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September 26, 2003

Patricia Decker  
Waterfront Futures  
1801 Roeder Avenue  
Bellingham, WA 98225

Dear Ms. Decker,

**The Downtown and Waterfront as Bellingham's Transportation Nexus**

With Bellingham's waterfront becoming available, the city has a chance to shape its life for the next generations. One of the keys will be whether the city takes the opportunity to create a true transportation nexus in which cars play a relatively small part. After discussing generally why cars need to play a smaller part in our lives, I will recommend a conceptual plan for Bellingham's downtown and waterfront area. But first a note about why someone from Skagit County would be interested in Bellingham's transportation setup.

I live in Mount Vernon, and come to Bellingham by Greyhound bus many Thursdays. The Greyhound bus lands me at the Fairhaven terminal, from which it takes an average of about half an hour (including bus stop waiting time) by WTA to get to downtown Bellingham and WTA's central terminal. The same would be true if I came by train. In other words, arriving at the terminal in Fairhaven puts me half an hour away both from the most likely destinations in Bellingham (the city center) and from the means to get to more widespread destinations.

I contrast this with the situation that will prevail in Mount Vernon once its multi-modal center is finished. Someone arriving in the city by bus or train will be in the city center – within walking or bicycling distance of many of her likely destinations. She will also have landed exactly where all the SKAT buses converge, so that if her destination is further afield, there will likely be a way to get there more or less directly.

Everett has already put in its multi-modal center – not exactly in the city center, but at least close.

There are many more people than me who would benefit from a good transportation hub. According to the Western Washington University transportation office, about 400 people a day come from points south of Whatcom County to go to the University. Many more go to the other institutions of higher learning in Bellingham: Whatcom Community College, the Northwest Indian College, and Bellingham Technical College. Many more again go to places of work or shopping in Bellingham or visit the cultural amenities.

Conversely, a number (unknown to me) of people live in the Bellingham area and travel to Skagit County for work, shopping, and all the other things that people travel for.

Whichever starting point they have, all of these people would be better served by a central Bellingham transportation hub.

So now to the discussion of cars in general.

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## **The Car-based Transportation System Blights Our Lives Across the Board and in any Event is about to End**

Cars are one of the leading threats to the health and safety of Americans, a leading source of the disruption of the world's ecosystem (in which we live, too), drain family budgets, and apparently lead us to kill for their sake. They consume and desertify more space than any other transportation mode. The petroleum-based fuel that we use to manufacture them and to run them is reaching its peak production in the world now. Car fuel will only become scarcer and more expensive as the years pass. These are all reasons for Bellingham to make the other modes of transportation central to its plans for the city center and waterfront, and to make the seamless interconnection of those modes the foundation of its future transportation system.

### **Exclusive Reliance on Cars as the Basis of our Transportation System is a Leading Public Health Threat**

Observers are reporting more and more frequently on the epidemic of obesity in the United States. The Center for Disease Control now ranks obesity as equal to smoking among self-inflicted health threats. Strokes, diabetes, and heart attacks are among the leading causes of death in our society, are all stimulated by obesity, and are attacking ever younger people.

Along with poor diet (most of what is available at drive-in restaurants), and a generally sedentary lifestyle, one of the central causes of the obesity epidemic is a transportation system in which the largest muscular effort is flicking the turn signal. Our people have been trained whenever they leave their houses to put on their vehicular prosthetics. No wonder they've neglected the use of their own bodies!

The deaths and diminished lives from obesity need to be placed alongside the deaths and illness from air pollution and water pollution caused by cars and their paraphernalia – roads and parking lots.

### **Cars are the Leading Threat to Public Safety in the United States**

Cars crashes kill 40,000 people per year in the United States. They have been inflicting this toll of misery year after year for 50 years -- approximately 2,000,000 people sacrificed to cars since the

Second World War. Cars are a greater threat to the safety of Americans than crime, terrorism or war.

At the height of the crack cocaine panic in the early 90s, crime was only killing about 20,000 people per year.

The World Trade Center collapse two years ago led to the deaths of about 3,500 Americans -- as many as are killed by cars every month.

Approximately 600,000 Americans have been killed in all the wars we have fought from and including the Civil War -- less than a third as many as we have killed with cars since the 1940s.

### **American Cars are a Leading Threat to the World's Ecosystem**

With 5% of the world's population, Americans account for 25% of the pollution and other forms of waste in the world. Of the air pollution that we spew out, 40% comes from cars. This pollution is in the form of poisons -- which we must all breathe. It is also in the form of global warming gases (primarily carbon dioxide) which are disrupting the ecological system on which our lives -- and life itself -- depend.

### **Cars Consume More Space than Any Other Way of Getting Around**

Standing still, a car consumes up to about 200 square feet of surface. In the Puget Sound region there are about 10 parking spaces per car. That means that before any one of our cars has moved an inch, we have set aside 2,000 square feet of pavement for its use. At least 90% of that space is by definition unused all the time.

In addition to the parking spaces, a moving car consumes a stretch of pavement in front of it of up to 2,600 square feet in area.

Between its pro rata share of the parking spaces and the road space that it is immediately using, a moving car consumes up to 4,600 square feet of space -- more than a tenth of an acre. Since most cars are occupied by only one person, that is the amount of space needed to transport that one person in a car.

Another calculation would be the one based on each car's pro rata share of total road space. That figure was not available to me. The result would surely be larger still.

Compare what cars have gobbled up to the amount of space that a person consumes when walking -- about 15 square feet -- or when riding a bicycle at speed -- about 200 square feet. Trains are likewise light in the consumption of space. Two train tracks can carry as many people as 16 lanes of superhighway. I haven't done the calculation for buses, but it too would show a much better result than cars.

Because of the huge amount of space that cars consume, 50-70% of the surface area of our major cities is now paved -- our urban desert, our urban poison concentrator, our urban killing zone.

Beyond the quantity of pavement with all its effects, the large amount of space that each car consumes leads to the congestion that we all complain about – even with all those acres of pavement.

### **The Space Reserved for Cars is a Manufactured Desert**

Green things are hostile to cars. They get in the way. The soft and living soil in which they grow won't support the weight of cars. Plants are of course a balm to the human spirit, the basis of all the food chains in the world, and provide habitat directly or indirectly for all other creatures. For the sake of cars we remove all green things and even the soil which might support them. In other words we turn the land into a strip-mall desert.

### **The Space Reserved for Cars is a Hazard to our Water and our Waterways**

Pavement harms our waterways in chemical ways and physical ways. The two effects interact.

The chemical problem is that pavement acts as a collector and concentrator for the poisons that drip off cars or are rubbed off their tires. These poisons are then washed into our waterways and our groundwater when it rains.

The physical problem has several aspects. When rain falls on soil, it is stored for a time in the soil and then seeps in due course into adjacent streams. In the soil, the water is filtered and cooled. The flow into the streams is gradual and more or less evenly spread over time.

By contrast rain on pavement causes flooding. Pavement does not act as a reservoir. Pavement likewise provides no filtering. When water falls on pavement it assumes whatever temperature the pavement has, and does not undergo the cooling and moderating effect of being underground. The water from pavement (dirty, murky, warm and in flood quantities) flows in a rush into neighboring streams when it rains. When there is no rain, the flow into the streams stops.

For the creatures living in the streams it is as if their atmosphere (the water) were sometimes clouded with hot, dusty, poison gases and sometimes barely there at all.

For the humans who depend on the water for drinking, irrigation or any other purpose, or who live near the stream and wish not to be flooded, pavement threatens all of this.

### **The Space Reserved for Cars is Costly to Acquire, Costly to Construct and Costly to Maintain**

Road space costs \$1,000,000 per lane-mile. Bicycle or pedestrian space costs about 5% as much. Train space costs probably as much as road space (I don't know the figure), but is much more efficient at moving people and goods. Every unit of pavement, whatever users it has, must be repaired from time to time. The larger the expanse of asphalt, the more costly the repair.

Requiring homeowners to reserve space for cars in the form of driveways and garages adds an average of 25% to the acreage (and land cost) implicit in home-ownership. The setbacks (especially the front setback) necessitated by car-ism add more.

Businesses are required to provide off-street parking sufficient to accommodate their customers on the busiest day of the year. As a result the vast expanses of asphalt that surround all business establishments are largely empty nearly all the time – for all that they perpetrate their various harms to our waterways whether there are cars on them or not. The cost of the parking lots is a hidden charge on all who patronize these businesses, even if they do not come in cars. The parking lots – because the charge for their use is not explicit – are a subsidy to car trips and to congestion, pollution and traffic deaths.

The expanse of all these parking facilities further adds to the distance between possible destinations – further inducement to the use of cars that enabled sprawl in the first place.

### **American Families are Strapped in Money and Time in order to Pay for their Cars**

American families spend about 18% of their incomes on transportation, only slightly less than what they pay on shelter. In no other part of the world (except Australia) do families have to spend more than about 10% of their incomes on transportation. 85% of the 18% is the cost of owning and operating the family's cars.

For poor people in the United States the cost of transportation is truly outrageous. Those in the bottom quintile of incomes must spend over a third of the family income for cars – because there is no alternative. Even those in the second quintile have to spend a quarter or more.

The social policy of a car-based transportation system is to make the system into a funnel – from the pockets of poor people into the pockets of rich people: the managers and shareholders of the car and oil companies.

Viewed from the aspect of time, earning the money that it takes to own and operate a car consumes an average of over two working months per year. For people in the bottom quintile, the quantity of time to earn car transportation is four months per year; for people in the second quintile, it's three months. With Americans now taking nearly half an hour each way in their commutes, their commutes alone consume another six working weeks per year. It is completely unclear that the 3 ½ to 5 ½ working months per year consumed in this way is time well spent.

One may note that Americans now have the longest working hours in the world and spend nine working weeks per year longer at work than their European counterparts. The cars that the last 50 years of public land use and transportation policy have compelled Americans to buy are a large part of the reason for this overwork.

### **Car-based Urban Design Leads to Social Isolation**

With everyone in cars, social contact is diminished. The sub-urban density of residential population that prevails even inside most of our cities means that people have to rush past their

neighbors (who are also locked away inside their cars or single-family residences) just to get to all the (distant) places that our urban planners have laid out for us over the last decades. Other people are strangers or at best impediments to traffic.

**The Energy Basis of the Car-based Transportation System is about to End**

Cars consume more oil-based products than any other mode. This is true both in absolute terms and in terms of what it takes to move a person or a thing a given distance. Without cheap, plentiful petroleum for their manufacture and their operation, cars could not exist. Alternative technologies like fuel cells will still depend on massive energy consumption to produce the hydrogen that is their “fuel.” Alternatives like wind power and solar-electric have not yet been shown capable of producing enough energy to manufacture themselves.

Most serious analysts conclude that world oil production is at its peak now. From here on it is

<b>Assumptions</b>	<b>Design for cars</b>	<b>Design for pedestrians, bicyclists, buses, trains</b>
<b>Oil resources are ending</b>	Wasted investment, unworkable city center and community	Safe, convenient, attractive, workable city center and surrounding community
<b>Oil resources are infinite</b>	Economically OK, but city center and surrounding community are ugly, dirty, noisy and dangerous	Safe, convenient, attractive, workable city center and surrounding community

**Table 1 – Effects of assumptions about oil resources and urban design**

downhill. At present rates of consumption (destruction) world oil resources will basically be gone in forty years. Long before then (only a decade or two from now) all of the aspects of our society that are dependent on profligate energy use – and which of them are not? – will be in the throes of death or at least radical change. The regime of the automobile will be over. Cities that have prepared for the post-car and post-petroleum era will be the ones that it is attractive to live and to work in.

Bellingham can agree or disagree with the prediction that the automobile era is ending – but the risks weigh strongly in favor of acting on the truth of the prediction.

Table 1 describes the options in tabular form.

## **Are We Willing to Kill in Order to Use Our Cars?**

Americans must understand by now that our car craze is the shameful excuse for invading, occupying, and looting Iraq – notwithstanding all the doubletalk about weapons of mass destruction, links with al-Qaeda, ability or intentions magically to install democracy, and imminent threats to the United States. The gasoline that each of us puts in his or her car is stained with the blood of the thousands of men, women and children who have died in the invasion and occupation and the hundreds of thousands who died under the sanctions that preceded the invasion. The occupation will only lead to further deaths, to further looting – to a regime that will make the Nazi concentration camps look like a church fair by comparison.

What Bellingham does with its waterfront can ratify this killing and looting – or turn onto another path.

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## **A Multi-modal Center Should be One of the keystones of Bellingham's Waterfront/Downtown Project**

If Bellingham chooses to make its transportation system integrated and balanced, the city center will be a living, sustainable space fifty years from now and more. If it neglects the need to have a real transportation hub, the city will die. With the demise of the petroleum-based economy in much less than fifty years, the suburbs and exurbs will die first, and there will be nothing set up at the core to keep things going.

One of the keys is a terminus at the city center which accommodates trains, buses, bicycles, pedestrians, water transportation, and for a limited time and to a limited extent, cars. This will be a key to a safe, convenient, attractive and workable city whether the petroleum era is ending or not.

This central terminus is essential to carrying through the shared vision of a “connected regional multi-modal transportation system” that the community developed at its Transportation Summit in 2002.

From a visual design point of view, such a terminus could be the framing construction.

Probably the train line would be covered. This would preserve visual values and prevent harm to our ears. Perhaps the track would be moved further away from the waterfront in some areas.

Green space would proliferate. Sidewalks and parks would enable people to mingle and to congregate. Space would be set aside for community vegetable gardens.

Combined retail, business and residential buildings would be the norm. They would not be utterly dependent on oil-based ventilation, heating and electrical systems.

These principles of green, compact, multi-use, pedestrian-friendly urban and building design would need to be applied not just in the city center.

The city would become a living community, instead of a place where many people happen to carry on their separate lives, poisoning one another and getting in one another's way.

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Thank you for the opportunity to comment. If it would be useful, I can supply references for the factual information in this letter. Please let me know if there are any points that I could clarify.

Sincerely,



Stonewall Jackson Bird

cc Richard Walsh, Whatcom Transit Authority  
Stephen E. Gorman, CEO, Greyhound  
David L. Gunn, CEO, Amtrak  
State Senator Harriet Spanel  
State Senator Mary Margaret Haugen  
State Representative Jeff Morris  
State Representative Dave Quall  
Skye Richendrfer, Mayor, Mount Vernon  
Mark Asmundson, Mayor, Bellingham  
Barbara Ryan, Bellingham City Council  
Congressman Rick Larsen  
Senator Patty Murray  
Senator Maria Cantwell  
Ellen Barton, Whatcom Council of  
Governments

Jim Simpson, Washington State Transit  
Association  
Preston Schiller  
Dan Pike, Transportation Director, Skagit  
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