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(54) **METHOD AND APPARATUS FOR
ADVERTISING ON A ROADWAY**

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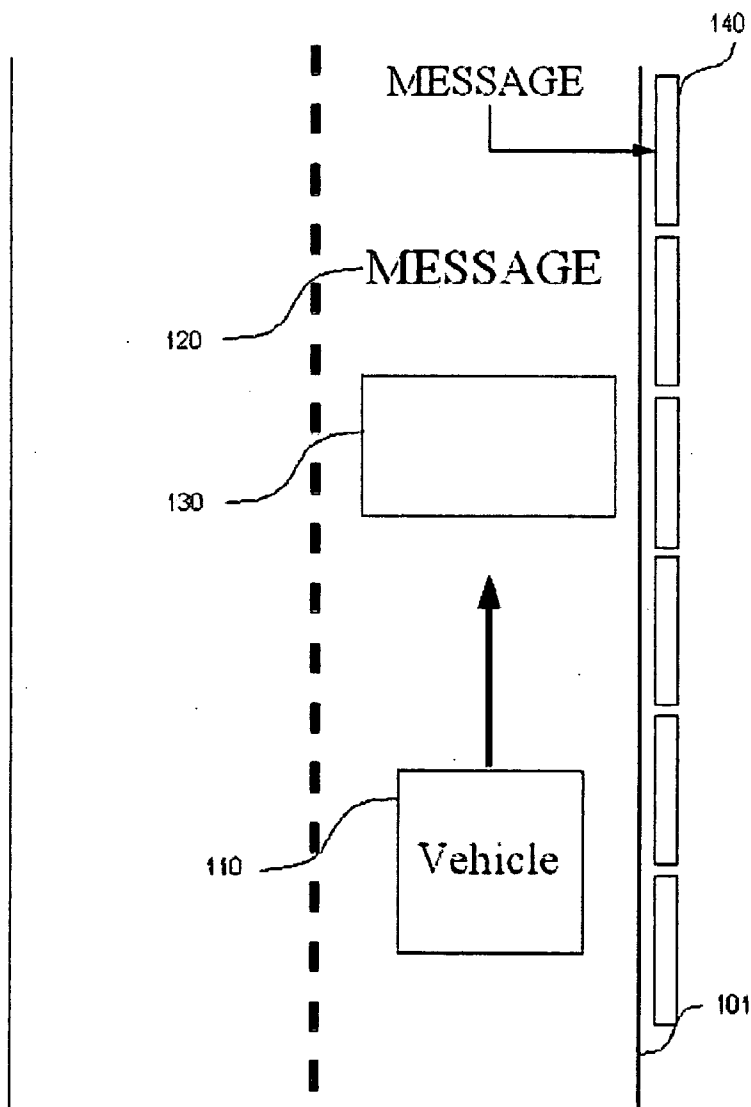
(57) **ABSTRACT**

The City, County, State or Federal roadway bed surfaces, roadway shoulders and curbing, roadway barriers, surfaces on overpasses and bridges and the like are used to generate revenue by leasing or selling the space to advertisers. The surfaces can be painted, embossed, fitted with electronic signage or otherwise marked to allow for viewing by vehicles or pedestrian passers by.

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200



100

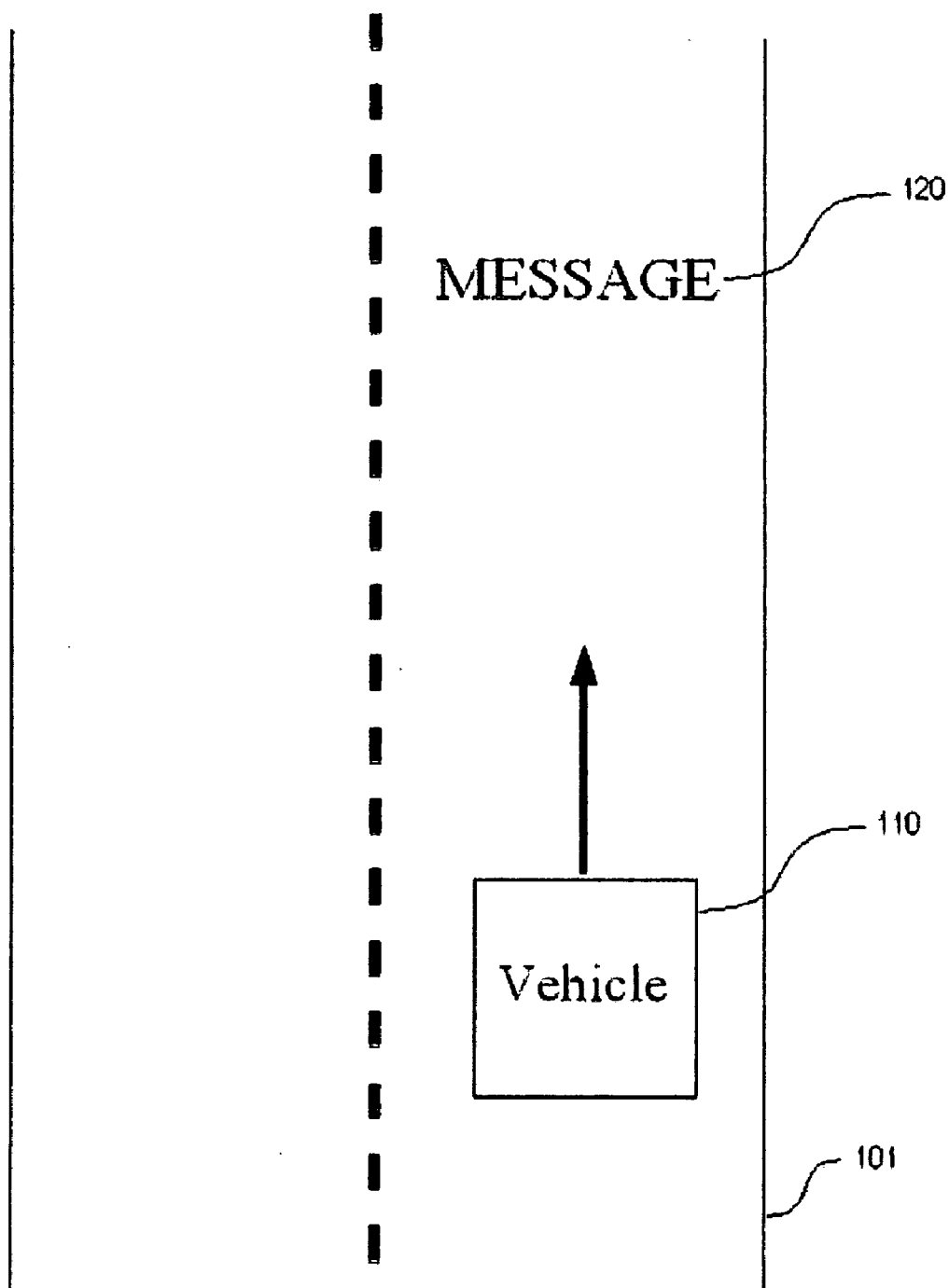


Figure 1

200

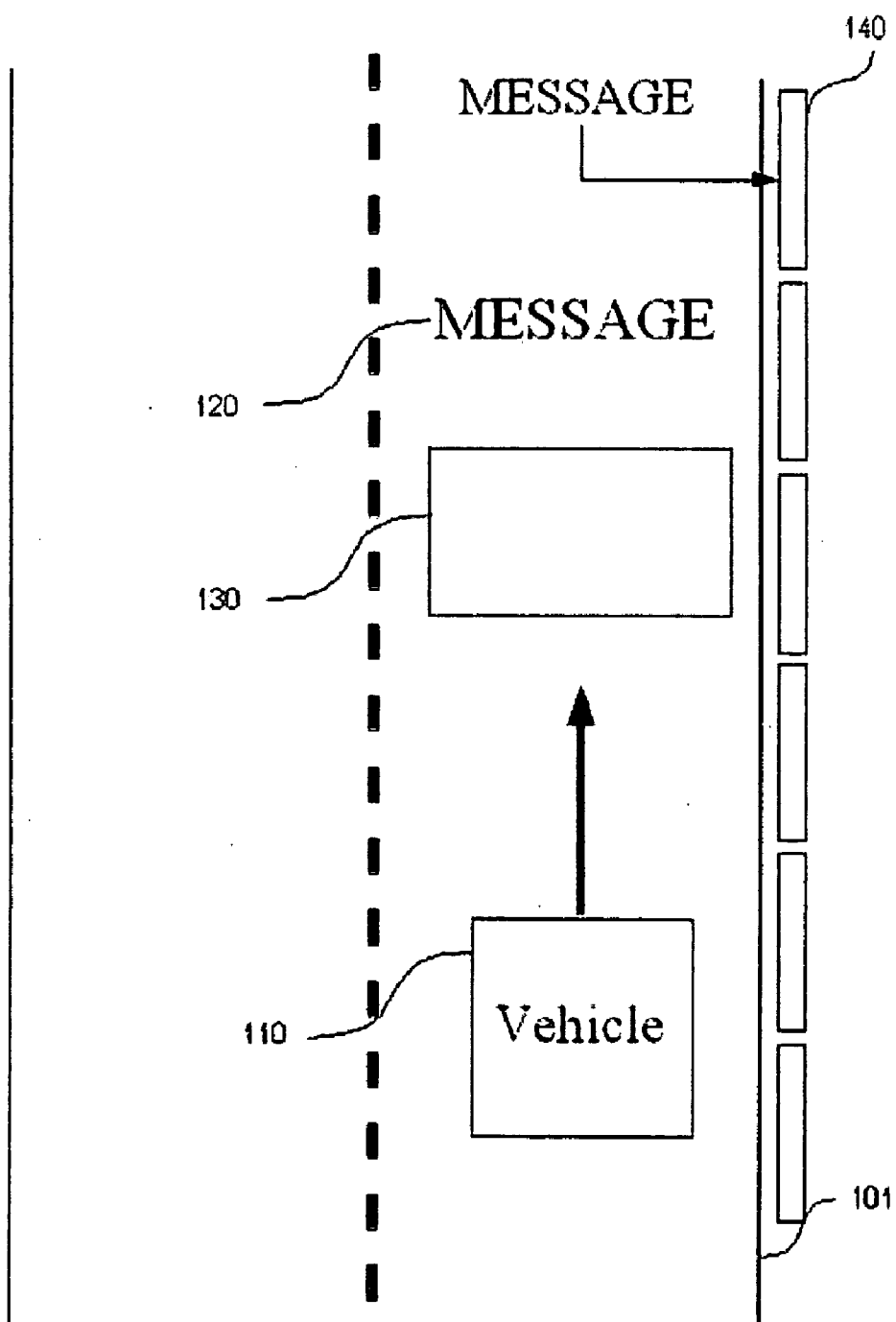


Figure 2

300

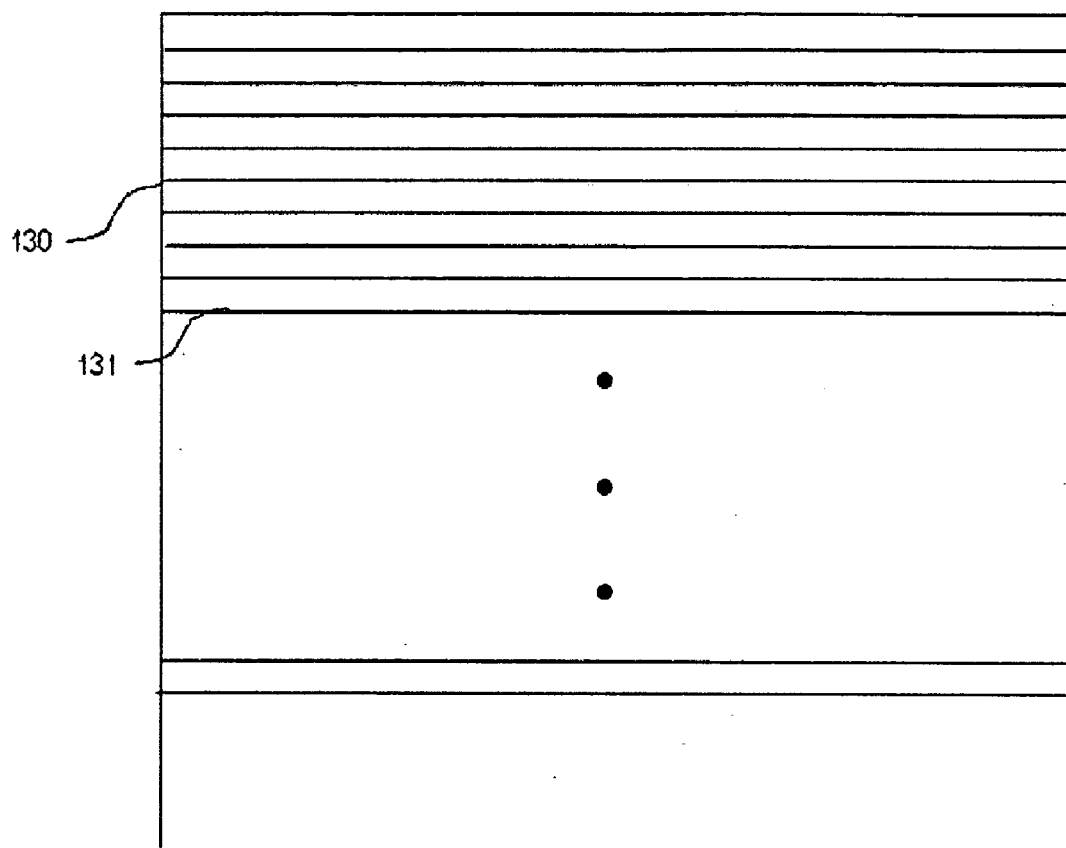


Figure 3

400

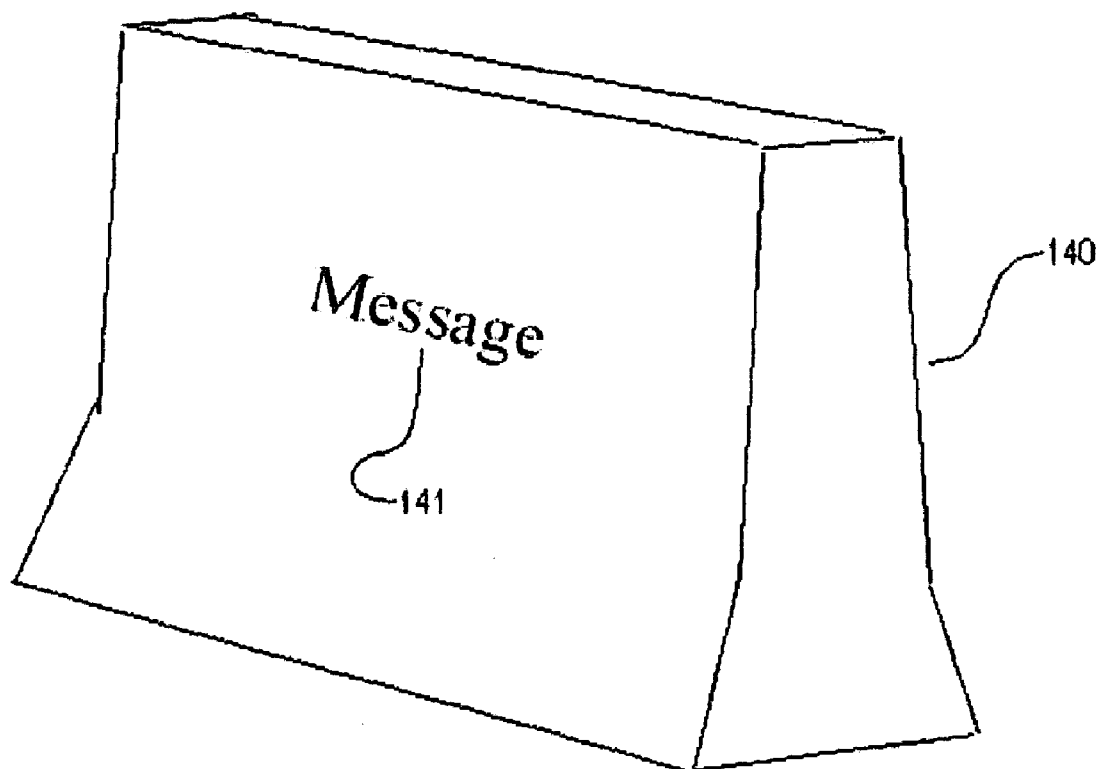


Figure 4

METHOD AND APPARATUS FOR ADVERTISING ON A ROADWAY

FIELD OF THE INVENTION

[0001] The present invention generally relates to the field of audio-visual communication, and the like, and particularly to a method and apparatus for use in advertising on vehicle roadways using audio-visual stimulus.

BACKGROUND OF THE INVENTION

[0002] The usefulness of advertising is self-evident. Billions of dollars are spent yearly in the United States alone for advertising using a variety of media. Advertising is most useful when reaching the widest audience. Thus millions of dollars are typically spent for commercial spots, whether on television or other media, which are assured to reach the largest number of people such as, for example, during an important sports events or the like.

[0003] Other environments lend themselves to the kind of public exposure, which is appealing for advertising purposes such as highways and roadways. It is well accepted that consumers who travel on highways and roadways are prime objects of advertising messages as evidenced by the presence of billboards, radio promotions, and the like. Considering that millions of automobiles carrying millions of people travel on highways and roadways every day.

[0004] Problems arise however in that billboards usually lack aesthetic appeal, can be environmentally destructive, may not be seen by drivers, or may be ignored by drivers. Radio messages may be ignored, the channel may be changed, or the message may not be applicable to the area in which a vehicle is presently traveling.

[0005] One approach to providing an improved road sign is described in Hale, U.S. Pat. No. 6,508,024 issued on Jan. 21, 2003 and incorporated herein by reference. The primary concern of the sign of Hale is to provide environmental sealing for the sign to exclude birds, rodents, insects, and the like.

[0006] An approach for providing an audio input is described in Schmidt, U.S. Patent Application US2003/0026655 A1 published Feb. 6, 2003, and incorporated herein by reference, wherein music or other audio signal is generated in a roadway by way of strategically placed grooves in a roadway perpendicular to a direction of travel.

[0007] Problems arise in such approaches in that, for example, in the sign of Hale, complicated structures are required and, in the musical roadway of Schmidt, perpendicular grooves must be cut with some degree of precision to allow for the proper generation of musical tones, both of which approaches are likely to be expensive propositions. Also, since the grooves must be cut perpendicular to the direction of travel they must be cut relatively slowly.

[0008] Grutze, U.S. Pat. No. 6,685,347, issued Feb. 3, 2004 and incorporated herein by reference, discloses an image projector for a vehicle, whereby an image (car logo or the like) may be projected onto the roadway from the undercarriage of a vehicle. While such a device may project an image onto the roadway, it does not provide a fixed location for such projections and is limited to vehicle applications.

[0009] Consequently, it would be desirable to provide a relatively inexpensive method and apparatus to provide an audio, visual, or audio-visual advertising message to passing motorists or possibly pedestrians. Such a method and apparatus would take advantage of the large number of potential consumers of services traveling every day on highways and roadways. It would be further desirable to provide advertising messages in a more environmentally sensitive manner and in a manner which is more likely to hold the attention of passengers in a vehicle, and which is more geographically relevant and provided an audio and visual format.

SUMMARY OF THE INVENTION

[0010] The invention allows a method for government owned roadways and structures to generate revenue by leasing space to advertisers and or provide display development and maintenance services.

[0011] There are some cement barriers and bridges that display the point of manufacture and or the company that produced or markets the unit. This information is intended to allow interested parties to acquire the unit for intended use, this display does not sell a product or service unrelated to the unit itself.

[0012] Accordingly, the present invention is directed to roadway bed surfaces, roadway shoulders and curbing, roadway barriers, surfaces on overpasses and bridges and the like. The surfaces can be painted, embossed, fitted with electronic signage or otherwise marked to allow for viewing by vehicles or pedestrian passers by. The embossing in concrete can be performed by one of ordinary skill in the art using a CO₂ laser engraver with a paint injection option. The process of laser etching and then paint is integrated into one machine.

[0013] The electronic signage can be lights, plasma, or projector images. The control can be standalone, network, or wireless network. In one embodiment, the roadway surface is painted with the advertiser's message content. The paint can be reflective to allow for night time viewing. The surface can have valleys and ridges to offer an audible alarm or message.

[0014] In another embodiment, the roadway shoulder is painted or marked with the advertiser's content

[0015] In another embodiment, an overpass or bridge is painted, embossed, or has electronic signage with the advertisers content.

[0016] It is to be understood that both the forgoing general description and the following detailed description are exemplary and explanatory only and are not restrictive of the invention as claimed. The accompanying drawings, which are incorporated in and constitute a part of the specification, illustrate an embodiment of the invention and together with the general description, serve to explain the principles of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] **FIG. 1** is diagram illustrating an exemplary roadway advertising message in accordance with an exemplary embodiment of the present invention.

[0018] **FIG. 2** is a diagram further illustrating an exemplary roadway advertising message in accordance with an exemplary embodiment of the present invention.

[0019] FIG. 3 is diagram illustrating an audible message area in accordance with an exemplary embodiment of the present invention.

[0020] FIG. 4 is diagram illustrating an alternative message area in accordance with an exemplary embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0021] Referring to FIG. 1, the present invention in exemplary scenario 100, provides an advertising message in a vehicle roadway such that drivers who, by necessity, must pay attention to the roadway ahead are exposed to the message. Vehicle 110, which may be a passenger vehicle of any type has at least a driver who is preferably paying attention to the visual scene ahead in roadway 101 and will be exposed to message 120. It will be appreciated that vehicle 110 is preferably traveling at highway speeds of 55 MPH or greater, although at times, due to congestion, accidents and the like, the speed may drop below 55 MPH to as low as 0 MPH. The messages, cues, and the like are preferably placed on roadway components such as the roadway surface, the shoulders, overpasses, jersey barriers, and the like.

[0022] The parameters of message 120 such as size, spacing and the like may be adjusted such that the impact thereof is maximized for an average speed associated exemplary vehicle 110 on roadway 101, such as 65 MPH or the like. It will also be appreciated that the placement of message 120 may be set to coincide with, for example, the placement of exit ramps to districts, attractions, stores, malls, and the like. Message 120, which may be a text message, graphic message, text and graphic message or the like. In addition, message 120 may be rendered using a variety of colors, fonts, reflective material, or the like. Audible cues, and alternative placement may be further employed as illustrated in FIG. 2.

[0023] The location and position of message 120 may be provided such that the driver is alerted as to the location of products or services nearby, such as at an upcoming off-ramp or exit. Thus, for example, a driver may be alerted to the location of a nearby restaurant, gas station, or other roadside service, retail store, or other business. Message 120 may be suitable stretched to provide the necessary image aspect ratio for a driver operating at a particular vehicle speed. For example, at an average highway speed of 50 miles per hour or more, the image may be stretched considerable so that when viewed by a motorist at speed, it will appear to have a normal aspect ratio (e.g., ratio of height to width).

[0024] The use of reflective materials and/or paints or the like may enhance one particular embodiment whereby message 120 may be repeated periodically on pavement of the like to provide a stroboscopic effect. For example, an image may be repeated periodically to coincide with the location of overhead streetlights. When traveling down the highway, the user may thus see an image, which appears to animate or move. Alternately, projected images and the like may be used to provide animation or other motion to attract a driver's attention. Such images may also be altered depending upon driving conditions to alert drivers to accidents, weather conditions, or the like.

[0025] Passengers and particularly a driver, in vehicle 110, traveling on roadway 101, may encounter message 120 with a strong likelihood based on the need to pay attention to what lies ahead. However, there are times when the driver's attention, and additionally passenger's attention may be drawn away from the surface of roadway 101 from distractions, ennui, or the like. Thus, cues may additionally be given by, for example, area 130 containing audible cues to the message. The audible cues may be a simple "rumble strip" type cue, a tone, a series of tones, or a complex audio message as may obtain by cutting grooves either parallel or perpendicular to the direction of travel of vehicle 110, or placing ridges parallel or perpendicular to the direction of travel of vehicle 110, the grooves or ridges placed on the surface of roadway 101 such that at average speed, the audio message is given by virtue of energy generated in the audio frequency spectrum resulting from the interaction of the vehicle's tires with the grooves or ridges.

[0026] Also illustrated in FIG. 2 are alternative messages provided on barriers 140, which may be common highway barriers, such as jersey walls or jersey barriers, or the like, as are well known. The messages may be placed squarely on the surface of barriers 140 or may be suitably angled such that the visibility of the message is improved. It should further be noted that message 141 as with message 120, may be rendered using a wide variety of colors, fonts, reflective material, and the like.

[0027] A detailed view of audible area 130 is shown in FIG. 3. Sound generating elements 131 may be grooves or ridges in roadway surface 101, or may be applied to a base material or web such that the messages are not permanently embedded in the roadway. Further, while sound generating elements 131 are shown oriented in one direction, they may be oriented in many different directions, such as parallel or perpendicular to the direction of travel of vehicle 110 for sound generating purposes. As noted above, sound may be generated by the interaction of sound generating elements 131 with tires associated with vehicle 110.

[0028] A detailed view of barrier 140 with message 141 is further shown in FIG. 4, which, while illustrated as a typical jersey barrier, can be any type of roadway divider or barrier. Barrier 140 is typically constructed of concrete, but in accordance with alternative exemplary embodiments, may be any kind of material as would be suitable. It will be appreciated that barrier 140 by providing message 141 in a more upright manner will enhance the audible and visual messages provided, for example, by message 120 and area 130. Accordingly, message 120, message 141, and an audible cue or message in area 130 may be provided jointly or separately or in any combination. It will also be appreciated that message 141 may also be embodied as a cue such as an audible cue such that when a plurality of jersey walls or barriers 140 are grouped, an audible messages may be generated by the passing of, for example, vehicle 110.

[0029] Message 141 on jersey wall 140 or other surface may be repeated periodically on such jersey wall 140 or other surface so as to provide for a stroboscopic effect, allowing the message to be viewed at a predetermined vehicle speed as an animated image or moving image over time.

[0030] This disclosure is intended to explain how to fashion and use various embodiments in accordance with the

invention rather than to limit the true, intended, and fair scope and spirit thereof. The foregoing description is not intended to be exhaustive or to limit the invention to the precise form disclosed. Modifications or variations are possible in light of the above teachings. The embodiment(s) was chosen and described to provide the best illustration of the principles of the invention and its practical application, and to enable one of ordinary skill in the art to utilize the invention in various embodiments and with various modifications as are suited to the particular use contemplated. All such modifications and variations are within the scope of the invention as determined by the appended claims, as may be amended during the pendency of this application for patent, and all equivalents thereof, when interpreted in accordance with the breadth to which they are fairly, legally, and equitably entitled.

[0031] While the preferred embodiment and various alternative embodiments of the invention have been disclosed and described in detail herein, it may be apparent to those skilled in the art that various changes in form and detail may be made therein without departing from the spirit and scope thereof.

1. A method for advertising on a vehicle roadway comprising the steps of:

placing a visual advertising message on one or more roadway components such that the visual advertising message is capable of falling within a field of view of one or more of a driver and one or more passengers in a vehicle, the field of view associated with the roadway component during operation of a vehicle; and

providing a cue to the visual advertising message, wherein the visual advertising message contains one or more of: a horizontally placed message, a vertically placed message, and wherein the cue includes one or more of an audible cue, a visual cue, and a tactile cue.

2. A method in accordance with claim 1, wherein the step of providing the cue further includes modifying the roadway component such that the cue is thereby provided.

3. A method in accordance with claim 2, wherein modifying the roadway component such that the cue is provided includes modifying a surface of the vehicle roadway such that when the vehicle is traveling across the roadway surface, the tactile cue is provided.

4. A method in accordance with claim 2, wherein modifying the roadway component such that the cue is provided includes modifying a surface of the vehicle roadway such that when the vehicle is traveling across the roadway surface, the audible cue is provided.

5. A method in accordance with claim 2, wherein modifying the roadway component such that the cue is provided includes modifying a jersey wall associated with the vehicle roadway, the jersey wall included in a plurality of jersey walls such that when the vehicle is traveling past the plurality of modified jersey walls, the audible cue is provided.

6. A method in accordance with claim 4, wherein the audible cue further includes an audible message generated by contact between the vehicle and the modified surface.

7. A method in accordance with claim 1, wherein the tactile cue further includes a rumble strip.

8. A method in accordance with claim 1, wherein the roadway component includes one of a roadway surface, an overpass, a jersey wall, a curb, a shoulder, an electronic sign, and an exit ramp.

9. An apparatus for advertising on a vehicle roadway comprising:

one or more roadway components;

a visual advertising message associated with at least one of the one or more roadway components such that the visual advertising message is capable of falling within a field of view of one or more of a driver and one or more passengers in a vehicle, the field of view associated with the roadway component during operation of a vehicle; and

a cue to the visual advertising message provided on another of the one or more roadway components, wherein the visual advertising message contains one or more of: a horizontally placed message, a vertically placed message, and wherein the cue includes one or more of an audible cue, a visual cue, and a tactile cue

10. The apparatus in accordance with claim 9, wherein the cue further includes a modified roadway component.

11. The apparatus in accordance with claim 10, wherein the modified roadway component further includes a modified surface associated with the vehicle roadway such that when the vehicle is traveling across the modified roadway surface, the tactile cue is provided.

12. The apparatus in accordance with claim 10, wherein the modified roadway component further includes a modified surface associated with the vehicle roadway such that when the vehicle is traveling across the modified roadway surface, the audible cue is provided.

13. The apparatus in accordance with claim 10, wherein the modified roadway component includes a modified jersey wall associated with the vehicle roadway, the modified jersey wall included in a plurality of modified jersey walls such that when the vehicle is traveling past the plurality of modified jersey walls, the audible cue is provided.

14. The apparatus in accordance with claim 12, wherein the audible cue further includes an audible message generated by contact between the vehicle and the modified surface.

15. The apparatus in accordance with claim 9, wherein the tactile cue further includes a rumble strip.

16. The apparatus in accordance with claim 9, wherein the roadway component includes one of a roadway surface, an overpass, a jersey wall, a curb, a shoulder, an electronic sign, and an exit ramp.

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