The Aeromobile-Aeroduct System

The Complete Ground Transportation System for Today and Tomorrow

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Part I: Introduction

The modern world is heavily dependent on all forms of wheeled ground transportation - cars, trucks, trains. These means of transport provide tremendous flexibility and personal choice, but do so at a very great cost to the environment (in terms of pollution and destruction of land for roads, rails and parking lots), human life (in terms of accidents), human productivity (in terms of time lost in traffic and time performing the act of driving) and human comfort (in terms of less than ideally comfortable rides and noise pollution). In themselves, the disadvantages of the current wheeled system of transportation are considerable. When one considers the tremendous expense if not impossibility of increasing capacity by building more roads, rails and parking lots, it is clear that a replacement must be considered.

Wheeled transportation triumphed in the 20th century. We proposal a radically new, superior replacement for the 21st century and beyond. The Aeromobile-Aeroduct System, developed by the renowned air cushion inventor, William R. Bertelsen, MD, can accommodate all the requirements needed in the field of ground transportation, without the undesirable side effects. The basic premise of the system - air cushion vehicles in guideways, or rights of way - has tremendous potential for the areas of transportation currently served by wheeled vehicles: suburban/urban transit, long distance travel, freight transport, and weather impaired travel. We believe it is a complete ground transportation system, and the only viable alternative to the current one.

The goal of the document as a whole is to present a case for the Aeromobile-Aeroduct System as not only a superior means of ground transportation, but a necessary one, given the status of ground transportation today. We hope you reach the same conclusion yourself, and take an interest in making its acceptance widespread and in the near future.

This rest of this document consists of four more sections. They are:

Part II **What is the Aeromobile-Aeroduct System?**

Describes with text and photos, the components of this system

Part III **Why does the current wheel based transportation system need replacement**?

Discusses the principal defects of the system of transportation based on wheels and roads

Part IV **How Does the Aeromobile-Aeroduct System fulfill all the requirements needed by a complete ground transportation system?**

Lists fourteen requirements that any system of transportation must meet in order to be considered a replacement for the current wheel based one, and describes how the Aeromobile-Aeroduct System fulfills each requirement.

Part V **Conclusion**

This section sums up the document and presents ways of implementing the Aeromobile-Aeroduct System.

Part II: What is the Aeromobile-Aeroduct System?

The essentials of the Aeromobile-Aeroduct System are automated air cushion vehicles traveling in elevated rights of way. The conception and design of this system has been the crowning achievement of Dr. William Bertelsen and his associates. Each component of the system, and why it is a necessary component, is explained separately as follows:

Air cushion vehicles

These are vehicles that travel on cushions of air. Originally and still frequently called hovercraft, they are usually thought of in an amphibious context. However, Dr. Bertelsen's many years of air cushion vehicle research shows they are also ideal for travel in guideways, since they create little impact on the right of way as they travel over it, and naturally like to travel within a groove. Low impact on a right of way is a tremendous advantage since it makes the infrastructure of transportation a low cost endeavor to build and maintain.

The vehicles used in the Aeromobile-Aeroduct System are known as Gimbal Fan air cushion vehicles. They use the Gimbal Fan invention of Dr. Bertelsen to power the vehicle and allow precise and efficient control. This method of propulsion was developed after his many years of research on air cushion technology.

Rights of Way

To guide the vehicles in a desirable direction, and to allow maximum speed, the air cushion vehicles travel in half open or completely closed circular tubes. These rights of way are inexpensive to build and maintain since they receive little wear and tear from the vehicles traversing in them. The can be pre-manufactured in mass quantity, further reducing their cost. The use of guideways is a prerequisite for automated, accident free travel.

Automation

Vehicles in guideways can be automated, so that the passenger of the vehicle need do nothing more than specify a destination, with the help of an on board computer. A central computer system calculates the fastest path to the destination, choosing which rights of way the vehicle should follow. The locations of the numerous vehicles in the numerous rights of way are monitored to keep them a safe distance apart, and to reroute vehicles in the event of anticipated congestion.

Elevation

The guideways are elevated, eliminating potentially dangerous intersections and eliminating interference with people, animals and the rest of the environment at the ground level. Elevation allows for stacking rights of way vertically and horizontally, to accommodate any amount of traffic.

Here are some photos illustrating the Aeromobile-Aeroduct System. These are photos of the proof of concept vehicle and right of way that Dr. Bertelsen and his associates constructed in the mid 1990s. This prototype proved the validity of the concept of air cushion vehicles traveling in lightweight guideways.

Here is the prototype, one passenger vehicle in a curved right of way. This particular right of way is very inexpensive, being made of sheet metal.

In a real world use of the Aeromobile-Aeroduct System, the vehicle can be expanded to six passengers and more. The right of way can be made of metal or clear plastic or many other materials.

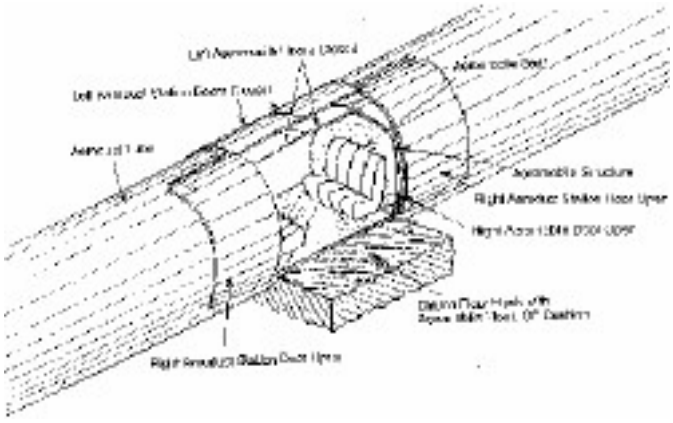
The air cushion vehicle used in the prototype system is very simple and relatively lightweight.

The Gimbal Fan (shown at the back of the vehicle) that serves at the power unit can be mass produced and added in multiples to a craft to give more power, for heavier cargo or more passengers.

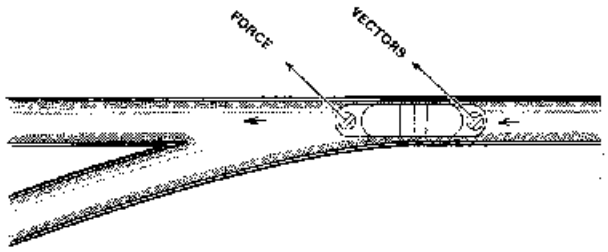
The air cushion vehicle rests on a cushion of air, so the right of way is not worn down by the weight of the vehicle.

The prototype right of way viewed from the side. It is extremely lightweight compared to the concrete or asphalt used for roads. Its low weight makes it very easy to elevate.

Here the vehicle is “off cushion”, resting directly on the right of way. This is a situation similar to the arrival of a craft at an Aeromobile-Aeroduct station, where the vehicle comes to a complete stop, and supports itself on the guideway.



A drawing by Dr. Bertelsen of how a vehicle in right of way will stop at a station. This right of way is a complete tube, but it could also be a half circle as the one in the prototype.



A drawing by Dr. Bertelsen of the “Y” intersection approach of leaving one right of way and entering another. This lets the vehicles be automatically “switched” to the right route without there being any need for physical switches.

Advantages of Aeromobile-Aeroduct System

The advantages of this new modality of transportation are many. Here are ten of the most salient.

1 Vehicles can be completely automated. This brings about the ability to schedule vehicles in an orderly, efficient manner, provide feedback for passengers during the trip, give passengers freedom to do other things, eliminate inattention, fatigue and lack of competence as the cause of accidents, and empower those with disabilities to make full use of the transportation system.

2 Rights of Way can be elevated easily. This does away with intersections, and conflicts between vehicles and pedestrians, animals, etc. It also eliminates the need to pave valuable green space. Elevated rights of way can be stacked to accommodate increased demand.

3 The Air cushion vehicles and the Rights of Way are less expensive than comparable automobiles and roads. This makes the Aeromobile-Aeroduct System universally affordable.

Lower cost also makes the system very extensible because the stackable rights of way are not expensive, can be pre-manufactured, and are lightweight (compared to the cement used with existing elevated roads).

4 Air cushion support of vehicles render them operable in the most extreme conditions, including routes through the canopies of the hot, humid rain forests, and in the sub zero temperatures, and storms of the polar regions, in all-weather, despite heavy snow, sleet, fog, heavy rain, etc.

5 Lowest to zero pollution of the atmosphere, ultimately using nonpolluting hydrogen eliminating trolleys, third rail, or sliding contact, line power losses, and ozone producing electrical pickups.

6 There will be few or no accidents in the Aeromobile-Aeroduct System, since there is immunity to weather conditions, there is elevation above pedestrians, there is automated control of vehicles (eliminating driver error as a cause of accidents) and there are no intersections.

7 Air cushion support provides the smoothest ride of any vehicle, and there will be no potholes, vehicle impact, and therefore, greatly reduced need for repairs.

The simplicity of vehicles also contributes to reduced need for repairs.

8 Automation and elevation together will increase efficiency of travel, since the

vehicles won't need to stop at intersections or be caught in congestion. Vehicles will travel at a nearly constant speed in the rights of way.

9 Parking lots, another threat to green space, will be greatly reduced since automated vehicles can return to their home space and be recalled when needed.

10 There will be many options for vehicles: one can own a vehicle, appointed as sparingly or as luxuriously as one wants, and one can use a vehicle like a taxi, for a one time trip. The same vehicle can be used for all transit, whether in a city or for travel into the country.

There will also be the option to have large vehicles for freight as well as smaller ones just for passengers. There will even be the option of carrying an automobile in the system, for use in getting to destinations not fully covered the system.

To make these advantages concrete, here is how Dr. Bertelsen describes what transportation will be like when his Aeromobile-Aeroduct System is implemented:

"Imagine a whole city, county, state, or the entire country, with an established Aeromobile-Aeroduct System in place in which you could go from your own home to any place by punching the memory button on a device like a cell phone. That number could be the 9 digit Zip Code, of the place to which you are going, whether office, school, store, or any place else. If your are "on-line", and send e-mail, you can send you, and your whole family any where The Aeromobile-Aeroduct System is extended as easy as sending an e-mail letter. And, if where you are going is in town, almost as fast.

"Your Aeromobile "steed" would be in a station, ultimately, in your home (or in a station nearby in your neighborhood), access to which would be similar to an elevator entrance. The house floor and the vehicle floor will be flush. Wheel chairs, strollers, roll easily inside.

"After putting in the destination code, the central computer would secure a "slot" for your trip like an airline reservation. The time of departure would be the first open slot in the program available nearest to your requested time of departure. When confirmed, and if the trip is immediate, you then go through the elevator door, get in your vehicle, sit down, snap belts, press "go", and await the automatic power- up, and departure.

"Your traverse will be smooth (without potholes), frictionless, at the highest speed consistent with the distance, nonstop, at comfortable accelerations. Deceleration will, likewise be gentle, and you arrive at a station inside your destination, again with floor flush with that of your vehicle.

"Whether you are an Astronaut, or have no drivers license, or are in a wheel chair, or a child going to school, you will not be driving this automated magic carpet. And, if the trip is more than a few minutes, you can read, watch TV, etc. If it is cross country, and requires and hour or so, the time can be used in anyway you wish, work, TV, games, telephoning, or watching the countryside.

"Suppose further that there is occurring one of many causes of auto traffic back-up on the ground, which happen regularly, and daily. Gridlock at rush hour, a road obstruction, or one of the frequent accidents, or the eternal road repairs on the corridors between your location and destination, will cause road traffic delays.

"Also, weather, such as an ongoing blinding snow storm, with high winds and drifting of roads beyond the capabilities of snow plows to keep the roads open will stop traffic for hours. But, your weatherproof Aeromobile-Aeroduct System is undaunted, the "road" is open, operating, and you are above all that. Your system is elevated above traffic, and has multiple cheap, mass produced, "lanes" superimposed on existing ones with sufficient capacity to take you directly to the address. Alternatively, in contrast to any PRT system, or cars on roads, with total computer automation of routing, the computer's ability to divert your vehicle around any "in-system" peak overload is unique to The A-A System.

"On arrival, there will be no hunting for a remote parking place, and walking to and from it, because the craft will automatically return to its one parking station at home. Such a system will eliminate the need for parking lots, parking places everywhere and their personal risk, delay, and their ecological ground devastation.

"Imagine further that your work day, school day, shopping, doctors visit, etc., were done, and you want to go to another place, or go home. With your hand held electronic device, you press a button, and the code of the station at which you are is entered into the master computer program, and a time of arrival of your carrier will show on the screen. When it arrives, the elevator doors open, you enter, and when secure, press the go button, and you arrive with the least possible strain.

Special Note on the Prime Mover of the Aeromobile-Aeroduct System

The transportation visionary behind the Aeromobile-Aeroduct System is Dr. William Bertelsen. Beginning in the 1957, he commenced research and development on the "ground effect" phenomenon. This phenomenon is what allows hovercraft, or air cushion vehicles (ACVs), to rise off the ground and move forward, riding in a cushion of air. Dr. Bertelsen devoted years of his time to perfecting air cushion technology and creating vehicles that utilized that technology in efficient, controllable ways. His invention of the Gimbal Fan allowed him to develop an amphibious line of ACVs that fulfill the promise of this technology.

Dr. Bertelsen also saw the promise of the air cushion technology in a different direction - that of vehicles in guideways. The inherent advantages of ACVs in a right of way - low impact on the right of way, simplicity of vehicle, lower cost of vehicle and guideway, ease of automation and elevation - pointed to a revolutionary modality of transportation. As he investigated further and produced a prototype, he confirmed that there was a positive future for ground transportation. He continues to design many new facets of the Aeromobile-Aeroduct System, and is always looking for opportunities to show its great promise.

Here is Dr. Bertelsen in a recent photo, with the air cushion vehicle - called the A-17 - used in the proof of concept prototype Aeromobile-Aeroduct System.

Dr. Bertelsen's many years of pioneering efforts with air cushion technology have paid off with his innovative, superior alternative to wheel based ground transportation.

Pictured here is the Aeromobile A-2000, the state of the art amphibious craft, utilizing two Gimbal Fans.

The Gimbal Fan, developed by Dr. Bertelsen to power all his air cushion vehicles, is the key to his amphibious line of vehicles. There is one at the fore and one at the aft of the A-2000, clearly identifiable by their red color.

Part III: Why does the current wheel based transportation system need replacement?

There are many shortcomings with the wheel based transportation system we currently have. Before discussing them, it is only fair to point out that this system has allowed a great deal of progress to occur in this century and is responsible for the phenomenon of the "mobile society". Many desires that people have for transportation: personal choice, comprehensive coverage, scale ability of vehicles, and speed (at least on the open road) have been fulfilled to a reasonable extent by wheeled vehicles.

However, the capabilities of the current transportation methods come at considerable expense - financial, environmental and human. In addition, as is seen in all areas of the world, adding additional capacity is becoming less and less possible and more and more expensive. The number of new cars, the number of new drivers and the overall increase in transportation demand far outstrip the capacity to build more roads, parking lots, overpasses, etc. Even without its environmental and human disadvantages, the current wheeled based system is in trouble meeting demand and is now responsible for deterring progress.

To give some discussion of the principal areas where the current system has drawbacks:

Environmental: A large proportion of our air pollution is derived from the engines of automobiles, trucks, buses and trains. Even with the lower polluting fuel sources anticipated in the coming years, there is still another tremendous environmental cost. That cost is the land lost to the infrastructure of the wheel based transport system - the roads, overpasses, parking lots and driveways. Many thousands of square miles of green space have been black topped, and in the process, an untold number of trees, plants and animal habitats have been lost. Increasing the capacity of the transportation system means taking away even more green space.

Financial: The capital costs of building new roads is ever increasing. It is now estimated to cost $40,000,000 to build one mile of road. Just as expensive is the maintenance of existing roads, overpasses, etc. The heavy pounding the infrastructure has to absorb from the weight of millions of cars and heavy trucks each day necessitates constant maintenance. This is not only expensive, but very inconvenient for everyone.

The autos, trucks and trains that use the transportation infrastructure are themselves expensive to make and maintain. Since they need to overcome quite a bit of friction to move forward, they are also inherently inefficient in their use of energy. The relatively high cost of owning a car - including insurance to cover accidents - prevent some people from owning one, and limits their ability to travel as they want.

Human: There are still tens of thousands of lives lost in automobile, train and bus accidents each year in this country alone, and many more people injured. Poor weather conditions, poor road conditions and driver inattention are the cause of the vast

majority of the accidents. There are steps that can be taken to lessen the number of mishaps, such as better tires, better brakes, better air bags, better road surfaces, and better driver training. However, it is inherent in the design of the current system that there be mishaps. Bad weather - rain, snow, ice, fog - will always cause problems for vehicles on wheels. Poor road conditions are inevitable in a system that is based on relatively heavy vehicles pounding those roads. And, there will always be drivers who make mistakes, whether due to lack of ability or to impaired ability. In short, there will always be accidents with the current system.

Another significant human cost are the millions of hours wasted in traffic jams and in stopping frequently at traffic lights and stop signs. Road congestion is already a barrier to travel in many metropolitan areas. Many commuters who use their cars know they will be sitting in traffic for an hour or two each way. Even travel taken at non rush hour times is impeded by the constant road maintenance that must be done. And travel on roads in urban and suburban areas is considerably slowed by the unavoidable stopping at intersections. Elevation of roads and rails is so expensive that ground level intersections are the only economically feasible choice.

Many urban areas already have mass transit - railroads, light rail, buses, subways - as ways of trying to minimize congestion. However, these modalities of transport also are expensive and require high maintenance. Perhaps most significantly, they restrict the choices a potential passenger has to traveling from and to certain stations at certain times. These stations are usually not the desired destination for the passenger, so there can be considerable walking or use of another vehicle - e.g. a taxi - to reach the final destination. This inherent limit on personal choice deters people from using mass transit and imposes a human cost of inconvenience.

Two other human costs are noise pollution and exclusion of the disabled. The issue of the noise pollution generated by cars and even more by trucks is self evident. Barriers built to try to limit the impact of that noise on the neighbors of roads have only some effectiveness and are expensive. The other issue - exclusion of the disabled from full participation in the transportation system - affects millions of people. People who are elderly, people with sight and hearing impediments, people in wheel chairs, and people with other disabilities, are limited in what they can do in a system based largely on automobiles requiring a certain level of driving skill. They can use mass transit in some instances, and can be taken for rides, but they are not able to fully participate in the transportation system in the same way that others can.

There could be much more said about the problems with wheel based transportation, but the preceding discussion shows the problems to be quite real. Any replacement of this system must do away with these disadvantages and at the same time must allow people to efficiently fulfill their personal transport needs. A system that can meet those goals is the one people will want to use.

Part IV: How does the Aeromobile-Aeroduct System fulfill all the requirements needed by a complete ground transportation system?

The current system of wheeled vehicles on roads or rails evolved over time in response to the needs of society. Private ownership of vehicles, coast to coast road systems, multi size vehicles, multi purpose vehicles, all developed as technology tried to keep up with demand. Even if not perfect, the current system fulfills a great many requirements that people have for ground transportation. To replace what we have, we ideally want a system that both does a better job at fulfilling the requirements and also eliminates the disadvantages.

The Aeromobile-Aeroduct System is designed to more than fulfill all ground transportation requirements with less financial expense, less impact on the environment, and less cost of human life. In addition, it has the capacity to grow as demands grow. Increasingly mobile societies all over the world will put increasing pressures on any transportation system. The Aeromobile-Aeroduct System can respond to the needs of today and tomorrow.

For the public to willingly accept such complete change in the mode of transportation - from usually self driven automobiles on roads and mass transit to automated, elevated air cushion vehicles in guideways - they must feel that they can still do what they want, with more safety, reliability, economy and ecological friendliness. There are many different kinds of needs to meet: the needs of people in urban and suburban areas can be quite different from the needs in rural and less populated areas, and the needs of freight handlers can be very unlike those of workplace commuters. A transportation system that can do it all is the one people will adopt.

What follows is a chart with the requirements of a complete ground transportation system in the left hand column and the ways in which the Aeromobile-Aeroduct System can meet the requirements in the right hand column. A note on abbreviations in the chart: a) ACV stands for air cushion vehicle, b) ROW stands for rights of way, and c) A-A System stands for Aeromobile-Aeroduct System.

	Requirements	How the Aeromobile-Aeroduct System Fulfills the Requirements
1.	***Economical*** For cities, towns, and counties to implement an alternative transportation system. the vehicles and the guideways (rights of way) must be relatively inexpensive. For potential passengers, transportation must be affordable, or else it won't be used. Hauling of freight is governed by rules of economy as well.	The primary components of A-A System are the vehicles and the rights of way (ROWs). The air cushion vehicles (ACVs) are far simpler than correspondingly sized wheeled cars and cost one half as much to produce. The frequency of repairs are much less. The ROWs are much more economical than roads, since they are lightweight, endure little wear and tear and can be pre-manufactured. Mass produced rights of way greatly reduce the cost of construction. Elevation of ROWs, key to reducing accidents and destruction of land , is far less expensive than roads, trains, etc. due their lightweight nature. Since the vehicles ride on a cushion of air, the ROW does not need to support anywhere near the load necessary with wheeled vehicles. Since vehicles can be owned, rented, or used as 'taxis', there is something for every income level. People wanting luxurious travel will be able to use their own vehicles so appointed. Individuals wanting basic travel will have that option. The movement of large objects or any kind of freight utilize specialized, powerful ACVs that are far less expensive to build than the corresponding trucks and trains of today. In addition, there is the potential of driverless freight conveyance, since the vehicle's travel can be completely automated.

2.	***Reliable*** People want to get to their destination without mishap and in a timely manner. Passengers want to avoid vehicle break downs or traffic jams.	ACVs consist of fewer components than wheeled vehicles. There are the engine components, and the chassis. They are much less likely to break down enroute than automobiles, buses, trains, etc. There won't be "road work" bringing all traffic to a halt, wreaking havoc with passenger schedules. In the event of problems with a particular ROW, the vehicles will be automatically rerouted via an alternative path.
3.	***All Weather*** In many areas of this country and in other countries, snow , ice , rain and fog are deterrents to efficient and safe travel. Passengers want as little inconvenience as possible from weather conditions.	The A-A System is weather immune. ACVs are quite adept at running in rainy, snowy or icy conditions. The ROW can be made completely enclosed, blocking out all weather elements, or can be open at the top. If open at the top, the stream of air produced by the vehicle can push out any snow that could accumulate in the groove. Automation will handle fog and poor visibility in general, since all vehicles are tracked by position, regardless of external conditions.
4.	***Quick*** The pace of life today requires the fastest means of travel.	With no intersections with elevated ROW, and with the proper automation, there will be no stopping or traffic tie-ups. The rated speed of the vehicle, whether 50 mph or 60 mph is maintained throughout the trip.
5.	***Accident Free*** Any user of a transportation system wants to have no risk of being involved in an accident.	Automation and elevation will eliminate accidents. Elevation of all traffic eliminates the hazards of death and injury to those restricted to ground level, who are most vulnerable being to being struck by cars, trucks or trains. These include children, animals both domestic and wild, bicyclers, joggers, motorcyclers, and other cars, trucks, or trains, Automation prevents accidents by poor drivers, human error and bad road conditions.

6.	***Comfortable*** Passengers desire the most comfortable and convenient mode of conveyance. Transportation should be a pleasant experience.	A ride in the A-A System is smooth and hassle free. There are no potholes, no rough roads, no difficult weather conditions. The interiors of vehicles can be as comfortable as desired. Since vehicles can be privately owned, they can be customized to any individual taste. For long distance travel, the A-A System is wonderfully accommodating. A trip of several hours can be spent productively on some desired activity and not spent in having to attend to the driving process.
7.	***Environmentally Friendly*** The impact of transportation of the environment is enormous. Current vehicles play a large part in air and ground pollution. Roads, rails, and parking lots destroy the environment, and reduce the amount of "green" space in cities and other places.	Elevated ROWs have far less negative impact on the environment than miles and miles of asphalt and concrete. Elevation allows new ROWs with minimal environmental destruction of the earth by bulldozers, removal of foliage, trees, disrupting natural water drainage, and human and animal traditional pathways. Elevation eliminates millions of wasted acres of land for multiple surface "clover leaf" road intersections with ecologically tragic land destruction. The many thousands of square miles of parking lots currently used for wheeled vehicles will be returned to nature. The vehicles can have any type of power source, including low polluting electric and hydrogen fuel cell. Their simpler design and reduced fuel needs vis a vis wheeled vehicles further decreases negative impacts on the environment.
8.	***Comprehensive*** People want to be able to get from where they are to any destination with the fewest detours, changes of vehicle and gaps in coverage.	In suburban and urban areas, users of the A-A System will have a very large number of stations to exit the vehicles, or to enter them. Unlike mass transit, where there are a few large stations, usually separated by some number of miles, the A-A System is designed for stations in every home, every office building, every desirable location.

	For less populated areas, there are needs to reach destinations infrequently traveled.	The same vehicle used in an urban area can also travel long distance in the A-A System. Anywhere that ROWs have been constructed, the passenger can reach, in his or her own town, or at considerable distance. In less populated areas, there will still be stations at residences, stores, schools, churches, etc. To allow further flexibility, vehicles in the A-A System can utilize special "car carrying" devices to move a wheeled vehicle or stand alone hovercraft through the system to a station. At the station, that vehicle can be moved to ground level and used as needed.
9.	***Secure*** Passengers want to feel secure in the station they leave from, in the vehicle as they travel, and at the destination they reach.	There is vehicle security and station security with the A-A System. You use your own vehicle or you request a private one, so the vehicle and trip are secure. Stations can be made secure by requiring access rights to enter from the street or by a vehicle. The station in your home can be limited to just your use and to those you give permission.
10.	***Scaleable Vehicles*** Not all transportation needs are the same. Some users will require large vehicles - for freight - other user will need transport just for one or two people.	The A-A System can handle vehicles ranging from small size - for one or two passengers - to large scale freight movers. There would be no need to go outside the system to fulfill a transport need. Air cushion technology is adaptable to any size vehicle, and any size load. Large vehicles, because they too ride on a cushion of air, exert no additional strain on the ROW, unlike the situation with trucks and trains today.
11.	***Extensible*** Peak periods of travel, seasonal variations in travel and short term changes in travel patterns must all be accommodated to prevent slowdowns and congestion.	ROW can be added by vertical or horizontal stacking to accommodate increases in demand. Automation automatically choose the least congested route for a vehicle, making "rush hours" much more manageable. The ROW are prefabricated, and easily added to the system. They can be attached for the long term if necessary, or just for the short term, for temporary traffic surges.

	In general, population increases in all countries, and continued "modernization" of countries in many parts of the world, will lead to very increased demands placed on ground transportation.	In addition, the A-A System stations are low cost and can be easily added for new buildings, and buildings needing more entry and exit points .
12.	***Easy to Use*** Ground transportation is used by many types of people - young, old, in wheelchairs, with limited vision or hearing. All need to be able to travel to where they want easily and without discomfort.	The A-A System is ideally suited to everyone. Automation eliminates the need to be a trained driver. An individual can request his or her destination by voice activation or by using a touch sensitive computer screen or a keyboard and mouse. The street address or phone number of the destination is all the passenger need supply. It will also be possible to specify a destination by pointing to any location on a computerized map. Once the vehicle is in motion, the passengers can request current location, elapsed time and estimated arrival time from the onboard computer. They computer can even show the trip's progress on the computer's map, or can announce when certain landmarks have been passed. When the vehicles stop at a station, they are flush with the floor of the station, making it very easy to embark and disembark.
13.	***Personal*** Users of the system must be able to choose their particular destination along with requirements of vehicle size and ownership.	The underlying philosophy of the A-A- System is to provide ground transportation of any kind - small scale or large scale - to anyone from any place to any other place. A passenger can utilize his or her own vehicle, customized to any extent, or rent one for a period of time, or use one for just one trip. Any station that is part of the A-A System can be a direct destination.

14.	***On Demand*** When a person needs to use the transportation system, he or she should have immediate access to a vehicle, and not be tied to a schedule, as with mass transit.	Since individuals can own their own vehicles, they can use them whenever it suits them. A vehicle rented for the short term can be used in the same way. For one time uses, the passenger can schedule the use of a 'taxi' craft in advance, or request one spontaneously from an available fleet. The A-A System will do away with mass transit schedules and limited station choices. A person goes where he or she wants to go.

Part V: Conclusion

We hope this document has given the reader a clear idea of what the Aeromobile-Aeroduct System is, its many advantages, and the importance and appropriateness of employing it as a replacement for the wheel based transportation system in use today.

One of the prime strengths of this new transportation modality is its adaptability to any ground transportation need. Even though it is proposed as a system to be used everywhere, it can certainly be applied to any particular situation or need. It also lends itself to being implemented in stages: automation and elevation, although desirable, are not necessary for the system to work. A project could start with air cushion vehicles piloted by drivers, and not elevated. The genuine economy of transportation that is possible with this system can be realized even without all features being employed. Even a mass transit like application consisting of vehicles that carry 10 to 20 passengers and stop at centrally located stations is not only feasible but very economical.

We invite city planners, transportation officials, private firms or anyone with an interest in using our system for any project, large or small, to contact us. Anyone who needs to transport people or freight any distance should consider the Aeromobile-Aeroduct System. As the 20th century gives way to the 21st century, there is at last a new paradigm of transportation that is safe, quick, economical, good for the environment, and adaptable to any demands.

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Note: our Web site has additional information on the Aeromobile-Aeroduct System, including video footage of the proof of concept prototype, photos and documents.