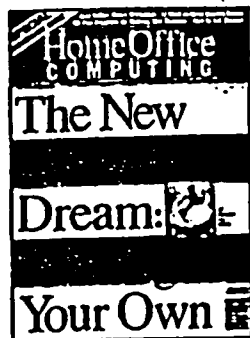
and felt they could do better on their own. All in all, the choice to move home was a positive one; for the millions who still clung to a regular paycheck, it was a tempting option.

This magazine went with the flow. In September of 1988, celebrating our fifth anniversary, we emerged as HOME OFFICE COMPUTING magazine. In that pivotal issue, HOC paid tribute to those who had successfully leapt from the corporate world to telecommute or start their own businesses, profiling 17 high-powered professionals for whom the home office was their main office. For instance, former employee Diane Simpson said this about leaving the corporate womb: "If I stayed, I wouldn't be breaking any new ground or using all my abilities."

first timers started out at an incredibly high level of sophistication.

Shopping was easier, too. You could walk into an office superstore almost anytime of day or evening and fill up a shopping cart with an electronic office. Better

yet, you could sit on the couch at home and select an office from the catalogs—either from manufacturers



*The first issue of  
HOME OFFICE  
COMPUTING  
(September 1988)  
proclaimed that  
working on your own  
was a "New American  
Dream."*

selling direct, such as Dell, CompuAdd, and Gateway, or from general retailers, such as PC Connection and Mac Warehouse.

Besides the improvements in technology, the other mitigating factor to the recession was that big companies still needed professional expertise. Even if they fired you or offered you an escape package, they might still need your services.

"When I left Exxon, 6,000 others left, too," said Bonnie Lewis Rodney, who started BEAM Communications in New York City. "And when I finally decided to go on my own, my former boss gave me a contract."

As these new independents began selling services back to corporate America, they found they could enhance their marketing clout and range of services by bonding with other independents in loose or formal partnerships. When John Horton was laid off by an advertising agency that soon after

went out of business, he started another one, Horton Ahern Bosquest, with two partners. "I knew my own strengths and knew I needed two other legs on the stool."

With today's fax/modems, fax machines, remote software, and phone services, connecting far-flung colleagues into virtual companies is a breeze—and a hot topic of conversation.

While not everyone who works from home is part of a group, the fact that many do and others want to signifies a sea change in the whole concept of working from home. In the mid-1980s, a person who removed himself from the corporate battlefield to pursue independence was perceived by many as isolating himself from the real world. Newspapers ran endless articles on the habits of these strange people who didn't guzzle bad coffee in front of gurgling watercoolers. Did they get enough office gossip, enough social interaction?

Probably not. That's one reason, along with improved communications technology and a basic business need, that people have begun coalescing into networks. As we move through the 1990s, we'll see more companies like Telemorphix, a 25-person interactive TV production firm with no headquarters. Each person works from home, connected to the others by a network run off a file server at the house of Telemorphix's president, Andy Harris. "Not until companies put all their operations online will remote workers have the same power and status as central office workers. Until we reach a point where the president of the company is conducting dialog online, the old

power structure based on physical presence will remain intact," Harris says.

1994-1998

### I'M VIRTUAL, YOU'RE VIRTUAL.

As we look ahead to the next 10 years, it seems clear that advances in communications will have more impact on the way we work than advances in computers. Delivering voice, data, and video to the right people at the right time at an affordable cost will be the watchword, and it will be heard on three fronts: wireless radio transmissions, satellite-based cellular transmissions, and high-capacity telephone lines. Desktop computers, notebooks, personal communicators, pagers, phones, and e-mail and voice-mail systems will become more and more intertwined. The result? Less dependence on central offices and a move toward virtual, extended, or non-territorial offices.

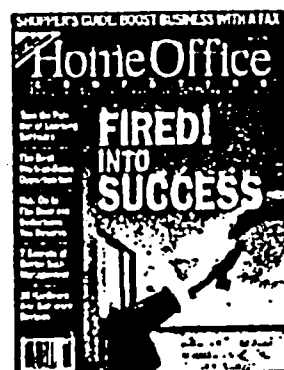
"All this talk about the virtual office and the virtual corporation is more than just talk," says Gil Gordon, a management consultant specializing in telecommuting work options. "It's real."

Gordon expects that more companies will follow AT&T's route, which set up a Telecommuting Office Center in New York City to replace three smaller sales offices in New York and New England. The three offices totaled 72,000 square feet of space for more than 300 people; the new office is only 26,500 square feet for 50 everyday workers and another 65 visiting employees, who are equipped with cellular phones and e-mail accounts. The visiting workers are typically out meeting with clients or working from

home, since each office workstation—or nonterritorial office—is designed to be used by eight employees.

By simultaneously downsizing and moving toward a virtual office, Gordon estimates that AT&T will save \$1.3 million in one year. "The days of command and control bureaucracy and a rigid approach to organization are going to fade."

New products and services just coming on the market will accelerate that trend. Take, for example, national messaging services that send wireless messages to a minute pager that fits in your pocket or purse. SkyTel, for one, claims its messaging network now reaches thousands of cities and towns, covering 90 percent of the business population. Messages are sent at



*For many people,  
working alone was no  
choice—they were forced  
into it after being let go  
from a corporate job.*

900 MHz frequency so that they will reach you in an office, hotel, or on an airplane. Goodbye, phone tag!

A step up from the pocket pager is SkyTel's SkyStream receiver, which attaches to the Hewlett-Packard 95LX palmtop computer to let you send e-mail and updated files to any computer from nearly

anywhere.

"The home-office market will see big gains from going wireless," says Jon Hulak, a small-business and home-office research analyst at BIS Strategic Decisions, a market research firm. "Wireless technology will make distributed office environments and telecommuting much more acceptable for companies."

The more advanced the

"The Newton is on its way to revolutionizing the way people capture, organize, and communicate information," insists Sculley. The handheld Newton combines the capabilities of a fax, phone, and personal computer. Jot a note on the plane and fax it off.

Whether the Newton can deliver on Sculley's promises remains to be seen, but it manifests the convergence

Bleeker, a consultant and lecturer specializing in the office of the future. "Once you've plugged into the serial port, you download all the data you've collected into a single unit—an integrated, intelligent, document processing appliance."

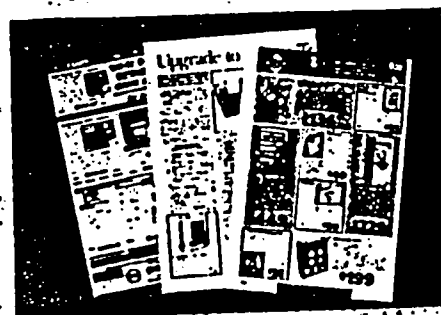
Whatever we choose to call our new devices—whether they are small or large, with or without keyboards—they will still be computers, driven by faster, smaller microprocessors. The new Pentium chip from Intel and the upcoming PowerPC chip from Motorola, Apple, and IBM lay the foundation for more computers capable of running full-motion video, recognizing voice and handwriting, and receiving wireless transmissions. Because these new chips are smaller and require less power than today's microprocessors, computers will be able to run for 10 hours or more on one battery charge.

Most of the advances outlined above focus on person-to-person delivery of voice and data—the merging of the telephone and the computer. Toward the end of the decade, as digital HDTV (high-definition TV) takes root and the nation is wired with fiber-optic telephone cables, the computer and TV will begin to merge.

#### 1999-2003

**THE DATA SUPERHIGHWAY**  
For all the advantages of wireless and cellular communications, the factor that will have the most profound effect on home offices is the quality of phone lines in the

home. As long as most homes are serviced by old-fashioned copper telephone



*The early 1990s brought major shifts in how people buy computers: more started shopping through discount superstores and mail-order company advertisements.*

**Some see the rise of the PDA (personal digital assistant) as a demotion for the desktop PC.**

infrastructure for wireless and wired communications, the easier it will be to personalize communications and to reach people wherever they might be. AT&T's 700 phone number, which you can program to follow you around the country, is just a rudimentary example of the kind of person-to-person communications we can expect down the pike. Another example that foreshadows the wireless future is a current trial in Oregon and Washington by Seiko Telecommunications Systems, which sends weather forecasts, ski conditions, and lottery numbers to subscribers' receiver-equipped wristwatches. Eventually, the company would like to send personalized bank statements every morning.

Of course, due to its small viewing area, there's a limit to what you can do with a watch. The Newton integrated personal communicator, or personal digital assistant (PDA), that Apple chairman John Sculley has been touting for so long, will provide more functionality.

of computers and communications. Three major phone companies—Bell South, Ameritech, and USWest—have agreed to provide services for the Newton. Bell South, for example, is testing a Newton-based telephone that will let consumers bank, receive and send faxes, take messages, and access information services. Ameritech will notify its voice-mail and enhanced-fax customers that they have messages waiting, which they can then retrieve with a Newton.

But Newton doesn't have the field to itself. With the AT&T EO 440 Personal Communicator, you can scribble a note on the screen with a pen, pick up the cellular phone, and shoot off a fax. The Zoomer PDA, from Tandy and Casio, includes a built-in connection to the America Online network.

Others see the rise of the PDA as a demotion for the desktop PC. "The desktop computer increasingly becomes an intelligent peripheral to the personal communicator," says Samuel

wires, we won't be able to send huge graphics files back and forth, let alone multimedia files that combine video and sound, nor will we be able to carry out multiple tasks on one line.

Right now, most long-distance phone lines are high-speed fiber-optic lines that carry voice, data, and video signals simultaneously. However, most lines from local switching stations into the home are the old-fashioned copper kind, which can carry only one signal at a time. While many *Fortune* 100 companies have built private fiber-optic superhighways by buying access to phone lines from the gatekeepers, residential access is years away.

The existing copper lines can carry more data if outfitted with ISDN (Integrated Services Digital Network) capability, which some local phone companies now offer.

New York Telephone, for example, charges \$12 a month extra for ISDN service, which lets people in different locations work interactively on the same file. Mitch Kapor, founder of Lotus Corp. and cofounder of Electronic Frontier Foun-

dation, dedicated to promoting and protecting electronic communities such as the Internet, would like to see the widespread availability of digital communications, such as ISDN service (they have encountered some regulatory resistance to rate setting and implementation). Others think that ISDN service isn't capable of delivering a true data highway.

"If the regional Bells go fiber optic, it will allow the home-office worker to ac-

form some of these tasks through your TV or computer, but you can't, for example, talk to someone on the phone and send her a color pie chart on the same line at the same time.

Fiber-optic lines will also make videophones practical. The AT&T Videophone 2500, for instance, is a fun product now, but the image of the speaker on the other end has the herky-jerky movement of astronaut Neil Armstrong walking on the

face to face—an ancient technology called *proximity*," explains Robert Fish, a cognitive psychologist who is one of the project's designers. Cruiser depends on high-capacity circuits that won't be common in homes for several years, but if and when such technology becomes practical, it will replace the watercooler chats that remote workers now miss.

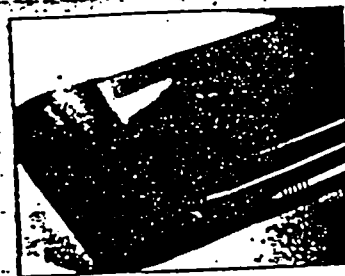
If people can compute and communicate face to face from anywhere with no loss of proximity to ideas and data, then the need for a central office diminishes.

"When we talk about virtual corporations today, we're mainly talking about alliances and outsourcing agreements," says Apple's Sculley. "Ten or 20 years from now, you'll see an explosion of entrepreneurial industries and companies that will essentially form the real virtual corporations."

#### A NEW WORLD AWAITS

As the lines between home and office, work and play, personal and business continue to blur, HOC will search for answers to emerging questions. How will people deal with information overload and intrusions into their personal lives? Will we be able to enter data into our computers by voice, rather than by typing? Will videoconferencing reduce the need for face-to-face business meetings? Or will these questions fade away into cyberspace as technology takes unforeseen turns?

Ten years ago, remember, all anyone could talk about



PDA's, such as Apple's Newton, will change how we communicate.

was artificial intelligence. Certainly by the 1990s we'd have computers that were more than dumb receptacles of information propagated by error-prone humans. Computers are smarter than they were, but they still have no real intelligence.

Someday, as computing, communicating, and video devices blend together, as delivery systems become so transparent that we won't know or care where information comes from, we will enter the brave new world of ubiquitous computing.

"There is more information available at our fingertips during a walk in the woods than in any computer system, yet people find a walk among trees relaxing and computers frustrating," notes Mark Weiser, head of the Computer Science Laboratory at Xerox's Palo Alto Research Center, where the graphical interface found on the Mac and Windows computers was first developed. "Machines that fit the human environment instead of forcing humans to enter theirs will make using a computer as refreshing as a walk in the woods." ■

A 12-year veteran on the front lines of personal computing, senior editor NICK SULLIVAN writes the monthly *Workstyles* column from his home office near New Bedford, Massachusetts.

### Machines that fit humans will make using a computer as refreshing as a walk in the woods.

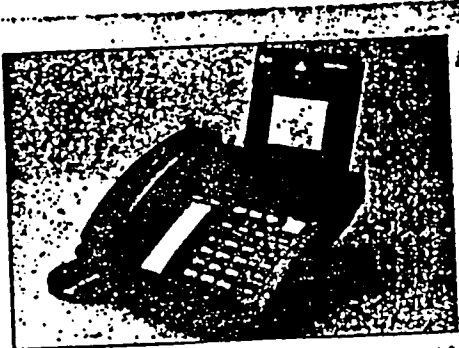
cess data more readily, to be a full-fledged part of a corporate work group," says BIS's Hulak. But the regional Bells aren't likely to lay thousands of miles of fiber-optic cable unless they are given some signal that they'll be able to sell more than just telephone service.

However the superhighway is built, it's clear that by the end of the decade we will be able to send graphics files at high speed and access information from businesses, libraries, schools, and other homes. You can already per-

moon. Denise Caruso, editor of *Digital Media*, a San Francisco-based industry newsletter, says the final frontier is video telephony, a complete two-way link of voices and data.

An experiment at Bellcore, the research arm of the nation's local phone companies, indicates one way that video technology may be used to enhance work-group communication: The video network, called Cruiser, includes small TV monitors atop computer workstations or elsewhere in people's offices. Every so often a chime sounds to indicate that someone is watching and would like to talk. Unlike the AT&T videophone, which shows a close-up of the caller's face, Cruiser shows a wide view with background.

"We've done studies showing that most communication in business is informal, unscheduled,



With herky-jerky images like an old-fashioned silent movie, the AT&T Videophone 2500 represents just the first generation of video telephony, the two-way linking of voice and data.



# Lawyer: Have modem, will travel

■ High-tech practice: Eugene attorney uses computer, phone lines to service his far-flung clients while he's on the road.

The scent of bacon drifted out of the houseboat kitchen into a warm Shasta Lake dawn, tempting Don Laird to forget about the computer, the cellular phone, the modem, the law practice.

But no. He just had to test the computer communication technology that makes him a pioneer road lawyer.

In swim trunks and T-shirt, Laird sat at his portable laptop computer and generator-powered cellular phone. In a few keystrokes, he connected with the computer in his Eugene law office 240 miles away.

The Shasta Lake test ascertained that Laird's

## INSIDE THE LAW

Bill Bishop

technology works as well when powered from a 110-volt houseboat generator as from a 12-volt car battery, Laird's usual mobile power source.

Although it's impressive, Laird knows today's computer communications technology is virtually in its Stone Age. But it won't be there long. "We'll look back in a year or two and I'll think I'm pretty primitive right now," he said.

Experts in the computer field believe an explosion of new communications technology in the next few years will enable legions of lawyers and others to take their jobs on the road, or on vacation.

Over the past three years, Laird has climbed the ladder of computer and mobile telephone technology

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modems. "It was quite a search to get everything compatible," McIntosh said.

Portable telephone technology is one major obstacle to mobile computing. Cellular phone makers are moving toward smaller units with lower power requirements. Conversely, wireless data transmission requires a strong and clear phone signal, McIntosh said.

The core of the problem is that telephones and computers currently speak different languages. Telephones use an analog signal that works on voltage variations. Computers speak in a simple digital language that must travel on a signal that is steady and free of static interference.

The two languages are barely compatible. Translation through the modem is slow.

Major communications companies already are planning to change cellular telephone transmissions to digital signals. That development eventually will link telephone and computer systems to satellites for global communication capability, McIntosh said.

"That will dramatically change everything. None of the interference issues will matter," he said.

The end of the computer communications Stone Age is at hand, said Rose Degendorf, a lawyer for Intel Corp., an international manufacturer of microcomputer components.

This month, the company will introduce a palm-sized device and wireless digital modem that will link up with office-based computers to produce a highly mobile electronic message capability.

"You can be sitting at the beach with your modem and palmtop in hand; the whole thing weighs 3 or 4 pounds," Degendorf said.

For consumers, the limiting factors to computer communications are cost and complexity, Degendorf said. Those are two fields in which computer manufacturers will continue to compete for market share, she said.

"Ultimately, there won't be any place you won't be able to work, provided you have the technology and the network," she said.

Bill Bishop covers courts and corrections for The Register-Guard.

one step at a time, to keep his law practice rolling full steam while he rolls up the miles keeping in touch with clients all over the state of Oregon.

Among the many messages Laird received that morning on Shasta Lake was a Father's Day greeting that one of his partners at Harrang, Long, Watkinson, Laird & Rubenstein left him on the office E-mail system.

But Laird's usual data transactions are far more weighty. He specializes in health and hospital, retirement and business law.

Dynamic competition among insurance companies and care providers brings Laird an increasing workload and growing travel demands. It's complicated work, forming groups of doctors into business affiliations that, among other things, negotiate for insurance contracts.

"We're constantly transmitting documents, letters, plans, agreements," said Renee Taylor, one of three secretaries Laird keeps busy with the paperwork from his practice.

When Laird is driving, he is talking in the car phone. When he stops at a rest stop, motel or client's office, he transmits and receives documents and messages via his laptop computer.

"We're always in communication with the office," Taylor said. "From the secretary's perspective, you have a steady work flow. You don't have the peaks and valleys. As far as the client is concerned, Don is still in town."

Laird's journey into mobile computer technology started with a simple car phone three years ago when he and himself wasting a lot of time living between Eugene and the firm's Seburg office.

Around that time, the Harrang firm was beefing up its office computer system and the firm's lawyers were increasing their use of common computer modems to link their home computers to their office network.

It dawned on Laird that he might be able to practice law on the road just as well as he can at the office or at home.

In consultation with Robert McIntosh, president of Comsource Associates, the firm located cellular phone computer modem equipment that worked with its office computer.


It wasn't easy to set up, and it's not simple to use, McIntosh says. For example, the mobile computer user must learn to reprogram the computer modem to operate with the particular cellular hard-wired telephone system that is at hand to transmit data, he

The key to Laird's mobile system is the modem, a specialized model that links his computer and cellular phone. It costs about \$600 — more than the cost of common high-quality



WAIVE EASTBURN/The Register-Guard  
A computer turns Laird's car into mobile office.

**METRO**

**Date:** September 17, 1993  
**To:** Future Vision Commission  
**From:** Ken Gervais   
**Re:** Regional Growth Conference

Metro's 1993 Regional Growth Conference will be held on October 4th. A variety of speakers and panelists will be discussing the effects of growth and the experiences of other metropolitan areas. There will also be workshops for participants to discuss the proposed Region 2040 growth concepts.

We are registering the Future Vision Commission members for the growth conference. The Commissioners can participate in the small discussion groups and make observations and notes on the ideas of conference goers. If you are unable to attend the day session, please contact Barbara Duncan at 797-1750 by September 27th so that we can reserve an accurate number of spaces.

The Growth Conference will be an excellent place to learn more about Region 2040 and to gain an insight on the ideas that metropolitan residents have about the future of the region.

KB:bd confmem