Communication from Public

Name:	Casey Maddren/Citizens for a Better Los Angeles
Date Submitted:	12/04/2023 12:05 AM
Council File No:	22-0392
Comments for Public Posting:	Citizens for a Better Los Angeles submits the attached letter, previously sent to the Metro Board, to Council File 22-0392, Transportation Communication Network. We submit the attached letter as evidence that the TCN Program is an extension of Metro's Billboard Program, which has been in existence or over a decade. The attached letter also contains evidence that Metro and the City of LA have been in discussions regarding the adoption of a new billboard ordinance since at least 2016.

CBLA

Citizens for a Better Los Angeles

December 3, 2023
Planning & Land Use Management Committee
Los Angeles City Hall

Citizens for a Better Los Angeles submits the letter below, previously sent to the Metro Board, to Council File 22-0392, Transportation Communication Network. We submit the attached letter as evidence that the TCN Program is an extension of Metro's Billboard Program, which has been in existence for over a decade. The attached letter also contains evidence that Metro and the City of LA have been in discussions regarding the adoption of a new billboard ordinance since at least 2016.

CM for CBLA

CBLA

Citizens for a Better Los Angeles

January 23, 2023

L.A. Metro Board of Directors
Office of Board Administration
One Gateway Plaza
Los Angeles, California 90012

Re: Approval of Transportation Communication Network (TCN) Program & Associated Actions
Thursday, January 26, 2023, Agenda Item 7
OPPOSED

Members of the Metro Board,

We are writing to you because we are extremely concerned about the Metro Board's pending actions regarding the Transportation Communication Network (TCN) Program at the meeting on Thursday, January 26, 2023, Item 7 on the agenda. According to the agenda, the Board will consider approving the TCN, certifying the associated EIR, and adopting the findings, in addition to other actions.

Our concerns stem from the following issues:

- The TCN is not a standalone program, but an ongoing Metro program already deployed in other LA area cities
- The label "Transportation Communication Network" has been applied to mislead the public, because the program's primary purpose is to generate advertising revenue
- The EIR is fundamentally flawed due to Metro's misleading and incomplete description of the program
- The EIR's analysis of cumulative impacts is deficient, because the EIR doesn't acknowledge Metro's ongoing use of the program in surrounding cities
- The EIR's project alternatives are fundamentally misleading, failing to consider viable alternatives that could accomplish the objectives by other means

- Additional documents have recently been added as appendices to the Final EIR, without the opportunity for public review
- The EIR does not analyze impacts to the City of LA related to the revision of the LAMC required by the TCN program
- The EIR does not appear to refer to Caltrans' network of Changeable Message Signs, and does not appear to acknowledge that these already accomplish many of the project's goals
- The program will likely violate US and California privacy laws due to the integration of private data collection with Digital Out of Home (DOOH) advertising

<u>The TCN Is Not a Standalone Program, but an Ongoing Metro Program Already Deployed in Other LA Area Cities</u>

We have learned that the TCN is not, as the EIR portrays it, a new program, and that, in fact, it is a continuation of an ongoing program involving the installation of digital billboards that Metro has been engaged in for at least a decade. The EIR appears to deliberately mislead the public by defining the TCN as a project limited to the City of Los Angeles, when in fact the program has been deployed in a number of other cities in Metro's service area, and will no doubt continue to be deployed in more cities in the future.

<u>The Label "Transportation Communication Network" Has Been Used to Mislead the Public, Because the Program's Primary Purpose Is to Generate Advertising Revenue</u>

Metro has deceptively labelled the program the "Transportation Communication Network", when in fact its primary purpose is to allow the installation of digital billboards for the purpose of generating revenue. Metro misleadingly links the collection and dissemination of traffic data with the installation of digital billboards, but the existing Regional Integration of Intelligent Transportation Systems (RIITS) can and has been accomplishing these tasks for years throughout the LA region, and is in no way dependent on the installation of digital billboards.

<u>The EIR is Fundamentally Flawed Due to Metro's Misleading Description of the Program</u>

The EIR process has been fundamentally compromised by Metro's misleading Project Description, which presents the program primarily as a Transportation Communication Network. The deception began with the Notice of Preparation, dated April 18, 2022, which contains the following language:

> *The Los Angeles County Metropolitan Transportation Authority (Metro) proposes to implement the Transportation Communication Network (TCN) Program (Project or TCN Program), which would provide a network of structures with digital displays (TCN Structures) that would incorporate intelligent technology components to promote roadway efficiency, Improve public safety, augment Metro's communication capability, provide for outdoor advertising where revenues would fund new and expanded transportation programs consistent with the goals of the Metro 2028 Vision Plan, and result*

in an overall reduction in static signage displays throughout the City of Los Angeles (City).

To begin with, the RIITS system, which is already in place, accomplishes many of the TCN's stated objectives. The only significant difference is that the TCN project proposes to install digital billboards which will generate revenue. The NOP also states that the Project will, "result in an overall reduction in static signage displays throughout the City of Los Angeles (City)." This promise is a half-truth, and misrepresents the likely ramifications of the Project. While the TCN program promises to remove a greater number of static displays than the number of digital billboards installed, it also required a change to the Los Angeles Municipal Code which removes restrictions on advertising in the public right-of-way. With the removal of these restrictions, advertisers will have greater freedom to install all kinds of advertising structures, which they will surely take advantage of. Metro's promise of a net reduction only takes into account structures installed and removed as part of the TCN program, without acknowledging the probable outcome of the revisions to the LAMC. Metro has no way of knowing how many new advertising structures could appear in the City of LA as a result of this revision to the LAMC.

This deception carries over to the EIR. On page II-1, the EIR's Project Description states the following:

> *Implementation of the Project would include the installation of up to 34 Freeway-Facing TCN Structures and 22 Non-Freeway Facing TCN Structures all on Metro-owned property. The total maximum amount of digital signage associated with the TCN Structures would be up to approximately 55,000 square feet. As part of TCN Program, a take-down component would be implemented including the removal of at least 110,000 square feet (2 to 1 square footage take-down ratio) of existing off-premise static displays. Signage to be removed would include, at a minimum approximately 200 off-premise static displays located within the City of Los Angeles.* ***Importantly, the Zoning Ordinance would not authorize any signage beyond the potential 56 TCN Structures on Metro-owned property identified in this Project Description. [Emphasis added.]***

This is completely misleading. While the zoning ordinance does not explicitly provide for more than 56 digital billboards on Metro-owned property, it removed restrictions that formerly would have prevented digital billboards in the public right-of-way. The passage of the ordinance will likely lead to a significant number of new digital billboards in the City of LA. The EIR does not acknowledge this, and in fact, gives the impression that implementation of the TCN will lead to a reduction in advertising structures.

On page II-2, the EIR states the following:

> *The Zoning Ordinance enabling the implementation of the TCN Program would apply solely to the 56 proposed Site Locations for the TCN Structures and any locations for associated sign takedowns.*

This is false. The zoning ordinance applies to the entire City of LA. The statement that it only applies to 56 proposed locations for TCN structures is untrue and misleads the public, falsely giving the impression that the scope of the zoning ordinance is strictly limited.

The EIR's Project Description uses euphemisms such as "digital displays" and "TCN structures" rather than using clear language to describe the program for what it is: a program to generate revenue through the installation of digital billboards in public spaces.

The DEIR's Project Description contains the following passage under "(a) Intelligent Technology":

> *The TCN Structures would be equipped with Metro's Regional Integration of Intelligent Transportation Systems (RIITS), which provides comprehensive, timely, and real-time information among freeway, traffic, transit, and emergency systems, and across various agencies, including Caltrans District 7, the City of Los Angeles Department of Transportation (LADOT), California Highway Patrol (CHP), Foothill Transit, Los Angeles County Department of Public Works, and other local and regional transit agencies, to improve traffic and transportation systems, and to disseminate information regarding roadway improvements, and during emergency events. The additional intelligent technology components of the TCN Program would assist Metro in increasing the quantity and speed of data collection of real time travel/traffic data, processing, and transmission to transportation agencies.*

What the DEIR does not acknowledge is that all of these additional intelligent technology components could easily be installed in relatively inexpensive, compact structures that would cause none of the impacts associated with digital billboards. There is already an extensive network of intelligent technology devices, and they are in no way dependent on digital billboards.

<u>The EIR's Analysis of Cumulative Impacts Is Flawed, Because the EIR Doesn't Acknowledge Metro's Ongoing Use of the Program in Surrounding Cities</u>
In general, the EIR's analysis of cumulative impacts is fatally flawed, since the EIR limits analysis to the number of digital billboards to be installed in the City of LA. In fact, for years Metro has been working with other cities, including Downey, Long Beach and Carson, to replace static billboards with digital billboards through its various agreements with Allvision. It's likely that Metro will continue the program in the future with other cities. Please see Metro Board Report, August 18, 2016 "OVERVIEW OF BILLBOARD PROGRAM AND REVENUE SERVICES CONTRACT", File #:2016-0236.

http://boardarchives.metro.net/Items/2016/08_august/EMCItem44.pdf

The document is also included as an attachment.

Because the EIR does not analyze cumulative impacts from other billboards that have been installed in Metro's service area through its relationship with Allvision, the assessment of cumulative impacts is deficient.

The EIR's Project Alternatives Are Fundamentally Misleading, Failing to Consider Viable Alternatives that Could Accomplish the Objectives by Other Means

Aside from the No Project Alternative, the other alternatives simply reduce the number of digital billboards without asking if the project's goals could be accomplished in any other way. In fact, aside from generating revenue, all of the project's goals could be accomplished without the installation of any digital billboards. The existing RIITS network has for years been a widespread, efficient and effective means of gathering and disseminating traffic information. It could easily be expanded to provide all the benefits of the TCN, except for generating revenue. Metro also fails to analyze the possibility of working jointly with Caltrans to expand its existing system of Changeable Message Signs (CMS). This could achieve all of the TCN's goals, except for generating revenue, and would have substantially lower impacts in every area.

Additional Documents Have Been Added as Appendices to the Final EIR, without the Opportunity for Public Review

Additional documents have been added as appendices to the FEIR, but they were not available to the public for review as part of the DEIR. These documents include:

Draft EIR Appendix B.2
Lighting Study Supplemental Analysis

Draft EIR Appendix D.2
Biological Resources Supplemental Analysis

Draft EIR Appendix K.2
Transportation and Traffic Safety Supplemental Analysis

The FEIR claims that these additional appendices address concerns raised by the public, but the public did not have the opportunity to review and comment on these documents. These additional appendices and the EIR sections they relate to should be circulated/recirculated for public review.

The EIR Does Not Analyze Impacts to the City of LA Related to the Revision of the LAMC Required by the TCN Program

In order to implement the TCN program, it was required that the City of LA revise the LAMC to remove restrictions on digital billboards. Again, Metro's analysis of cumulative impacts is flawed, because it only analyzes impacts from the number of digital billboards to be installed as part of the TCN program, without acknowledging the likelihood that the removal of these restrictions will result in private advertising companies installing additional digital billboards. In fact, the revision to the LAMC has already resulted in the approval of the Sidewalk & Transit Amenities Program, which includes not only the installation of digital displays on bus shelters, but also

the installation of digital panels and kiosks. The cumulative impacts of removing the LAMC restrictions against digital advertising must be considered in the TCN EIR, because, as the LACMTA and City of Los Angeles MOA Term Sheet dated March 10, 2021 makes clear, approval of the program was entirely contingent on this change to the LAMC.

The EIR Does Not Appear to Acknowledge Caltrans' Existing System of Changeable Message Signs

The EIR does not appear to acknowledge Caltrans' existing network of Changeable Message Signs, and does not appear to acknowledge that these already accomplish many of the project's goals. Nor does the EIR appear to assess cumulative impacts from the addition of the TCN program. If the CMS already accomplishes many of the objectives of the TCN, then the EIR should examine how any redundancies could be avoided to reduce energy consumption, greenhouse gas emissions, impacts to historic resources, etc..

The Project Will Likely Violate US and California Privacy Laws Due to the Integration of Personal Data Collection with Digital Out of Home (DOOH) Advertising

The collection of personal data from devices such as phones, tablets, etc., is an integral part of Digital Out of Home (DOOH) advertising. The rollout of the TCN program will likely allow advertising companies to collect massive amounts of personal data from unsuspecting citizens.

Column: Billboards that follow you? It's not sci-fi. They're already here
https://www.latimes.com/business/story/2020-08-25/column-clear-channelbillboards-privacy

This has grave privacy implications, since it's already known that this information is routinely acquired by data brokers, who make it available to a wide variety of users, including private companies and government agencies.

Data Broker LexisNexis Sued for Helping ICE Target Immigrant Communities
https://www.democracynow.org/2022/8/19/immigrant_rights_groups_sue_data_broker

In short, the TCN program is flawed in numerous respects, and the EIR fails to acknowledge and fails to assess a number of aspects of the program. The City of LA recently approved the Sidewalk & Transit Amenities Program (STAP), which is similarly flawed. CBLA has initiated a legal action seeking to overturn approval of the STAP, including the associated ordinance referenced in the TCN EIR. If the Metro Board approves the TCN, we will be considering all available options to overturn the approval.

Sincerely,
Casey Maddren
Citizens for a Better Los Angeles

File #:2016-0236, **File Type:**Agreement Agenda Number:44.

EXECUTIVE MANAGEMENT COMMITTEE
AUGUST 18, 2016

SUBJECT: OVERVIEW OF BILLBOARD PROGRAM AND REVENUE SERVICES CONTRACT

ACTION: AMEND EXISTING REVENUE CONTRACT WITH ALL VISION LLC

RECOMMENDATION

AUTHORIZE the Chief Executive Officer or his designee to:

A. AMEND the **existing revenue services contract with All Vision LLC by entering into a Second Amended and Restated Contract** to clarify the terms of such contract and provide Metro with an additional option to develop new digital billboard signs on Metro property; and

B. EXERCISE the four remaining one-year options to extend the Contract for four (4) years commencing September 1, 2016 and ending June 30, 2020.

ISSUE

Metro has entered into that certain Revenue Services Contract with All Vision LLC ("All Vision") issued on April 12, 2010, which was amended and restated on November 18, 2013 ("Contract") whereby All Vision seeks and implements, at Metro direction, opportunities for new revenue from new digital outdoor advertising displays on Metro owned property. In implementing the work, the parties have discovered an alternative development option which is not currently contemplated under the Contract, but which is proving to be a viable option for more than one local jurisdiction. Further, the Contract expires on August 31, 2016 and staff would like to exercise the four remaining one-year options to extend the term of the Contract to June 30, 2020. Exercising the remaining options is in recognition of the extended time and effort likely to implement a program within the City of Los Angeles. Finally, upon review of the Contract, there are provisions that need clarification as detailed below.

Approval to amend the Contract to clarify the terms of the Contract, to include an additional alternate development option, and to exercise the four remaining one-year options to extend the Contract requires Board approval.

OVERVIEW OF BILLBOARD PROGRAM

The Billboard Removal and Relocation Program offers local municipalities and communities the

opportunity to reduce the number of billboards in their communities and to receive public benefits in exchange for the right to place a limited number of digital billboards in locations approved by the local municipality and community. It is an opt-in program, whereby local municipalities and communities can elect to participate. Some of the public benefits that this program offers include the following:

a) Improved Rail safety;
b) Revenue Sharing;
c) Community messaging;
d) Transit Messaging;
e) Amber Alerts;
f) Removal of billboards at undesirable locations;
g) Increased non-fare box revenue to Metro; and
h) No public money is used to pay for the removal of billboards.

Many local municipalities have developed ordinances that provide for the removal of static billboards in communities where the municipality and community have determined billboards are no longer appropriate. In connection with the recently completed Metro project in the City of Long Beach, the City required Clear Channel Outdoor (CCO) to remove eleven (11) billboard structures throughout the City of Long Beach, containing 5,376 square feet of billboard panels. This includes the removal of six (6) of the eight (8) structures on Metro property containing 3,288 sq. ft. of billboard area and five (5) structures on private properties that were designated by the City containing 2,088 sq. ft. of billboard faces. The two remaining static panels on Metro property were converted into a two-sided digital structure containing 1,344 square feet of billboard area. The City and the community placed a high priority on the removal of billboards from residential areas.

In addition, the placement of digital billboards allows communities, as well as Metro, to provide real-time public service announcements as part of the signage program. Each municipality and community is presented the opportunity to place signage only in locations that meet their individual safety and aesthetic criteria.

Allvision and Metro staff are continuing to meet with local municipalities to determine if they are interested in opting into this program. Following is a summary of previous Board actions concerning this program:

On January 28, 2010, the Board authorized a 3-year revenue service contract with two 1-year options (for a total of five years) with All Vision to provide management services for new outdoor advertising displays on Metro owned property. The purpose of the Contract was to increase Metro's revenues by optimizing its billboard assets, at no additional cost to Metro.

On May 23, 2013, the Board authorized the CEO to amend and restate the Contract to add five 1-year options to potentially extend the term of the Contract to a total term of 10 years and provide Metro with two options to develop new billboard signs on Metro property with different compensation rates to All Vision depending on the option selected.

At the Board meeting held in December 2015, the Board authorized further changes to the Contract which will be incorporated as part of the Second Amended and Restated Contract contemplated herein to the extent not further modified by the changes requested in this report. These changes

include, without limitation:

a) Metro will waive the requirement for Allvision to pay $500,000 in accrued Guaranteed Annual Revenue Payment that was due June 30, 2015;

b) All Vision will waive reimbursement of $769,000 in Contractor Expenses;

c) All Vision will reduce its share of Net Incremental Payment Revenue from 30% to 25% for billboard signs developed under Option 1;

d) If new billboard signs in the Cities of Long Beach and Carson are successfully completed and generating revenue, as compensation All Vision will receive 25% of Net Incremental Payment Revenue generated from those billboard signs over the next 30 years;

e) Require All Vision to submit a work plan and budget, subject to Metro staff approval, prior to initiating any entitlement actions for new billboard signs on Metro property; and

f) if Metro approves a work plan for the City of Los Angeles, New Payment Revenue generated from new billboard signs in the Cities of Downey, Long Beach and Carson shall not be used to reimburse All Vision for its Contractor Expenses associated with the new billboard signs project in the City of Los Angeles unless and until the Guaranteed Annual Payment Revenue which is then owing to Metro has been paid.

After further negotiations, the following additional amendments to the Contract are being requested under this report:

1. Clarify and update certain contract provisions, including, without limitation, integrating the Strategic Plan within the Statement of Work;

2. Add an alternative development option (Option 3) that was not included in the Contract that provides that All Vision will assist Metro staff in negotiating with billboard companies who will obtain entitlements from local municipalities, finance, construct, and operate the digital billboards, at the billboard company's sole cost and expense. All Vision will be required to provide a work plan and budget for any new billboard assets to be developed under Option 3 for Metro staff review and approval. In the event that Metro staff does not approve the work plan and budget for Option 3, Metro staff will direct All Vision not to proceed. This alternative is an option for Metro and will be evaluated on a case-by-case basis. All Vision's compensation for services under Option 3 will also be determined on a case-by-case basis but in no event shall All Vision's compensation exceed 25% of net incremental revenue generated from these projects over the next 30 years if the projects are successfully completed and generating revenue;

3. Exercise the four remaining one-year options thereby extending the term of the Contract to June 30, 2020;

4. Provide that All Vision will submit to Metro staff a proposed work plan and budget for Metro's

review and approval for any potential projects located in the City of Los Angeles within 60 days after execution of the proposed amended contract. All Vision will submit a work plan and budget for sites in other jurisdictions within six (6) months after execution of the proposed amended contract.

5. If Metro staff approves the work plan and budget for the City of Los Angeles, and the City of Los Angeles adopts a Billboard Ordinance, that provides for development of digital billboards on Metro property, any time before June 30, 2020, then All Vision, provided that they are not in default beyond any applicable cure and notice period, will have an additional three years to manage implementation, entitlement, construction and commencement of operations of such New Digital Billboard Sign(s) in the City of Los Angeles and related sales contracts, leases, and/or license agreements;

6. Provide that if Metro approves the City of Los Angeles work plan and budget and the City of Los Angeles project is developed under the new Option 3, All Vision will receive as compensation 25% of the Net Incremental Revenue over the next 30 years plus its share of the Lump Sum Monetization Payment, if any. Further, All Vision's Contractor Expenses, as defined in the agreement, associated with or incurred in connection with the City of Los Angeles project will only be reimbursed from revenue generated from the City of Los Angeles project;

7. Provide All Vision with rights to manage implementation, entitlement, construction and commencement of billboard operations of any New Digital Billboard Signs during the term of the Contract for any billboard location that Metro staff has approved a Work Plan and budget subject to the terms of the approved work plan. If Metro does not approve a particular work plan and budget, then All Vision shall not be authorized to commence work on such project and Metro shall not proceed to implement any billboard projects covered by the unapproved work plan and budget until after June 30, 2020 (or June 30, 2023, with respect to the City of Los Angeles, should an Ordinance be adopted);

8. Provide that All Vision will provide technical assistance with the inspection, review and audit of billboard companies' books and records for each billboard asset put in place under the Contract to affirm that the parties have received their appropriate share of revenue from those billboard companies during the 30 year term of the revenue sharing arrangement;

9. Require that All Vision provide all of the following services, including providing an onsite supervisor of all work, for each new billboard sign constructed on Metro property:
    - Coordinate and schedule each aspect of the development process with Metro real estate, engineering and operation departments
    - Coordinate contractor safety training with SCRRA and other required agencies
    - Supervise contractors for each site and stage of development work
    - Coordinate boring samples
    - Coordinate site preparation
    - Oversee structure and sign installation
    - Coordinate utility connections

10. Provide that after the expiration of the Option 2 billboard warranty contract, the parties will jointly determine whether the Option 2 billboard needs to be replaced. The cost for the replacement of the Option 2 billboard shall be initially paid by All Vision and reimbursed from New Payment Revenue but only after payment in full of Base Annual Payment Revenue to Metro and payment of the Local Jurisdiction Fee.

A summary of the changes already approved in December, 2015 and the changes requested under this report is included in Attachment "A".

Summary of Status of Billboard Program

All Vision has completed a comprehensive review of existing billboards on Metro property. This review included an in-depth analysis of all Metro-owned property and its potential for generating additional revenue from billboard assets. As part of this review and analysis, All Vision (1) reviewed each existing billboard site; (2) investigated local and state ordinances related to billboards; (3) conducted meetings with local municipalities and Metro staff; and (4) prepared a Strategic Plan ("Strategic Plan") for Billboard Advertising on Metro Property.

The Strategic Plan, which was approved by the Board on May 23, 2013, offers Metro the opportunity to permit new digital billboards on its property that will provide the potential for significant increases in long-term revenue. All potential development sites have been reviewed for conformance with federal and state laws, valued for highest and best outdoor advertising revenue opportunity to Metro, and selected for consideration after an initial CEQA assessment and input from the Metro real estate, planning, operations and engineering departments. Proposed locations have been organized into projects by local jurisdiction. All Vision, Metro staff, and, if applicable, the billboard companies, will work with each local jurisdiction that has a Metro project opportunity to obtain the necessary entitlements.

Currently there are 263 outdoor advertising billboards structures ("Billboards") in place on Metro property and rights-of-way in the County of Los Angeles. The locations of the existing billboards on Metro property are shown on Attachment "B". These Billboards were assigned to Metro when the railroad right-of-way was purchased in the early 1990's. Due to lease terminations for transit projects, annual revenue from these Billboard leases has declined over the last several years from approximately $2.6 million to $1.2 million.

Meeting with Local Municipalities

All Vision, Metro, and where appropriate, the billboard companies met with the following local municipalities to discuss the proposed digital billboard program: Santa Clarita, Downey, Inglewood, Long Beach, Carson and Los Angeles. All of the municipalities were interested in participating in the digital billboard program because it provides the municipalities the opportunity to eliminate blighted conditions by converting the existing static billboards located in their jurisdiction into fewer new digital billboards that will generate additional revenue to the municipalities.

Following is a summary of the outcomes of each meeting with those municipalities:

1. Downey: Metro and the City of Downey entered into a Development Agreement on August 27, 2013, that provided for the construction and operation of a digital billboard at Metro's Division 4 located at 7878 Telegraph Road in Downey. The billboard was constructed and began operation on January 1, 2015. Metro received $144,000 for the first year and staff anticipates that the project will generate $9 million in new revenue to Metro over the thirty-year term of the Development Agreement, including the 10-year extension.

2. Long Beach: The City of Long Beach approved a Conditional Use Permit to Clear Channel Outdoor, Inc. (CCO) that provided for the removal of eight (8) existing static billboards at Division 11 located at 1011 Carson Street in Long Beach and the construction and operation of one two-sided digital billboard. CCO removed the existing billboards on March 13, 2016 and installed the digital billboard. The new digital billboard became operational on July 1, 2016 and that the project will generate $4.1 million in new general fund revenue to Metro over the thirty-year term of the license agreement with CCO.

3. Carson: CCO is negotiating a development agreement with the City of Carson to provide for the construction and operation of a digital billboard on the Harbor Subdivision and anticipates obtaining City approval during the third quarter of 2016. If the City approves the project, staff will return to the Board for approval of the license agreement with CCO. Staff anticipates that this billboard project will be completed by the end of the fourth quarter of 2016 and will generate $4.6 million in new general fund revenue to Metro over the thirty-year term of the license agreement with CCO.

4. Santa Clarita: On February 25, 2014, the Santa Clarita City Council approved a General Plan Amendment, Zone Change, Zone Amendment, Development Agreement and three Lease Agreements granting Metro entitlements and the right to use the three proposed billboard development sites for the construction and operation of three digital billboards in exchange for the removal of 118 billboards on Metro property. The Santa Clarita billboard project was never developed due to local opposition.

5. Inglewood: The proposed location in the City of Inglewood is located on the portion of the Harbor Subdivision right-of-way that is being used for the LAX Crenshaw Corridor Project. Metro staff is working with Project staff to develop a timeline for the completion of Project improvements in the vicinity of the proposed location before working with All Vision to initiate contact with City officials to discuss a development agreement.

6. Los Angeles: All Vision and Metro staff have had preliminary discussions with the City of Los Angeles. The City is considering various options for the adoption of a new billboard ordinance. The City of Los Angeles Project offers Metro the greatest potential for new revenue from the conversion of static billboards to digital billboards.

All Vision, Metro, and, if appropriate, the billboard companies will work with each local jurisdiction that has a Metro project opportunity to determine if the municipality is interested in opting into the program.

Even though static billboards will be removed, the potential revenue from the new digital billboard

signs on Metro property that could be generated to Metro ranges from $89 million to $111 million over thirty years depending on the number of new sites and the development option selected by Metro for these locations.

Summary

In most cases the income streams generated by the new digital billboard assets are expected to continue for thirty (30) years providing a long-term stable revenue stream. The program will continue to provide productive partnerships with local jurisdictions by converting static billboards within their municipalities with fewer new digital billboards and will allow them, in certain cases to participate in the revenue generated by the new billboard.

In addition, the placement of digital billboards allows communities, as well as Metro, to provide real-time public service information, such as amber alerts, traffic information and other public announcements. Each community is also presented with the opportunity to place signage only in locations that meet their individual safety and aesthetic criteria. Metro is also provided with the right to place Metro ads at no cost on the new billboard.

All Vision has performed significant work and has completed a comprehensive review of all Metro-owned property for the potential for generating additional revenue from billboard assets. All Vision's staff has extensive experience nationally in billboard management, operations, sales, and representing the interest of property owners, making it prudent to continue the All Vision Contract to ensure Metro receives an optimal return on its assets.

DETERMINATION OF SAFETY IMPACT

This Project will enhance rail safety and alleviate a major safety concern. Static paper and/or vinyl billboards have created safety problems during the high wind season as large numbers of these signs have been blown off the billboards and have fallen onto the adjacent railroad tracks, creating significant safety concerns.

FINANCIAL IMPACT

This is a revenue contract and is expected to generate a minimum of $500,000 in new general fund revenue by June 30, 2020. The Contract has generated approximately $144,000 in new revenue to Metro through December 31, 2015. Further increases are predicted to begin when development of the new billboard structures are completed. These additional revenues could range from $2 million to $10 million over the life of the Contract; however, only the minimum payment is guaranteed.

ALTERNATIVES CONSIDERED

The alternative is to allow the Contract to expire and to revert to negotiating and managing existing billboard leases directly with outdoor advertising companies. This is not recommended as the contractor's experience is particularly valuable in negotiating complex reduction and replacement billboard contracts. The agreement involves no out-of-pocket cost by Metro, relies upon local jurisdictions to voluntarily participate and is expected to produce revenues in excess of those that could be obtained by managing the existing billboard inventory.

Furthermore, All Vision has demonstrated a strong commitment to the billboard program by investing substantial time and resources toward moving the program forward.

NEXT STEPS

The Parties will enter into a Second Amended and Restated Contract which will include the terms and conditions set forth in this report.

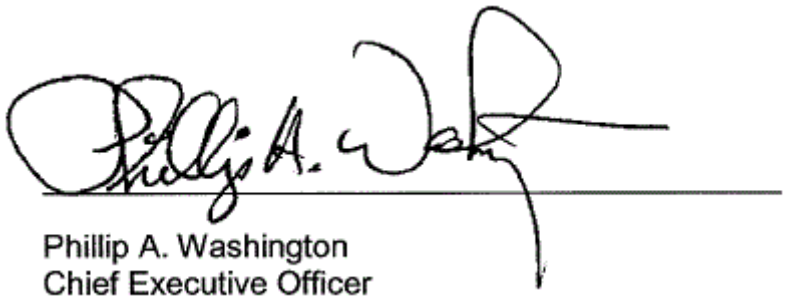
All Vision will develop, subject to Metro staff approval, a work plan and budget for potential billboard opportunities. After Metro staff has approved the work plan and budget and selected which Option development of the new billboard will proceed under, All Vision and Metro staff, and, if applicable, the billboard companies will begin working with local municipalities interested in participating in the digital billboard program to obtain the necessary entitlements or identify the next steps for moving forward.

ATTACHMENTS

Attachment A - Summary of Contract Amendment Key Terms
Attachment B - Table of Existing Billboard Locations on Metro Property

Prepared by: Thurman Hodges, Director of Real Property Management and Development, (213) 922-2435
Velma C. Marshall, Deputy Executive Officer Real Estate, (213) 922-2415

Reviewed by: Therese W. McMillan, Chief Planning Officer, (213) 922-7077



Phillip A. Washington
Chief Executive Officer

ATTACHMENT A

SUMMARY OF CONTRACT AMENDMENT KEY TERMS

Provisions	Existing Contract	Amendment
Accounting and Expenses	N/A	Contractor Expenses associated with or incurred in connection with the City of Los Angeles project will only be reimbursed from revenue generated from the City of Los Angeles project. All Vision will provide technical assistance with the inspection, review and audit of billboard companies' books and records for each billboard assets put in place under the contract to affirm that the parties have received their appropriate share of revenue from those billboard companies during the 30 year term of the revenue sharing arrangement.
Contract Options	The Allvision contract provides that to the extent that entitlements for new billboard assets have been initiated by Allvision consistent with the approved Strategic Plan and the billboard assets have not commenced operations prior to the end of the Allvision contract, the Allvision contract will be automatically extended for 12 months at a time to allow Allvision to manage implementation, construction, and	All Vision will be required to submit a work plan and budget for Metro approval prior to initiating entitlements on new billboards on Metro property. All Vision will submit to Metro staff a proposed Work Plan and Budget for Metro's review and approval for any potential projects located on the within the City of Los Angeles within 60 days after execution of the proposed amended contract. All Vision will submit to Metro staff a Work Plan and Budget for sites in other jurisdictions within six (6) months. If Metro staff approves the Work Plan and Budget for the City of Los Angeles, then if the City of Los Angeles adopts an Ordinance that provides for

Provisions	Existing Contract	Amendment
Contract Options	commencement of operation of the new billboard asset and related sales, license, and other related agreements.	development of digital billboards on Metro property, any time before June 30, 2020, then All Vision will have an additional three years to manage implementation, entitlement, construction and commencement of operations of such New Digital Billboard Sign(s) in the City of Los Angeles and related sales contracts, leases, and/or license agreements.
Exclusive Rights	N/A	All Vision shall have rights to manage implementation, entitlement, construction and commencement of billboard operations of any New Digital Billboard Signs during the term of the Contract for any billboard location that Metro staff has approved a work plan and budget subject to the terms of the approved work plan. If Metro does not approve a particular work plan and budget, then All Vision shall not be authorized to commence work on such project and Metro shall not proceed to implement any billboard projects covered by the unapproved work plan and budget until after June 30, 2020 or June 30, 2023, with respect to the City of Los Angeles, should an Ordinance be adopted.
Option 2	N/A	After the expiration of the Option 2 billboard warranty contract, the parties will jointly determine whether an Option 2 billboard needs to be replaced. The cost for the replacement of the Option 2 billboard shall be initially paid by All Vision and reimbursed from New Payment Revenue but only after payment in full of Base

Provisions	Existing Contract	Amendment
Option 2		Annual Payment Revenue to Metro and payment of the Local Jurisdiction Fee.
Site Development Process	Allvision will commence the site development process on behalf of Metro after securing local entitlements and State permits (where applicable) and in conjunction with advertising sales company negotiations. This process could include: • Coordinating and scheduling each aspect of the development process with Metro real estate, engineering and operation departments • Coordinating contractor safety training with SCRRA and other required agencies • Supervising contractors for each site and stage of development	Under all Options, Contractor will commence the site development process on behalf of Metro after local entitlements and State permits (where applicable) are secured and in conjunction with sales company negotiations. This Task shall include: Coordinating and scheduling each aspect of the site development process with Metro real estate, engineering and operation departments; Coordinating contractor safety training with Southern California Regional Rail Authority (SCRRA) and other required agencies; Supervising and coordinating all work performed on- site for each New Billboard Sign at all stages of the site development work; Coordinating boring samples; Coordinating site preparation; Overseeing New Billboard Sign installation; and Coordinating utility connection Contractor will coordinate and communicate with subcontractors, sales companies and Metro's engineering, operational, and real estate departments. Contractor will work with the Metro's County Counsel and Metro real estate staff to

Provisions	Existing Contract	Amendment
Site Development Process	work • Coordinate boring samples • Coordinate site preparation • Oversee structure and sign installation • Coordinate utility connection Developing outdoor advertising assets on property that is used primarily for public transportation is a difficult and complex process that involves many unique challenges. All Vision will develop a work plan based on strategic communications between Allvision, subcontractors, and Metro's engineering, operational, and real estate departments. All Vision understands that it is imperative that construction and operation of the signs have no adverse impact on any rail or other transit related day-to-day operations.	negotiate, execute, and where applicable and at Metro's election, enter into contracts, leases, licenses, entitlements, agreements, lump sum payments for New Billboard Sign(s), or any other understandings or arrangements relating to Metro's property. Contractor understands that it is imperative that construction and operation of the New Billboard Signs have no adverse impact on any rail or other transit related day-to-day operations and will develop and construct the New Billboard Signs in such a manner that have no adverse impact on any rail or other transit related day-to-day operations.

Provisions	Existing Contract	Amendment
Option 3 Alternative Development Option	N/A	All Vision will assist Metro staff in negotiating with billboard companies who will obtain entitlements from local municipalities, finance, construct, and operate the digital billboards, at the billboard company's sole cost and expense. All Vision will be required to provide a work plan and budget for any new billboard assets to be developed under Option 3 for Metro staff review and approval. In the event that Metro staff does not approve the work plan and budget for Option 3, Metro staff will direct All Vision not to proceed. This alternative is an option for Metro and will be evaluated on a case-by-case basis. If Metro approves the City of Los Angeles work plan and budget and the City of Los Angeles project is developed under the new Option 3, All Vision will receive as compensation 25% of the Net Incremental Revenue over the next 30 years plus its share of the Lump Sum Monetization Payment, if any. All Vision's compensation for services under Option 3 in other local jurisdictions will be determined on a case-by-case basis but in no event shall All Vision's compensation exceed 25% of net incremental revenue generated from these projects over the next 30 years if the projects are successfully completed and

Provisions	Existing Contract	Amendment
		generating revenue.
Term	Contract term currently expires on August 31, 2016	Exercise last four remaining options now to extend the term of the contract to June 30, 2020.

ATTACHMENT B

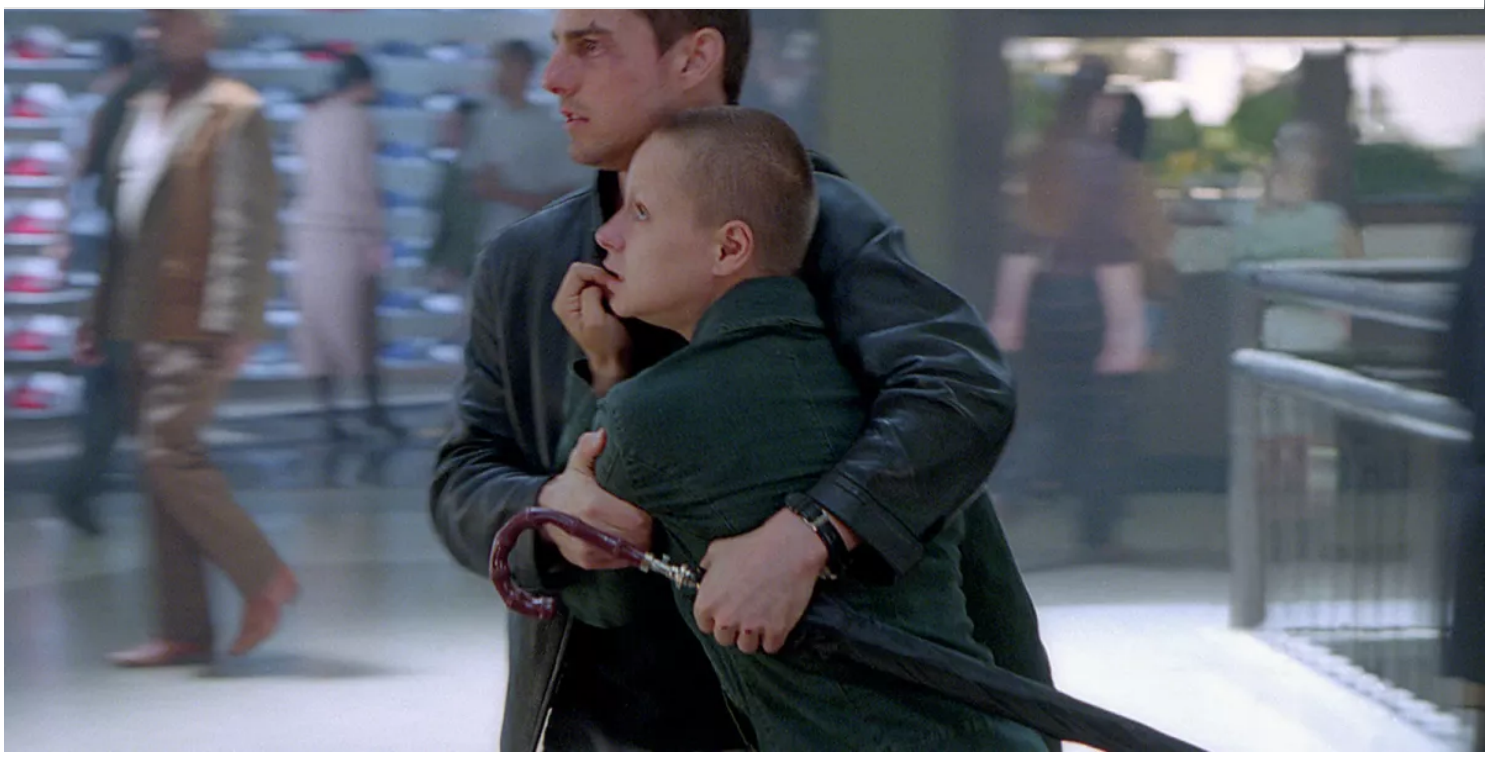
TABLE OF EXISTING BILLBOARD LOCATIONS ON METRO PROPERTY

Los Angeles County Supervisorial District	No. of Billboards
1 - Hilda L. Solis	19
2 - Mark Ridley-Thomas	49
3 - Sheila Kuehl	78
4 - Don Knabe	19
5 - Michael D. Antonovich	72
Grand Total	237

BUSINESS

Column: Billboards that follow you? It's not sci-fi. They're already here

Los Angeles Times



Remember the scene in "Minority Report" where Tom Cruise is marketed to by digital billboards? We're now a step closer to that reality. (DreamWorks/20th Century Fox)

BY DAVID LAZARUS | COLUMNIST

AUG. 25, 2020 6 AM PT

Clear Channel Outdoor, one of the world's largest billboard companies, will in coming days roll out technology across Europe capable of letting advertisers know where people go and what they do after seeing a particular billboard.

Sounds creepy, no?

Well, brace yourself. Clear Channel has been quietly using this technology in the United States for the last four years, including in Los Angeles.

"They're spying on you in your own neighborhood," said Jeff Chester, executive director of the Center for Digital Democracy.

"You don't know it's happening," he told me. "You don't know who they're sharing the information with."

Chester and other privacy advocates said Clear Channel's system is an example of how private companies are building out commercial surveillance networks right under our noses.

"The scary thing is that there are so many companies handling different pieces of this, the ecosystem is enormous," said Alan Butler, interim executive director and general counsel for the Electronic Privacy Information Center in Washington, D.C.

"All this data is being collected and we have no idea how it's being used," he said.

Clear Channel isn't alone in developing what's known as "out of home marketing" — a decidedly benign term for such a potentially invasive practice.

Different companies are rushing to install similar systems in malls, subways and other crowded venues. The aim is not just to see where you go and what you do but also to prompt impulse purchases at nearby merchants.

If you're like me, the image that comes to mind is that scene from Steven Spielberg's "Minority Report" where Tom Cruise is recognized and marketed to as he passes a series of digital billboards.

Current out-of-home marketing technology isn't like that — yet. But experts say it's just a matter of time.

"We're already used to being tracked online," said Lori B. Andrews, director of the Institute for Science, Law and Technology at the Illinois Institute of Technology. "Now it's bleeding into the real world."

Clear Channel is an especially powerful force in this field because its more than 500,000 print and digital billboards worldwide provide a far-reaching foundation from which to track passers-by and share data with marketing partners.

The company calls its technology Radar. The system, Clear Channel says, "leverages anonymous, aggregated mobile location data to help advertisers understand consumer mobility, behavior and true campaign impact."

An animated video for Radar appears to depict people on foot and in cars passing a Clear Channel billboard and connecting automatically via Wi-Fi, providing marketers with "highly customized solutions" to help them "connect with the right customers at the right time and place."

That's a bit misleading.

Jason King, a Clear Channel spokesman, acknowledged to me that the company "does not equip its billboards with technology aimed at tracking individuals."

Rather, Clear Channel gathers location and tracking information from multiple sources — apps, data firms — and then analyzes the info for insights about how people behave after passing a Clear Channel billboard.

The idea is to be able to tell advertising clients that a consumer is likely to visit the client's business after being exposed to a billboard touting the client's products or services, or to market to that consumer based on their location.

King said Radar "helps advertisers understand what happens after someone sees their ad."

Wireless companies for years have been using "geolocation" data from smartphones to bolster advertisers' marketing campaigns.

Basically, if you carry a phone, your whereabouts are known to your wireless provider every second of the day — and the companies make money selling that info to others.

Clear Channel is taking this capability up a level by creating a bridge between a consumer's location and their exposure to an outdoor marketing pitch.

Now advertisers can go beyond just passively plastering a message on a billboard. They can follow you after you've seen the ad, and watch where you go and what you do.

Clear Channel is being disingenuous when it insists all data collected as part of Radar is anonymous, privacy experts say.

Kyle M.L. Jones, an Indiana University assistant professor who focuses on data mining, said that for a company to target you with advertising, it has to know who you are and have an idea about your personal tastes.

Even if you're identified only by a number affiliated with your phone, rather than by your name, it's not difficult to extrapolate from there if a more robust marketing profile is desired.

"Enough of a mixture of geographic, behavioral and demographic data will almost inevitably open up opportunities for re-identification," Jones said. "It's hard to know what their privacy-protecting practices are, but their practices have risk."

Although Clear Channel's King played down the "Minority Report" implications of Radar, the company's chief executive, William Eccleshare, told the Financial Times that the September introduction of Radar in Europe will create a host of eye-opening opportunities for advertisers.

"We can follow your movement to a store," he said. "We can follow what you purchase. And yes, we can look at your viewing habits that evening if you pass an ad for a Netflix show."

For businesses, that's pretty exciting.

For consumers, it should send a shiver down your spine.

Nanda Kumar, an associate professor of information systems at New York's Baruch College, said "lackluster privacy laws" are partly to blame for companies feeling free to monitor consumers as they go about their daily affairs.

Many out-of-home-marketing businesses "take individuals' privacy for granted and collect information from them opaquely without providing consumers any reasonable ways to control the flow of their data," he said.

I wrote last week about how difficult some companies make it to opt out of data sharing. Clear Channel is no exception.

The company's privacy policy says it's up to individual consumers to "refer to your device's or browser's technical information for instructions on how to delete and disable all or some cookies, and other tracking tools, as available, including how to reset your advertising identifiers and limit advertising tracking."

Yeah, good luck with that.

The privacy policy also acknowledges that even though Clear Channel primarily relies on “de-identified” personal information, it does in fact disclose identifiable info to business partners.

This can include your name, address, purchase history, online behavior and “inferences drawn from any of the foregoing to create a profile about a consumer reflecting the consumer’s preferences, characteristics, psychological trends, predispositions, behavior, attitudes, intelligence, abilities and aptitudes.”

Inferences about people’s intelligence, predispositions and psychological trends?

Not so benign after all.

“When they made ‘Minority Report,’ it wasn’t science fiction,” said Chester at the Center for Digital Democracy. “That scene was based on what they knew was actually coming.”

And here we are.

BUSINESS | TECHNOLOGY AND THE INTERNET

David Lazarus

Twitter

David Lazarus is a former business columnist for the Los Angeles Times who focused on consumer affairs. He appears daily on KTLA-TV Channel 5. His award-winning work has appeared in newspapers across the country and resulted in a variety of laws protecting consumers.

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Council File No: 22-0392

Comments for Public Posting: Attached academic study regarding the distractions caused by digital billboards -- all ignored thus far by LA City in its rush to permit the Metro TCN program.

https://www.sciencedirect.com/science/article/abs/pii/S136984782100245X

Transportation Research Part F: Traffic Psychology and Behaviour
Volume 83, November 2021, Pages 226-237

Roadside digital billboard advertisements: Effects of static, transitioning, and animated designs on drivers' performance and attention

Author links open overlay panelReem Brome, Mariette Awad, Nadine Marie Moacdieh

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Abstract

The aim of this study was to analyze and compare the effects of different types of digital billboard advertisements (DBAs) on drivers' performance and attention allocation. Driver distraction is a major threat to driver safety. DBAs are one form of distraction in drivers' outside environment. There are many different types of DBAs, such as static images, changing images, or videos. However, it is not clear to what extent each of these contributes to driver distraction. A total of 100 students participated in a controlled driving simulator experiment in an urban environment. Measures of driving performance were collected, as well as eye tracking and EEG as windows into attention

allocation. The different types of DBAs investigated were static (a single image), transitioning (one static DBA replaces another), and animated (short videos). The statistical analysis demonstrated that there were significant differences in the effect of each type of DBA on drivers' performance (deviation from the center of the lane and reaction time), visual attention to the road (percent of fixations on the road, percent of fixations on DBAs, fixation duration on DBAs, and number of gazes on DBAs), and the EEG theta band and beta band. These results show that driving performance and attention to the road were both more negatively affected when drivers were exposed to transitioning and animated DBAs as compared to static DBAs. The results of this study provide guidance for the better design and regulation of DBAs in order to minimize driver distraction.

Introduction

Road accidents are the leading cause of death for people between the ages of 15 and 29 years old, with an estimated 1.25 million human lives lost due to car accidents each year (World Health Organization, 2017). The US National Highway Traffic Safety Administration (NHTSA) also confirm that 78% of all car crashes involve some type of driver distraction (NHTSA, 2006). Statistics such as these highlight the need for continued research on driver distraction and approaches to mitigate its effects.

The International Organization for Standardization (ISO) defines driver distraction as paying attention to something that is irrelevant to the main task of driving in a manner that negatively affects driving performance (ISO, 2008). Studies on driver distraction can be broadly classified into those that focus on distractions within the car and those that focus on roadside distractions. For example, Rajendra and Dehzangi, 2017, Almahasneh, 2014 analyzed the driver distraction caused by talking over the phone or responding to an engaging conversation with a passenger in the car while driving. Less attention has been given to distractions stemming from outside the vehicle; namely, roadside advertisements or digital billboard advertisements (DBAs; Oviedo-Trespalacios, Truelove, Watson, & Hinton, 2019). DBAs have been increasing in frequency with few or no regulating

policies for their location, size, or design (Aydın and Nisancı, Belyusar et al., 2016, Domke et al., 2012).
Several studies on DBAs have demonstrated the detrimental impact these have in causing driver distraction. These have been performed both in a naturalistic driving environment using equipment attached to cars (e.g., Sheykhfard and Haghighi, 2020, Zhang et al., 2020) and, more commonly, using driver simulators (e.g., Marciano, 2020, Meuleners et al., 2020, Mollu et al., 2018). For example, Edquist, Horberry, Hosking, and Johnston (2011) conducted a simulated driving study to explore the impact of advertising billboards on drivers of different age groups and levels of experience. Results showed that the presence of billboards disrupted drivers' attention to road signs and led to worse driving performance. Similar results on the road were also found by Belyusar, Reimer, Mehler, and Coughlin (2016); the DBAs caused drivers to divert their attention from the road and instead from one billboard to another. Costa et al. (2019) found that there was highest fixation rate to billboards as compared to other types of roadside advertising signs, such as vendor signs and directional signs. Dukic, Ahlstrom, Patten, Kettwich, and Kircher (2013) studied the effects of digital billboards placed on a motorway in Sweden. The study showed that these billboards caused considerable driver distraction, drawing drivers' gaze frequently and for a long period of time, to such an extent that the Swedish authorities decided to remove the billboards from the road. Other countries have also banned the use of DBAs. In the U.S., for example, four states (Maine, Vermont, Alaska and Hawaii) prohibit all billboards, and around one quarter of the states in the U.S. have also banned animated billboards, including Alaska, Arizona, Colorado, Tennessee, and some cities in Texas (Institute for Local Self-Reliance, 2021).

These studies confirm the dangers of DBAs in general. However, little is known about how detrimental different types of DBAs are, and whether there are warnings or recommendations that can be provided for the safer implementation of DBAs. Some studies have analyzed the differences between static and dynamic DBAs (e.g., Edquist et al., 2011, Belyusar et al., 2016, Dukic et al., 2013), the duration of the billboard display (Mollu et al., 2018), and the duration combined with the complexity of the content (Meuleners et al., 2020). However, none

have looked in detail at the three main types of DBAs; namely, static, changeable/transitioning (i.e., one advertisement replaces another after a fixed interval of time; in other words, static DBAs that are observed at the time of a transition from one to the other), or video/animated. This research study aims to fill that gap by determining the effect of these three different formats of DBAs on drivers' performance and attention allocation.

In order to analyze attention allocation at a fine-grained level of analysis, the effects of DBAs will be analyzed using physiological data, which can provide more insight into a driver's state (e.g., Putze et al., 2010, Yang and Jeong, 2015, Yang and Jeong, 2015). Eye tracking is one commonly used tool in this regard that has been shown to improve the accuracy of driver distraction detection (Liang et al., 2007, Zhang et al., 2004). The approach has been used to good effect to study the effects of billboards while driving (e.g., Herrstedt et al., 2013, Misokefalou et al., 2016, Topolšek et al., 2016). Eye tracking measures rely on fixations, or spatially stable gaze points during which time visual processing takes place, and saccades, the rapid eye movements in between fixations (Poole & Ball, 2005). While eye tracking alone as a physiological measure has typically been used to analyze the effect of roadside distractors on drivers (e.g., Topolšek et al., 2016), the present study proposes the use of both eye tracking and electroencephalography (EEG) in order to get a more accurate picture of driver distraction. EEG has been shown to be a reliable tool when it comes to assessing the distraction caused by billboards (e.g., Wang, Clifford, Markham, & Deegan, 2021). Other studies on driver distraction (but not DBAs) have indicated that features extracted from drivers' electroencephalogram (EEG), such as the theta and beta power band from the frontal cortex, have shown high correlation with driver distraction (Dehzangi et al., 2018, Lin et al., 2008, Lin et al., 2011). While the eye tracking measurements are used to analyze visual distraction, the EEG data can help assess the cognitive distraction. Combining eye tracking data with EEG data can then provide insight into two types of distraction caused by the different types of DBAs.

Our hypothesis is that the presence of motion in DBAs would be more distracting to drivers given that abrupt onsets and motion attract

attention (e.g., Jonides & Yantis, 1988). Therefore, we expected that video DBAs would be more detrimental to driver distraction than transitioning DBAs, which in turn would be worse than static DBAs. The research methodology adopted was a simulator study that allowed for a controlled experiment. While there are crucial advantages to conducting studies in a naturalistic driving environment that contain real-life driving situations, driving simulator studies are invaluable in terms of being able to control the environment and focusing on the variable of interest. Having sensors used while people are driving can also affect people's behavior, so while there is no perfect way of capturing driver behavior, a reasonable fidelity driving simulator can provide a good starting point for further research. The results of this study can thus provide the basis for further investigation into DBAs, all of which will lead to recommendations that guide the design of DBAs to minimize distraction. In that way, rather than implementing a blanket ban on all DBAs or allowing all types, there could be compromise with some types of DBAs accepted under certain conditions and others perhaps banned. In particular, video-based DBAs appear to be gaining in popularity without any research as to how detrimental they might be in terms of driver distraction.

Section snippets

Participants

The participants in this study were 100 students (41 females and 59 males) from the American University of Beirut (AUB) students, aged 18–44 years old (mean (M) ± standard deviation (SD) = 23.3 ± 4.38). The sample size was selected as such in order to do additional machine learning analysis, which is not reported in this paper. The average number of years of driving experience for participants was 5.5 ± 4.13 years. The participants were recruited using flyers distributed across AUB. All

Results

Unless otherwise specified, a one-way repeated measures ANOVA was conducted on each of the driving performance, eye tracking, and EEG measures to see if there were significant differences across the four levels of the independent variable (or three levels in the case of metrics involving DBAs). The normality assumption was assessed using the Shapiro-Wilk test with alpha equal to 0.05. In the cases of non-normal data, a square root transform was applied. If that did not lead to normally

Discussion and conclusion

The overall goal of this study was to examine the performance and attentional effects of static, transitioning, and animated DBAs as compared to a control condition (the absence of DBAs). Our hypothesis was that animated DBAs would be more detrimental to driver distraction than transitioning DBAs, which in turn would be worse than static DBAs.

In general, the performance results largely supported this hypothesis. It appeared that participants who were exposed to animated DBAs deviated the most

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CRediT authorship contribution statement

Reem Brome: Conceptualization, Methodology, Writing – original draft. **Mariette Awad:** Conceptualization, Methodology, Project administration, Resources, Supervision, Writing – review & editing. **Nadine Marie Moacdieh:** Conceptualization, Methodology, Project administration, Resources, Supervision, Writing – review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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