

CLA MEMORANDUM

DATE: December 4, 2017

TO: Honorable Members of the Planning and
Land Use Management Committee

FROM: Sharon M. Tso 
Chief Legislative Analyst

Digital Signage Financial Analysis

Honorable Members:

Per the instruction of Your Committee (Council File No. 11-1705), transmitted herewith is a **Digital Signage Financial Analysis Study** prepared by Navigant Consulting, Inc. (Navigant) whom we engaged to conduct a policy and financial analysis of off-site digital signage (or billboards) outside of currently defined sign districts. This analysis examines two off-site digital signage options requested by Your Committee: (1) the City-wide Option (allowing digital off-site signs on public and private property) and (2) the Public Option (allowing digital off-site signs only on public property; specifically, City and Metro-owned property).

The report was prepared with extensive consultation and participation of the Chief Legislative Analyst; City Administrative Officer; Planning Department; City Attorney; and Department of Building & Safety.

The Consultant will be available to present their report and findings. If we may be of further assistance, please let us know.

SMT:ak



Off-site Digital Signage Financial Analysis Study

Prepared for:

The City of Los Angeles

Office of the Chief Legislative Analyst



Submitted by:

Navigant Consulting, Inc.
515 South Flower Street
Suite 3500
Los Angeles, CA 90071

213.670.3200
navigant.com

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TABLE OF CONTENTS

Disclaimer.....	iii
Executive Summary	1
Project Approach.....	1
Peer Review Summary.....	2
Digital Signage Drivers & Trends	6
Digital Signage Policy	6
Peer Review Revenue Summary	7
Applicable Revenue Structures	8
Off-site Digital Signage Geographic Analysis	8
Off-Site Digital Signage Financial Analysis	10
1. Introduction.....	12
1.1 Background.....	12
1.2 Approach.....	13
2. Peer Review Summary & Analysis.....	15
2.1 Digital Signage Drivers & Trends	15
2.2 Digital Signage Policy	16
2.2.1 Policy Overview	16
2.2.2 Policy Examples.....	17
2.3 Peer Review Revenue Summary	19
2.4 Applicable Revenue Structures.....	21
3. Off-Site Digital Signage Geographic Analysis	23
3.1 Current State of Off-Site Signage	23
3.1.1 Current Zoning Code.....	23
3.1.2 Existing Off-Site Signage.....	24
3.2 Off-Site Digital Signage Scenarios	27
3.2.1 Takedown Percentage Scenario.....	27
3.2.2 City-Wide Option.....	29
3.2.3 Public Option	39
3.2.4 Scenario Comparison.....	45
4. Off-Site Digital Signage Financial Analysis	47
4.1 Current Revenue	47
4.2 Financial Scenario Assumptions.....	47
4.2.1 Annual Payments (Fixed or Revenue Percentage).....	47
4.2.2 Rent.....	49
4.2.3 Up-front Payments	50
4.3 Takedown Percentage Scenario	50
4.4 City-Wide Option Revenue	52
4.4.1 City-wide - 100-ft Buffer Scenario	53
4.4.2 City-wide - 200-ft Buffer Scenario	53
4.4.3 City-wide - Council District Scenario	54
4.4.4 City-wide - High Traffic Scenario	54
4.4.5 City-wide - Tier 1 Sign District Scenario.....	55

4.5 Public Option.....	55
4.5.1 Public - 100-ft Buffer Scenario.....	56
4.5.2 Public - 200-ft Buffer Scenario.....	56
4.5.3 Public - Single Parcel 200-ft Buffer Scenario	57
4.5.4 Public - Council District Scenario.....	57
4.5.5 Public - Highway Scenario.....	58
Appendix A. Detailed Case Studies	A-1
A.1 Chicago	A-2
A.2 Sacramento	A-3
A.3 Long Beach	A-5
A.4 Anaheim	A-8
A.5 Miami.....	A-11
A.6 Los Angeles County Metropolitan Transportation Authority (Metro).....	A-14
A.7 Philadelphia	A-16
A.8 Toronto	A-17
Appendix B. Detailed Financial Scenario Results	B-19
B.1 Takedown Percentage Scenario.....	B-19
B.2 City-wide Option.....	B-20
B.3 Public Option	B-25
Appendix C. Geographic Scenarios by Council District.....	B-31
C.1 City-wide Option	C-34
C.2 Public Option	C-37

DISCLAIMER

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EXECUTIVE SUMMARY

The City of Los Angeles Office of the Chief Legislative Analyst (CLA) engaged Navigant Consulting, Inc. (Navigant) to conduct a policy and financial analysis of off-site digital signage (or billboards) outside of currently defined sign districts. This analysis examines two off-site digital signage options requested by the Planning and Land Use Management (PLUM) Committee of the Los Angeles City Council: (1) the City-wide Option (allowing digital off-site signs on public and private property) and (2) the Public Option (allowing digital off-site signs only on public property; specifically, City and Metro-owned property).

Project Approach

The following figure describes the components of each of the policy, geographic, and financial analyses used to evaluate the City-wide and Public Options. These components build on one another to ultimately present a set of financial scenarios informing possible future revenues associated with off-site digital signage in Los Angeles.

Figure E-1. Components of the Analysis

Peer Review	Geographic Analysis	Financial Analysis
• Data from 24 North American cities • Policy review of different approaches to off-site digital billboards • Takeaways for Los Angeles financial scenarios • Eight in-depth case studies	• Data from the Department of City Planning, CAO's Office, and the Department of Building and Safety • Geographic scenarios using assumptions for zoning, residential buffers, takedown ratios, and other inputs/constraints • ArcGIS mapping of available areas for off-site digital signs under the scenarios • Illustrative maps with counts of off-site digital signs for each scenario	• Data from peer review case studies, the CAO's Office, and the Office of Finance • Financial scenarios using assumptions for revenue sharing percentages, fixed fees, and other potential revenue structures from draft ordinances and peers • Revenue calculations based on the geographic scenarios' off-site digital sign results

The City-wide and Public Options are distinguished primarily by differences in geographic assumptions, with the Public Option being limited to City-owned and Metro-owned property. Some of the geographic scenarios are intended to show the upper limit of off-site signage under relocation agreements, without regard to critical community and political input. These scenarios are designed to illustrate potential outcomes from a range of policy and deployment decisions the City of Los Angeles may consider. This report makes no recommendations, as there are a wide range of options and policy frameworks available to the City depending on what criteria the City Council and the public may desire. Hence, some of the scenarios provided may not be realistic for Los Angeles, but provide a more extreme range of outcomes for illustrative purposes.

While other scenarios are more "realistic," none attempt to locate signs accurately on properties. In other words, the mapping activity results in approximate numbers of signs based on sites that meet the relevant

criteria, and not actual proposed sign locations. Additionally, all the policy options and deployment scenarios available to the City have legal ramifications and other policy constraints. Because of these considerations and complexity, any policy alternative should be thoroughly reviewed with the City Attorney's office for further evaluation.

Scope of Work

Navigant designed the project approach and resulting deliverables to align with the contracted scope of work for the City of Los Angeles.¹ Specifically, the report findings and analysis match the four tasks outlined in the contract: (1) Collect Data & Lead Project Kick-Off, (2) Conduct a Peer Review Research Program, (3) Prepare Citywide & Public Option Studies, (4) Finalize Report & Conduct Stakeholder Meeting. The table below outlines the scope of work and describes how Navigant's deliverables met the contract's expectations for each of the four tasks.

Table E-1. Scope of Work Mapped to Approach & Deliverables

Contracted Scope of Work	Navigant Approach & Deliverables
Task 1: Collect Data & Lead Project Kick-Off	
Lead brief kickoff meeting with CLA representatives and other stakeholders	Led a brief kickoff meeting with key stakeholders representing the CLA, Planning Department, and others to introduce the Project Team and Project Approach
Collect and review available data concerning the "current state" of digital signage in the City from a financial perspective	- Reviewed several key data sources to understand the "current state" of digital signage, including the 2016 CAO Supplemental Attachment to the Off-Site Sign Regulations and Policy Options Report (City File 11-1705), the Los Angeles Department of Building & Safety's Billboard Survey Information,² and relevant PLUM documents - Interviewed key stakeholders within the City to gather more information about the history and "current state" of digital signage in the City - Investigated key data inputs through the City of Los Angeles Geohub and the Department of City Planning's GIS portal to understand current and proposed zone and land use designation restrictions related to off-site digital signage³

¹ The "Contract with the City of Los Angeles" refers to the Agreement Between the City of Los Angeles and Navigant Consulting, Inc. Re: Digital Signage Financial Analysis Study, dated August 31, 2017.

² The Los Angeles Department of Building & Safety, Billboard Survey Information, OSSPIP, 2017, <http://www.ladbs.org/>.

³ City of Los Angeles, Los Angeles Geohub, 2016, <http://geohub.lacity.org/>; City of Los Angeles Department of Planning, GIS Datasets, https://planning.lacity.org/MapGallery/MapGallery_GISdata/MapGalleryData.htm.

Contracted Scope of Work

Navigant Approach & Deliverables

Task 2: Conduct a Peer Review Research Program

- | | |
|---|---|
| <ul style="list-style-type: none"> • Conduct a peer review of policy and financial analyses for the City-wide and Public Options | <ul style="list-style-type: none"> • Researched 24 peer cities that have established policies and/or revenue mechanisms for off-site digital signage. Peers include large cities, such as New York City, Philadelphia, and Chicago as well as cities in California such as Anaheim, Oakland, and Santa Clarita. The analysis explored zoning codes, financial structures, and potential public benefits • Summarized peer review research in Section 2 and Appendix A of this report |
| <ul style="list-style-type: none"> • Identify revenue drivers for each Option, including zone buffers, reduction goals, and sign prohibitions | <ul style="list-style-type: none"> • Created a list of the most prevalent revenue structures amongst peers, including rent, ad-sharing, and upfront payments • Created a list of policies amongst peers, including contract structures, signage reduction goals, and zoning restrictions. For example, Navigant created options that reflect “popular” high-value digital signage locations, such as highways and other high traffic streets • Summarized peer financial structures in Section 2.2 and Section 2.3 of this report |
| <ul style="list-style-type: none"> • Evaluate the potential impact of each revenue driver (e.g. impact of 100-foot and 200-foot residential zone buffers on potential future revenues) • Assess the combined and isolated effect of each driver | <ul style="list-style-type: none"> • Modeled 12 geographic scenarios to evaluate the impact of various revenue drivers, such as zoning restrictions • Wrote an analysis for each geographic scenario, explaining how the revenue drivers affect the potential for digital signage, summarized in Section 3 of this report • Assessed the various impacts of these restrictions and different financial structures in a detailed financial assessment, which included three financial scenarios for each of the geographic scenarios based on peer review and an additional three financial scenarios based on current or proposed structures with the City, summarized in Section 4 of this report |

Contracted Scope of Work

Navigant Approach & Deliverables

Task 3: Prepare Citywide & Public Option Studies

- Document the City-wide and Public Option study results in a long-form Word document and a PowerPoint presentation
- Created a long-form Word document study (this report) and a PowerPoint presentation provided to the CLA and selected stakeholders

Task 4: Finalize Report & Conduct Stakeholder Meeting

- Conduct two stakeholder meetings with (1) the Planning and Land Use Management (PLUM) Committee and (2) the City Council
- Navigant will plan these meetings at the directive of the Assistant Chief Legislative Analyst

In addition to meeting the specific tasks outlined in the contract, Navigant incorporated the requirements for a proposed off-site digital signage ordinance from Council file No. 11-1705. This file also details the PLUM Committee's Request for Report regarding digital signage. The table below lists the restrictions for the proposed revised ordinance and how Navigant approached these requirements.

Table E-2. Proposed Ordinance Considerations

Proposed Requirements	Included?	Navigant Analysis
Limited to C, M and PF Zones and General Plan land use designation is Regional Center Commercial, Regional Commercial, General Commercial, Highway Oriented Commercial, Community Commercial and Public Facilities	✓	- Limited zones and land use designations to those listed based on the zoning and land use designation data from the Department of City Planning - Incorporated zone and land use designations into all geographic scenarios
Required minimum 2:1 take-down ratio	✓	Restricted the maximum number of new digital sign faces based on a 2:1 take-down ratio of the current square footage of static signs
Require Public Benefit payments corresponding to takedown ratios	✓	- Calculated the proposed in-lieu payment amounts corresponding to takedown ratios of 2:1 – 8:1 - Calculated other Public Benefit payment structures, such as rent and advertisement revenue-sharing
Must observe a minimum 200-foot buffer, with exceptions when relocating existing signs	✓	Applied a 100-foot and 200-foot buffer to residential areas according to the City-wide and Public Options, for relocating signs

Proposed Requirements	Included?	Navigant Analysis
Exceptions would require higher takedown minimums at 4:1	✓	Modeled geographic and financial scenarios at various takedown ratios, including 4:1
Must face away from adjacent residential areas	-	Navigant did not account for this requirement explicitly because the geographic model does not dictate the direction of the sign faces
Must be located minimum 500 feet away from any other digital off-site sign	✓	Located signs 500 feet apart from each other on the same street. The proposed ordinance did not specify in which direction the minimum distance should apply. Therefore, Navigant leveraged the State/Caltrans signage restrictions, which only apply to highways in one direction (e.g., on a North and South-bound highway, there may be signs on both sides that are less than the minimum distance)
250 feet when adjacent to existing sign districts	✓	Created a 250-foot buffer around existing sign districts in the geographic model
Prohibit freeway facing billboards consistent with State/Caltrans regulations except on public properties	✓	- Applied a 660-ft. highway buffer to all eligible properties, as directed by key stakeholders and in accordance with Caltrans restrictions - Included a 2,000-ft. highway buffer (as defined in current ordinance) to all privately owned eligible sign locations
Prohibit along State designated scenic highways	✓	Removed State-designated scenic highways from the geographic analysis, based on State/Caltrans data
Prohibit in public parks and civic buildings that represent sensitive or historic monument uses	✓/-	- Excluded public parks from the geographic analysis based on data provided by the City - Navigant did not receive directions about excluding certain civic buildings that represent sensitive or historic monument uses
Not to supersede restrictions in existing historic Preservation Overlay Zones (HPOZ), specific plan areas, and other overlay districts	✓/-	- Excluded Historic Preservation Overlay Zones from our scenarios - Navigant did not receive any additional information regarding which specific plan areas and overlay districts have digital signage restrictions

Peer Review Summary

Navigant reviewed the policies of other municipalities regulating digital billboards, particularly those that have monetized this form of city advertising, to identify digital signage trends and policy options as well as potential geographic and financial scenarios that could be applied to the City of Los Angeles. For this analysis, Navigant reviewed the policies of 24 municipalities.

Digital Signage Drivers & Trends

Over the past 5 years, digital signage has come to the forefront of city policy discussions, as policymakers examine the potential benefits and consequences of permitting signs that can be highly controversial in local communities. There are typically two main drivers for cities pursuing digital billboards: (1) static billboard removal and (2) revenue generation from taxes, fees, or revenue-sharing agreements. To reduce billboard blight, numerous cities are considering – or already implementing – a removal (or takedown) ratio requirement for any new digital billboard. The required ratios vary from city to city, depending on the city's goals. On the revenue side, there are a variety of common structures. For example, some cities are piloting agreements in which the city acts as a landlord for the billboard. The outdoor advertising firm then acts as a renter, paying a previously negotiated amount each month. In other cases, the city requires the advertiser to pay a recurring fixed fee and/or a percentage of the advertising revenue (typically, whichever is greater). Alternatively, cities may impose special taxes aimed at digital billboards.

In addition to revenue generation and billboard blight reduction, digital billboards can also be used for community messaging and public art. Less-discussed benefits also include the elimination of the paper, vinyl, and chemical waste used in traditional static billboards, and the automatic control of light levels on digital billboards. In contrast, opponents of digital billboards generally focus on light pollution, visual pollution, and safety concerns for drivers. While these are common elements of digital billboard debates, the conversation can vary significantly depending on the neighborhood, visibility of the billboard, and proposed restrictions and agreement structure.

Digital Signage Policy

Due to the heightened attention to digital signage opportunities across the country, many cities have recently revised or proposed revisions to their billboard regulations. These cities are actively considering how digital billboard lighting, removal ratios, and costs and revenues may differ from static signs. The list below provides an overview of the regulations most cities have considered:

- **Zoning restrictions:** Most cities already have ordinances restricting locations for static signs. Cities generally apply these restrictions to digital signage too, but impose even stricter requirements (e.g., increased residential buffers) due to potential light pollution and other issues.
- **Permitting:** Most cities also require specific permits for static signs. Like the zoning restrictions, cities usually use the same permitting requirements for digital signs. Some cities also require special permitting for digital signs. For example, certain planning policies necessitate a conditional use permit.
- **Removal requirements:** In addition to restricting the locations where billboards can be built, some cities require billboard companies to remove static billboards in exchange for building a new digital billboard structure or for converting a static billboard to a digital billboard. Takedown ratios are usually based on square footage and vary from 2:1 – 21:1 in the peer cities (i.e., the

advertiser must remove 2 square feet of existing static sign area for every 1 square foot of new digital sign area).

- **Design standards:** Local jurisdictions may mandate that digital signs conform to certain messaging, size, and lighting standards.
- **Taxes and fees:** Cities may enact special taxes and fees or apply existing taxes and fees to digital billboards. In some cases, payments may differ for digital billboards and static billboards. Examples of taxes include the adoption of an excise tax, commercial use tax, or business revenue tax. Fees may include application, permitting, and relocation fees.
- **Rent and revenue sharing:** Instead of imposing taxes, cities may charge rent for billboards on City property and/or impose a revenue sharing agreement based on advertising revenues. Cities generally propose these agreements on a case-by-case basis rather than writing it into the city code, but typically follow a standard structure for these agreements.

Peer Review Revenue Summary

Navigant reviewed digital signage data and policies for 24 municipalities. After reviewing the peer data, Navigant determined that cities that financially benefit from digital billboards use one of two main revenue structures: (1) taxes and (2) annual revenue sharing (a percentage of advertising revenue) and/or annual fixed fee (including rent) agreements. In many cases, one-time up-front payments are also required, separate from the annual revenue. The following tables summarize research findings for these payment structures. Some cities do not generate significant revenue from digital billboards (or data was unavailable). These cities may still impose takedown requirements for static signs, but without any additional financial arrangement. Also note that the tables include proposed revenue structures that have not yet been approved or were disapproved (for example, Miami).

Table E-3. Peer Review Tax Structures

City	State	No. Digital Signs	Tax Type	Tax Amount	Potential City Revenue (\$/year)
Philadelphia	PA	20	Excise	7%	\$2,500,000
Pittsburgh	PA	10+	Excise	10%	\$2,000,000 - \$4,000,000
Toronto	Canada	50	Fixed Fee	\$25,679/sign/year	\$11,000,000
New York City	NY	Unknown	Rent	7%	Unknown
Baltimore	MD	Unknown	Excise	\$15/square foot	Unknown

Table E-4. Peer Review Revenue Share and Fee Structures

City	State	No. Digital Signs	Upfront Payment (\$)	Rent or Fee (\$/year)	Revenue Share (%)*	Potential City Revenue (\$/year)
Chicago	IL	60	\$15,000,000	\$8,705,263	30-50%	\$22,823,065
Miami	FL	30+	\$5,000,000	\$0	3%	\$4,300,000
New Westminster	Canada	4	Unknown	Unknown	Unknown	\$1,086,957
Santa Clarita	CA	3	\$0	\$0	65%	\$500,000
Fresno*	CA	5	\$100,000	\$130,000	35%	\$378,000
Metro LA - City of Downey	CA	1	\$0	\$0	70%	\$225,000

City	State	No. Digital Signs	Upfront Payment (\$)	Rent or Fee (\$/year)	Revenue Share (%)*	Potential City Revenue (\$/year)
Santa Ana	CA	0	\$0	\$0	60%	\$200,000
Las Vegas	NV	5	\$10	\$0	25-50%	\$150,000+
Oakland	CA	1	\$1,000,000	\$0	30%	\$150,000
Metro LA - City of Long Beach	CA	2	\$0	\$100,000	22-30%	\$133,333
Newark	CA	2	Unknown	Unknown	Unknown	\$100,000
Anaheim*	CA	2	\$0	\$0	25%	\$80,000
Hawthorne	CA	1	\$125,000	\$0	55%	\$55,000
St. Petersburg*	FL	6	\$0	\$0	15%	\$50,000
Sacramento*	CA	13	\$330,000	\$180,000	30%	Unknown
Glendale	AZ	2	\$0	\$125,000	33-40%	Unknown
Glendale	CA	2	\$0	\$0	12-15%	Unknown
San Antonio	TX	13	\$0	\$0	0%	\$0
Long Beach	CA	3+	\$0	\$0	0%	\$0

* City receives either a share of revenue or a fixed minimum payment, whichever is greater.

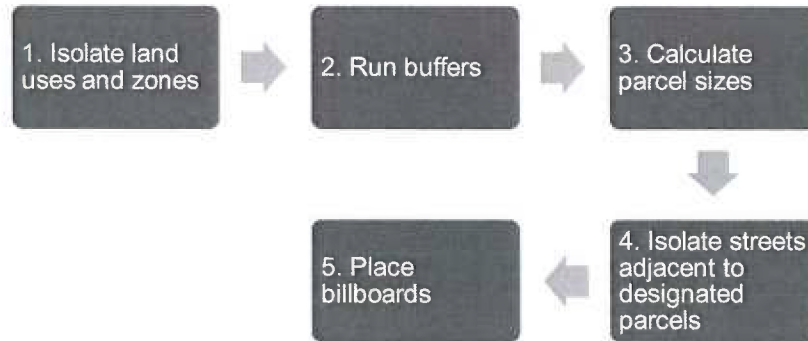
Applicable Revenue Structures

Based on our research, annual payments, rent, and revenue-sharing agreements are most applicable to the City of Los Angeles and the ordinance revisions recommended by the PLUM Committee. While billboard tax structures have been passed by several peer cities, they have been subject to litigation or refuted by state and federal government agencies. Rather than implement a citywide billboard tax, many cities in California and throughout North America have used relocation agreements as an avenue to control the number of digital signs that are constructed while also reducing billboard blight and generating revenue for the city. Given these conditions, Navigant did not consider a new billboard tax in the financial analysis. However, we did not complete a legal analysis or risk assessment for any of these structures. The adoption of any revenue structure should be done in consultation with the City Attorney's office.

Off-site Digital Signage Geographic Analysis

Navigant estimated the total number of off-site digital billboards that could be installed in the City of Los Angeles under several potential scenarios in each of the City-wide and Public Options. To complete these scenarios, Navigant used a set of global assumptions from the PLUM Committee's May 31st directive and other available information to restrict the placement of off-site signs outside of sign districts in all scenarios. Additionally, Navigant developed a set of assumptions and unique restrictions for the individual scenarios. Navigant applied these assumptions and other inputs to a Geographic Information System (GIS) model of Los Angeles to approximate the placement of new or relocated digital billboards. This approach leveraged GIS data directly from the Los Angeles Department of City Planning, the Mayor's Office, and publicly-available databases. Using this data, Navigant followed a five-step process to determine the total number of signs for each scenario. Figure E-2 below provides a high-level overview of this process for the City-wide Option.

Figure E-2. Geographic Information System Sign Estimation Process



The geographic scenarios include “100-Foot Buffer” and “200-Foot Buffer” scenarios based on 100-foot and 200-foot residential buffers, respectively. There is also a “Council District” scenario for each Option, which considers the relative number of existing off-site signs in each Council District, to minimize new digital off-site signs in districts that do not currently have very many. Scenarios exclusive to the City-wide Option include two “High Traffic” scenarios to identify highly trafficked streets and, therefore, areas with the greatest potential for digital billboard revenue; and a “Sign District” scenario based on the proposed limitation of Tier 1 sign districts to only Regional Center Commercial or Regional Commercial land use designations. Scenarios exclusive to the Public Option include a “200-Foot Buffer Single Parcel” scenario, which places potential digital billboards on every parcel of public property, and two “Highway” scenarios for digital billboards along certain highways (with and without buffers).

The results from these scenarios are summarized in the tables below, showing the total number of digital sign faces (rather than sign structures, which may be double-facing). Because several of the scenarios result in very high numbers of digital signs, the results are also shown at “scaling factors” of 50%, 25%, and 10% of the total to provide more reasonable estimations; this range should account for any additional constraints that were missed, unsuitable buildings or parcels, and the limitations of the GIS methodology.

Table E-5. Summary of City-wide Option Geographic Scenario Results, Number of Sign Faces

Scenario	100%	50%	25%	10%
100-Foot Buffer	2,646	1,323	662	265
200-Foot Buffer	1,947	973	487	195
Council District	1,381	691	345	138
High Traffic	369	184	92	37
Tier 1 Sign District	502	251	126	50

Table E-6. Summary of Public Option Geographic Scenario Results, Number of Sign Faces

Scenario	100%	50%	25%	10%
100-Foot Buffer	1,477	738	369	148
200-Foot Buffer	1,046	523	262	105
Single Parcel – 200-Foot Buffer	1,828	914	457	183
Council District	760	380	190	76
Highway Scenario A	143	72	36	14
Highway Scenario B	387	194	97	39

Several scenarios in both the City-wide and Public Options allow for a significant amount of digital sign development or relocation. Although somewhat more limited, the Public Option still allows for flexibility and many billboard placement options. Based on the number of billboards shown here, the Public Option is a viable alternative to the City-wide Option and would still allow for significant revenue generation.

Off-Site Digital Signage Financial Analysis

The revenue structures represented in the financial scenarios are based on annual payments and up-front payments for city-wide off-site digital signs, plus rent for off-site digital signs on City-owned property. The range of annual payments is based on structures including the City's current tax structure for advertising agencies, the City's proposed in-lieu payment structure, the City's street furniture program, and examples from peer case studies. For rent payments, Navigant assumes an annual rent fee for the use of public property equal to rent payments found in the Chicago and Sacramento case studies. For up-front payments, Navigant assumes three different payment amounts based on the current Los Angeles sign district payment, payments in Fresno, and payments in Sacramento. The annual payment options are exclusive of one another (e.g., either the current tax rate or a 65% revenue share), while the rent and up-front payments are additive to the total revenue for the City.

Navigant applied these financial assumptions to the geographic digital signage results, with selected results shown in the tables below. Notably, potential revenues for the City vary extremely widely. This is because of the large range of digital sign results from the geographic scenarios, the application of scaling factors from 10%-100% of the total, and assumptions for diverse payment options. Hence, the financial scenarios show the universe of revenue options, any of which would require more focused analysis and legal review to implement. As discussed, these numbers are purely illustrative.

The following tables include the financial results at the 50% scaling factor, because several of the geographic scenarios at the 100% level exceeded the number of digital billboards needed to remove all existing static signage in the City at the lowest proposed takedown ratio (2:1). We do not include the financial results from these scenarios here, although they may be found in Appendix B. Note that some of the annual payment/revenue share results are presented in ranges, which are based on the range of static sign takedown ratios (2:1 to 8:1) or a range of revenue share percentages (15%-65%).

Table E-7. Summary of City-wide Option Financial Results – 50% Scaling Factor

Revenue Component	Payment Type	City-wide Scenarios (50%)				
		100-Foot Buffer	200-Foot Buffer	Council District	High Traffic	Tier 1 Sign District
Annual Payment	Fixed In-lieu Payment (8:1 – 2:1)	\$33.1 – \$330.8 M	\$24.3 – \$243.3 M	\$17.3 – \$172.8 M	\$4.6 – \$46.0 M	\$6.3 – \$62.8 M
	Rev. Share In-lieu Payment (8:1 – 2:1)	\$22.6 – \$361.2 M	\$16.6 – \$265.6 M	\$11.8 – \$188.6 M	\$3.1 – \$50.2 M	\$4.3 – \$68.5 M
	Current Tax	\$0.5 M	\$0.3 M	\$0.2 M	\$0.06 M	\$0.09 M
	Street Furniture	\$46.7 M	\$34.4 M	\$24.4 M	\$6.5 M	\$8.9 M
	Revenue Share (15%-65%)	\$135.4 – \$586.9 M	\$99.6 – \$431.6 M	\$70.7 – \$306.5 M	\$18.8 – \$81.6 M	\$25.7 – \$111.3 M
Annual Rent		\$83.0 – \$102.8 M	\$58.8 – \$72.8 M	\$42.8 – \$52.9 M	\$11.7 – \$14.5 M	\$8.3 – \$10.3 M
Up-front Payment (One-Time)		\$62.2 – \$178.1 M	\$45.7 – \$131.0 M	\$32.5 – \$93.0 M	\$8.6 – \$24.8 M	\$11.8 – \$33.8 M

Full results for the City-wide Option financial scenarios may be found in Section 4.4 of the report.

Table E-8. Summary of Public Option Financial Results – 50% Scaling Factor

Revenue Component	Payment Type	Public Scenarios (50%)					
		100-Foot Buffer	200-Foot Buffer	Single Parcel	Council District	Highway A	Highway B
Annual Payment	Fixed In-lieu Payment (8:1 – 2:1)	\$18.5 – \$184.5 M	\$13.1 – \$130.8 M	\$22.9 – \$228.5 M	\$9.5 – \$95.0 M	\$1.8 – \$18.0 M	\$4.9 – \$48.5 M
	Rev. Share In-lieu Payment (8:1 – 2:1)	\$12.6 – \$201.5 M	\$8.9 – \$142.8 M	\$15.6 – \$249.5 M	\$6.5 – \$103.7 M	\$1.2 – \$19.7 M	\$3.3 – \$53.0 M
	Current Tax	\$0.25 M	\$0.18 M	\$0.3 M	\$0.13 M	\$0.025 M	\$0.06 M
	Street Furniture	\$26.1 M	\$18.5 M	\$32.3 M	\$13.4 M	\$2.5 M	\$6.8 M
	Revenue Share (15%-65%)	\$75.6 – \$327.4 M	\$53.5 – \$232.0 M	\$93.6 – \$405.5 M	\$38.9 – \$168.6 M	\$7.4 – \$31.9 M	\$19.9 – \$86.1 M
Annual Rent		\$83.0 – \$102.8 M	\$58.8 – \$72.8 M	\$102.8 – \$127.3 M	\$42.8 – \$52.9 M	\$8.1 – \$10.0 M	\$21.8 – \$27.0 M
Up-front Payment (One-Time)		\$34.7 – \$99.3 M	\$24.6 – \$70.4 M	\$43.0 – \$123.0 M	\$32.5 – \$93.0 M	\$3.4 – \$9.7 M	\$9.1 – \$26.1 M

Full results for the Public Option financial scenarios may be found in Section 4.5 of the report.

Finally, the following table presents the potential city revenue associated with removing 30% and 50% of existing static billboards under relocation agreements. This part of the analysis is not based on our GIS analysis. The numbers shown here are calculated using Los Angeles' proposed fixed annual in-lieu payment. Results are also calculated for the percentage revenue share in-lieu payments in the body of the report (full results for these scenarios may be found in Section 4.3). These scenarios were specifically requested by the May 31st PLUM Directive.

Table E-9. In-lieu Fixed Payment Revenue for New/Reconstructed Off-site Digital Signs (672 Sq. Ft.) for Static Sign Reduction Scenarios Requested by PLUM

Takedown Ratio	30%		50%	
	No. Digital Signs	In-lieu Payment	No. Digital Signs	In-lieu Payment
2:1	526	\$131.5 M	876	\$219.0 M
3:1	350	\$70.0 M	584	\$116.8 M
4:1	263	\$39.5 M	438	\$65.7 M
5:1	210	\$21.0 M	350	\$35.0 M
6:1	175	\$13.1 M	292	\$21.9 M
7:1	150	\$7.5 M	250	\$12.5 M
8:1	131	\$3.3 M	219	\$5.5 M
9:1	117	-	195	-

1. INTRODUCTION

The City of Los Angeles Office of the Chief Legislative Analyst (CLA) engaged Navigant Consulting, Inc. (Navigant) to conduct a policy and financial analysis of off-site digital signage (or billboards) outside of currently defined sign districts.^{4,5} This analysis examines two off-site digital signage options requested by the Planning and Land Use Management (PLUM) Committee of the Los Angeles City Council: (1) the City-wide Option (allowing digital off-site signs on public and private property) and (2) the Public Option (allowing digital off-site signs only on public property; specifically, City and Metro-owned property).

1.1 Background

New billboards have been banned in the City of Los Angeles since 2002, largely because of legal challenges to sign regulations from the advertising industry.⁶ Today, certain exceptions are allowed, as set forth in the City code, for signs in sign districts and signs that are part of a specific plan, development agreement, or relocation agreement.⁷ Otherwise, the Zoning Code prohibits off-site signs or digital conversions of off-site signs.

There have been several ordinances proposed over the past decade to revise Citywide sign regulations. So far, none of these proposals have successfully made it through the City Planning Commission (CPC) and PLUM Committee approval process to adoption. In response to legal challenges, the City Council directed the Department of City Planning to draft a new ordinance in 2008. The CPC approved the proposed ordinance in 2009; however, it was put on hold pending a new court ruling in ongoing litigation.⁸ In response to the ruling, the City had to consider additional revisions that would comply with the ruling, increase the legal defensibility of the City-wide sign ordinance, improve clarity and enforceability, and modernize and streamline sign regulations.^{9,10}

The PLUM Committee held 16 hearings, from 2009-2015, which resulted in two new variations of the proposed ordinance (Version A and Version B). Version B has been reviewed by the Office of the City Attorney for form and legality. However, the CPC recommended disapproval of both versions and put forward a third version itself (Version B+). Because of this disapproval, Los Angeles City Charter Section 558 requires a two-thirds vote by the City Council to adopt Version B of the ordinance, should it choose to move forward. Building on the prior work, the PLUM Committee is investigating other changes to the ordinance, which are underway.

⁴ An off-site sign is a sign that displays any message directing attention to a business, product, service, etc., which is generally conducted, sold, or offered elsewhere than on the premises where the sign is located.

⁵ Per the existing Zoning Code, sign districts must be created for the placement of off-site signs, and are restricted to C (Commercial), M (Industrial), and certain R5 zones or certain designated land use categories. Sign district applications are processed by the Department of City Planning, recommended for approval or disapproval by the City Planning Commission, and acted upon by the City Council. Municipal Code Chapter 1 Article 3 Section 13.11 ("SN" Sign District) and Chapter 1 Article 2 Section 12.32 (Land Use Legislative Actions).

⁶ David Zahniser, "Los Angeles weighs trade-offs in billboard removal," *Los Angeles Times*, December 8, 2014 (<http://www.latimes.com/local/cityhall/la-me-analysis-billboards-20141208-story.html>).

⁷ Municipal Code Chapter 1 Article 4.4 (Sign Regulations) Section 14.4.4 (General Provisions).

⁸ *Worldwide Rush v. City of Los Angeles*.

⁹ Citywide Sign Ordinance Presentation to PLUM Committee, Department of City Planning, December 5, 2011.

¹⁰ Citywide Sign Ordinance Presentation to PLUM Committee, Department of City Planning, June 30, 2015.

In a policy question put forward in 2015, the PLUM Committee first considered the concept of expanding off-site digital billboards outside of sign districts with two goals. The primary goal is neighborhood protection and blight removal, or to reduce the number of signs in the City by imposing a sign reduction requirement on new and relocated digital billboards. The secondary goal is to generate revenue from billboards, as appropriate, for public benefits and the General Fund. The concept of off-site digital signs outside of sign districts was not included in Version A or B of the proposed ordinance, but was considered by the CPC as one of several additional proposals. The CPC addressed the question in its action dated January 12, 2016, disapproving off-site digital signs outside of sign districts. However, it left open the idea of allowing off-site signs on publicly-owned property outside of sign districts. Still, the concept of off-site signs outside of sign districts – both city-wide and on publicly-owned property – remains of interest to the PLUM Committee and is therefore considered in this report.

Over the years, the PLUM Committee has requested a number of reports from the Department of City Planning, the CLA, and the Office of the City Administrative Officer (CAO) on different issues related to the sign ordinances. In the last several years, these requests have focused largely on the question of off-site signs outside of sign districts and how to best implement and regulate them (including analyzing potential revenue benefits and minimizing adverse community impacts). On October 28, 2016, the CAO issued a report to the PLUM Committee to provide analysis on the relationship between sign takedowns and revenue-sharing, and to identify (by Council District) all City-owned parcels eligible for relocation under the existing proposed land use restrictions. At the same time, the CLA submitted a report on an application process for sign relocation agreements. The CLA found that, “since the Municipal Code already allows off-site signs in the City if permitted through a relocation agreement, the Council could adopt a zoning ordinance that permits the use of relocation agreements for off-site signage outside sign districts on (1) privately owned and/or (2) City owned property, which would allow a specified square footage of lawfully permitted static billboards to be removed and replaced with a specified square footage of new off-site digital signs.”

After receiving the October 2016 reports from the CLA and CAO, the PLUM Committee directed the CLA and CAO to further investigate the benefits of off-site signage outside sign districts on private or City-owned property, through relocation agreements. The PLUM Committee letter (dated May 31, 2017) specifically asks the CLA to report back with a peer review of financial analyses for the (1) City-wide Option and (2) Public Option.

1.2 Approach

To address the PLUM Committee's directive for the City-wide Option and Public Option, Navigant conducted a series of policy, geographic, and financial analyses for off-site digital signs in peer municipalities and the City of Los Angeles. The following figure describes the components of each of the policy, geographic, and financial areas. These components build on one another to ultimately present a set of financial scenarios informing possible future revenues associated with off-site digital billboards in Los Angeles.

Figure 1-1. Components of the Analysis

Peer Review	Geographic Analysis	Financial Analysis
• Data from 24 North American cities • Policy review of different approaches to off-site digital billboards • Takeaways for Los Angeles financial scenarios • Eight in-depth case studies	• Data from the Department of City Planning, CAO's Office, and the Department of Building and Safety • Geographic scenarios using assumptions for zoning, residential buffers, takedown ratios, and other inputs/constraints • ArcGIS mapping of available areas for off-site digital signs under the scenarios • Illustrative maps with counts of off-site digital sign faces for each scenario	• Data from peer review case studies, the CAO's Office, and the Office of Finance • Financial scenarios using assumptions for revenue sharing percentages, fixed fees, and other potential revenue structures from draft ordinances and peers • Revenue calculations based on the geographic scenarios' off-site digital sign results

The City-wide and Public Options are distinguished primarily by differences in geographic assumptions, with the Public Option being limited to City-owned and Metro-owned property. Some of the geographic scenarios are intended to show the upper limit of off-site signage under relocation agreements, without regard to critical community and political input. These scenarios are designed to illustrate potential outcomes from a range of policy and deployment decisions the City of Los Angeles may consider. This report makes no recommendations, as there are a wide range of options and policy frameworks available to the City depending on what criteria the City Council and the public may desire. Hence, some of the scenarios provided may not be realistic for Los Angeles, but provide a more extreme range of outcomes for illustrative purposes.

While other scenarios are more "realistic," none attempt to locate signs accurately on properties. In other words, the mapping activity results in approximate numbers of signs based on sites that meet the relevant criteria, and not actual proposed sign locations. Additionally, all the policy options and deployment scenarios available to the City have legal ramifications and other policy constraints. Because of these considerations and complexity, any policy alternative should be thoroughly reviewed with the City Attorney's office for further evaluation.

2. PEER REVIEW SUMMARY & ANALYSIS

This chapter provides insight into the policies of other municipalities regulating digital billboards, particularly those that have monetized this form of city advertising. The first two sections provide a discussion of digital signage drivers and trends and describe a variety of city policies observed across the peer group. The following two sections summarize the revenue earned (or in some cases, the proposed revenue opportunities that fell through) from digital billboards across the peer group, and derive revenue structures that can be applied to the financial scenarios for Los Angeles.

2.1 Digital Signage Drivers & Trends

Over the past 5 years, digital signage has come to the forefront of city policy discussions, as policymakers examine the potential benefits and consequences of allowing signs that may be controversial in local communities. Some cities are framing these discussions within broader city marketing initiatives, by leveraging digital billboards as a source of city revenue and public art. For example, Chicago agreed to build 60 digital billboards as part of its “Municipal Marketing Initiative,” a program aimed at identifying innovative advertising opportunities to generate public funds.¹¹ Likewise, West Hollywood recently published a Request for Proposal (RFP) for its “Sunset Boulevard Spectacular,” an effort to drive localized economic growth through innovative digital signage.¹² Others have used digital billboards in a more limited capacity, testing revenue and existing signage removal mechanisms for potential future expansion. Generally, digital signage installations and broader city marketing programs are still in early stages (apart from outliers like New York City’s Times Square).

There are typically two main drivers for cities to pursue digital billboards: (1) static billboard removal and (2) revenue generation from taxes, fees, or revenue-sharing agreements. To reduce billboard blight, numerous cities are considering – or already implementing – a removal (or takedown) ratio requirement for any new digital billboard. A takedown ratio requires the prospective billboard company to remove a certain amount of square feet of existing static billboards for each square foot of new digital billboard proposed. The required ratios vary from city to city, depending on the city’s goals. On the revenue side, there are several common structures. For example, some cities are piloting agreements in which the city acts as a landlord for the billboard. The outdoor advertising firm then acts as a renter, paying a previously negotiated amount each month. In other cases, the city requires a recurring fixed fee and/or a percentage of the advertising revenue (typically, whichever is greater). Alternatively, cities may impose special taxes aimed at digital billboards.

Local communities tend to be especially active in discussing the advantages and disadvantages of policy or zoning changes that concern digital billboards. While the two drivers outlined above – increasing revenue and reducing billboard blight – are influential, community resistance to any expansion of digital billboards can be a major hurdle. In some cases, these issues have led cities to ban digital billboards altogether. Advertising companies, on the other hand, are typically active supporters of increasing the number of digital billboards. However, their legal challenges to municipal sign regulations have also led to outright billboard bans.

¹¹ Municipal Marketing Initiative, City of Chicago, https://www.cityofchicago.org/city/en/depts/fin/supp_info/municipal_marketing.html.

¹² “Billboards on the Sunset Strip,” West Hollywood, <http://www.weho.org/city-hall/city-departments-divisions/community-development/long-range-and-mobility-planning/ongoing-plans-studies/sunset-boulevard-off-site-signage-st>.

In addition to revenue generation and billboard blight reduction, digital billboards can also be used for community messaging and public art. For community messaging, digital billboard advocates emphasize that billboards provide a direct public service by showing city and emergency messaging at a free or reduced cost to the city. Additionally, proponents show that cities like West Hollywood can use digital billboards as public art installations. For example, West Hollywood's recent RFP specified billboard structures with innovative designs. With digital billboards, advertisers generally have more options for creative visualizations and aesthetically-pleasing messages (although truly creative designs are more likely when specified by the host city, as in West Hollywood). Finally, less-discussed benefits include the elimination of the paper, vinyl, and chemical waste used in traditional static billboards, and the automatic control of light levels on digital billboards.

Opponents of digital billboards generally focus on light pollution, visual pollution, and safety concerns for drivers. Community groups often point to increased and variable luminescence from the signs, especially near residences in the middle of the night, as a reason for banning them. Typically, some residents also think that the digital billboards increase billboard blight rather than reducing it, even when cities include stipulations for static billboard removal or rehabilitation. Lastly, many discussions center on the effects of digital billboards on driver distraction. Opponents cite varying sources that suggest billboards may lead to distractions for drivers, and therefore accidents, if the signs are visible from roadways.

While these are common elements of digital billboard debates, the conversation can vary significantly by city depending on the neighborhood, visibility of the billboard, and proposed restrictions and agreement structure.

2.2 Digital Signage Policy

Due to the heightened attention to digital signage across the country, many cities have revised or discussed changes to their billboard regulations. This section describes these policy changes using relevant examples from cities across the US.

2.2.1 Policy Overview

Policies for static signs usually account for locational restrictions, size standards, permitting, and messaging restrictions. Cities have been adapting these policies to regulate digital signs by considering how billboard lighting, removal ratios, and costs and revenues may differ from static signs. The list below provides an overview of the requirements most cities have considered for digital signs:

- **Zoning restrictions:** Most cities already have ordinances with stringent restrictions on the locations of static signs. For example, cities may restrict static signs to commercial or industrial locations. Cities generally apply these restrictions to digital signage but impose even stricter requirements due to potential light and visual pollution. These additional requirements may include increased buffers surrounding highways or residential zones.
- **Permitting:** Most cities also require specific permits for static signs. Like the zoning restrictions, cities usually use the same permitting requirements for digital signs. Some cities require special permits for digital signs; for example, a conditional use permit. In these cases, cities decide on a case-by-case basis whether to approve the digital billboard application. Cities generally couple these permits with special development agreements, which may include public benefits agreements, payments to the city, and static billboard takedown requirements. All permitting applications are subject to the requirements of any city ordinance related to signs.

- **Removal requirements:** In addition to restricting the locations where billboards can be built, some cities also require billboard companies to remove static billboards in exchange for building a new digital billboard structure or converting a static billboard to a digital billboard. Removal ratios are based on square footage and vary from 2:1 – 21:1 in the cities reviewed for this report.¹³ If a billboard company does not have enough static billboards to remove, the city may require a conditional use permit (if not already required in the permitting process) and/or in-lieu payments. Local governments may also include clauses requiring removal of the digital billboards once the initial lease agreement ends or should the billboard company breach any agreements as outlined in the contract.
- **Design standards:** Local jurisdictions may mandate that digital signs conform to certain messaging, size, and lighting standards. Examples of common design standards include:
 - Message restrictions, including bans on advertising drugs and alcohol or using profanity
 - Lighting/luminescence requirements to reduce light pollution and potential distractions for drivers
 - Number of advertisements per sign
 - Advertisement “hold time” standards (e.g., an 8-10 second hold per message) to reduce potential distractions for drivers
 - Conformity to community design standards, where applicable
- **Taxes and fees:** Cities may enact special taxes and fees or apply existing taxes and fees to digital billboards. In some cases, payments may differ for digital billboards and static billboards. Examples of taxes include the adoption of an excise tax, commercial use tax, or business revenue tax. Examples of fees include the use of application fees, permitting fees, relocation fee. Section 2.4 provides more information about the financial aspects of billboards.
- **Rent and revenue sharing:** Instead of imposing taxes and fees, cities may charge rent for billboards on City property or impose a revenue sharing agreement based on advertising revenue. Cities generally propose these agreements on a case-by-case basis rather than writing them into the city code, but follow a standard structure for the agreements.

2.2.2 Policy Examples

Navigant reviewed various cities policies as a comparison to the proposed City of Los Angeles digital sign ordinances. This section provides selected examples of these policies. Appendix A provides in-depth case studies of other selected cities.

West Hollywood, CA: In 2014, the City Council of West Hollywood asked the City to review and adjust its policies regarding off-site signs on the Sunset Boulevard Strip (the Strip). This initial review and its associated studies led to a pilot project, named “The Sunset Boulevard Spectacular.” The City released an RFP for the pilot to identify a partner for a digital billboard located on City-owned property on Sunset Boulevard. The pilot will run for a limited term and includes the construction of one new digital sign in the shape of a three-dimensional “bell tower.” While the final terms of the contract for the “bell tower” digital billboard are still being negotiated,

¹³ The highest ratio of approximately 21:1 was found in Santa Clarita, CA in 2014, when the City Council approved three electronic billboards in exchange for taking down 62 static billboards within city limits (<http://archive.signalscv.com/archives/116955/>).

the winning proposer for the project stated that the City would receive at least \$9,744,297 in guaranteed revenue over ten years.¹⁴

The goal of the pilot – and the proposed sign ordinances – is to “lead the way for creative applications of state-of-the-art advertising” along the Strip, highlighting West Hollywood’s focus on the urban design, arts programming, and economic growth aspects of digital sign construction. The pilot also investigated eligible cultural resource sites, specifically on the Strip, for future digital signage conversion or construction. Applicable restrictions include lighting controls for brightness and time-of-day, cultural resources zone requirements, and size limitations (up to 1,000 square feet).¹⁵ As of 2017, the City Council of West Hollywood has approved a draft policy for off-site signage on the Sunset Strip (outside of the pilot).

New York City, NY: Due to its density and unique mixed-use building composition, New York City (NYC) has many rules regarding billboard zoning, permitting, and taxes.¹⁶ In terms of zoning, the City only allows off-site signs in specific commercial zones and its 3 manufacturing districts. The specified zones exclude commercial zones located in areas considered “residential-in-character,” on the waterfront, in regional commercial centers (such as Flushing in Queens), and on famous shopping streets.¹⁷ NYC also has a ban on constructing off-site signs within 200 feet of an arterial highway or within the view of a public park, even if the area falls within a commercial or manufacturing zone that allows for billboards.

If a company intends to build a billboard within a viable area, the firm must apply for a construction permit and an electrical permit within the applicable Borough. For digital signs, companies must also apply for an illuminated sign permit which requires a separate fee and must be renewed annually. Design standards for the billboards must comply with sizing guidelines, which are based on the property’s street frontage size, and illumination restrictions.¹⁸ Once constructed, the city requires owners to pay a Commercial Rent Tax (CRT) of 6% of the base rent, if the billboard is in Manhattan and rent exceeds \$250,000.¹⁹

Carrollton, TX: Many smaller cities, like Carrollton, have also adopted policies to regulate billboards. Specifically, there are requirements for a Digital Billboard-specific permit application, a conversion/relocation fee of \$500, and a takedown ratio of 3:1.²⁰ Additionally, the City does not allow for animated messages or any flashing, dimming, or brightening on the digital signs. Carrollton also has an undefined citywide cap on the number of digital billboards allowed.²¹

¹⁴ City Council of West Hollywood, “Selection of Team for the Pilot Digital Billboard at 8775 Sunset Boulevard,” October 17, 2016 (http://weho.gramicus.com/MetaViewer.php?view_id=&event_id=915&meta_id=119536).

¹⁵ City Council of West Hollywood, “A New Vision for Off-Site Signage on the Sunset Strip,” September 18, 2017, <http://www.weho.org/home/showdocument?id=34545>.

¹⁶ CityLand New York City Land Use News and Legal Research, “Signs and Billboards: What’s Legal and What’s Not?,” December 19, 2012, <http://www.citylandnyc.org/signs-and-billboards-whats-legal-and-whats-not/>.

¹⁷ NYC Planning, Commercial Districts, <http://www1.nyc.gov/site/planning/zoning/districts-tools/commercial-districts-c1-c8.page>.

¹⁸ CityLand New York City Land Use News and Legal Research, “Signs and Billboards: What’s Legal and What’s Not?”.

¹⁹ NYC Department of Finance, Commercial Rent Tax (CRT), <http://www1.nyc.gov/site/finance/taxes/business-commercial-rent-tax-crt.page>.

²⁰ Carrollton, Texas, “Signs and Banners”, <http://www.cityofcarrollton.com/departments/departments-a-f/building-inspection/signs-and-banners>.

²¹ Carrollton, Texas, Sign Regulations, February 3, 2015, <http://www.cityofcarrollton.com/home/showdocument?id=9614>.

St. Petersburg, FL: In an agreement with a digital billboard company in 2012, St. Petersburg agreed to change its Land Development Regulations to permit digital billboards within city limits. The agreement included a takedown ratio of 10:1, an annual fee of \$5,000 to cover the cost of inspection, \$25,000 in rent per sign face or 12.5% of the ad-revenue (whichever sum is greater), and a sunset provision that requires the removal of the sign upon its 20th anniversary.²² The City also restricted the signs to certain zones and imposed design restrictions for aesthetic purposes.

Toronto, Canada: In 2009, Toronto adopted a Third-Party Sign Tax (TPST) and began a phased implementation in 2010 and 2011. Through the tax, the city aimed to provide a stable source of revenue from signs. The tax applies to all third-party signs larger than one square meter and consists of an annual five-tier rate structure based on the technology and structure type. Appendix A includes a detailed case study of Toronto's TPST.

2.3 Peer Review Revenue Summary

Navigant reviewed digital signage data and policies for 24 municipalities. After reviewing the peer data, Navigant determined that cities that financially benefit from digital billboards use one of two main revenue structures: (1) taxes and (2) annual revenue sharing and/or fixed fee (including rent) agreements. In many cases, up-front payments also required, separate from the annual revenue. The following tables summarize research findings for these structures, in order of decreasing city revenue. Exact revenue generated for a city depends on the revenue structure, number of billboards, and specific policies and regulations enforced by the city. For example, policies regarding the number of advertisements per sign and zoning restrictions directly influence the amount of revenue generated. Additionally, in many cases data was incomplete. Hence, the tables below are not a definitive view of digital signage in these cities.

Table 2-1. Peer Review Tax Structures

City	State	No. Digital Signs	Tax Type	Tax Amount	Potential City Revenue (\$/year) ²³
Toronto	Canada	50	Fixed Fee	\$25,679/sign/year ²⁴	\$11,000,000
Philadelphia	PA	20	Excise	7%	\$2,500,000
Pittsburgh ²⁵	PA	10+	Excise	10%	\$2,000,000 - \$4,000,000
New York City	NY	Unknown	Rent	7%	Unknown
Baltimore	MD	Unknown	Excise	\$15/square foot	Unknown

Cities that do not generate revenue from digital billboards (or data was unavailable) are also included in Table 2-2 for completeness. These cities may still impose takedown requirements, but without any additional financial arrangement. For example, San Antonio piloted a digital signage program; however, the program was not intended to generate revenue. Similarly, Long Beach has an 8:1 takedown ratio for new digital billboards, but does not appear to generate revenue other than minor permitting fees.

²² St. Petersburg, Public Hearing: Report to the Development Review Commission from Development Review Services Division, Planning & Economic Development Department City File LDR 2012-02, http://www.stpete.org/development/docs/LDR_2012_02_Staff_Report_DRC.pdf.

²³ These revenue figures are for all off-site signage in the cities.

²⁴ For Class V signs (all signs displaying or containing electronic static copy or electronic moving copy areas are Class V signs).

²⁵ "Mayor lets billboard tax pass unsigned," *Pittsburgh Post-Gazette*, December 3, 2012.

Table 2-2. Peer Revenue Share and Fee Structures

City	State	No. Digital Signs	Upfront Payment (\$)	Rent or Fee (\$/year)	Revenue Share (%)*	Potential City Revenue (\$/year)
Chicago	IL	60	\$15,000,000	\$8,705,263	30-50%	\$8,705,263
Miami ²⁶	FL	30+	\$5,000,000	\$0	3%	\$4,300,000
New Westminster ²⁷	Canada	4	Unknown	Unknown	Unknown	\$1,086,957
Santa Clarita	CA	3	\$0	\$0	65%	\$500,000
Fresno*	CA	5	\$100,000	\$130,000	35%	\$378,000
Metro LA - City of Downey	CA	1	\$0	\$0	70%	\$225,000
Santa Ana ²⁸	CA	0	\$0	\$0	60%	\$200,000
Las Vegas ²⁹	NV	5	\$10	\$0	25-50%	\$150,000+
Oakland	CA	1	\$1,000,000	\$0	30%	\$150,000
Metro LA - City of Long Beach ³⁰	CA	2	\$0	\$100,000	22-30%	\$133,333
Newark ³¹	CA	2	Unknown	Unknown	Unknown	\$100,000
Anaheim* ³²	CA	2	\$0	\$0	25%	\$80,000
Hawthorne	CA	1	\$125,000	\$0	55%	\$55,000
St. Petersburg*	FL	6	\$0	\$0	15%	\$50,000
Sacramento*	CA	7	\$330,000	\$180,000	30%	Unknown
Glendale	AZ	2	\$0	\$125,000	33-40%	Unknown
Glendale	CA	2	\$0	\$0	12-15%	Unknown
San Antonio	TX	13	\$0	\$0	0%	\$0
Long Beach	CA	3+	\$0	\$0	0%	\$0

* City receives either a share of revenue or a fixed minimum payment, whichever is greater.

²⁶ Miami has approximately 30 (mostly illegal) digital billboards and, in the past, had proposed 3 "media towers" in 2010 and 2015, which were not built. The media towers together would have accounted for the upfront payment, revenue share, and \$3.3 million of the annual revenue listed in this table. The existing digital billboards are estimated to bring in a (very approximate) \$1 million annually. More information may be found in Appendix A: Detailed Case Studies.

²⁷ Navigant derived the expected city revenue number by dividing the total revenue by the number of lease years. Given that the City expects to receive this revenue from a single contract with Allvision, Navigant assumes that the total revenue stems from some sort of rental agreement and revenue-share structure like the other cities. (New Westminster Record, "Digital Billboards Expected to Bring in \$25M", July 12, 2013, <http://www.newwestrecord.ca/news/digital-billboards-expected-to-bring-in-25m-1.580190>.)

²⁸ Proposed revenue structure.

²⁹ This is not a complete inventory of all digital billboards in Las Vegas. The City of Las Vegas entered into a license agreement with Elite Media, allowing the company to install digital billboards on five city properties for quarterly payments of 50% of total net revenue collected from advertising. (License Agreement between City of Las Vegas and Elite Media, Inc., January 9, 2013. "Introducing Elite Media's Parquee Digital Network in Las Vegas," Elite Media, <http://elitemediainc.com/2014/02/18/introducing-elite-medias-parquee-digital-network-las-vegas/>. "Media company makes deals with local municipalities," *Las Vegas Business Press*, November 27, 2016 <https://businesspress.vegas/economy/small-business/media-company-makes-deals-with-local-municipalities/>.)

³⁰ Metro LA negotiates agreements with local cities within the County of Los Angeles to build signs on Metro property in those cities. These figures represent an agreement between Metro and the City of Long Beach. Note that this is different from the Long Beach line item, which represents other billboards in Long Beach. See Appendix A: Detailed Case Studies for more details.

³¹ Newark generated the estimated city revenue based on a contracted amount with the sign operator. It is unclear if the payment will be issued as an annual rent, revenue share, or upfront fee. (Newark Patch, "Public Invited to Speak About Digital Billboards," July 21, 2011, <https://patch.com/california/newark/public-invited-to-speak-about-digital-billboards>.)

³² The Anaheim data is specific to two digital "monument" signs at the new ARTIC (regional transportation) facility under a recent contract with Anaheim Arena Management. More information may be found in Appendix A: Detailed Case Studies.

Appendix A contains eight in-depth case studies, which discuss the following topics:

- City digital billboard policies, including policy drivers, goals, and history
- Zoning codes and digital billboard requirements
- Existing digital billboards and revenues
- Revenue drivers (e.g., sign reduction goals and associated fees, the effect of zoning restrictions and buffers on signage, location desirability, lease lengths, and content requirements)

2.4 Applicable Revenue Structures

As shown, cities generate revenue from digital signage through various financial structures, primarily taxes and negotiated annual fees and revenue-sharing agreements. These structures are explained in more detail below, with additional takeaways for this analysis.

- **Taxes:** Taxes may be flat rates on signs or they may depend on the size and type of the sign. Cities may tax advertisers or the sign operators (firms that own the signs and rent out advertising space). Jurisdictions that consider billboards their own entity generally establish an excise tax, or tax specifically for signs. These taxes may be charged as a flat rate, as is the case for Philadelphia, which charges a 7% excise tax on advertisers for all billboards.³³ Similarly, Baltimore charges a billboard excise tax. However, Baltimore charges its tax based on the square footage of the sign and the sign type. More specifically, it requires sign operators to pay \$15 per square foot of digital billboards and \$5 per square foot of static billboards, per year.³⁴ Other cities, such as New York City, which consider billboards to be a property, impose a rent tax. New York specifically considers billboards “commercial” property and charges a commercial rent tax of 7% of the annual rent to operators.³⁵
- **Fees:** Most cities impose at least a small, one-time permitting fee on signs, or sometimes larger up-front fees for digital billboards specifically. Some cities choose to impose annual fees instead of taxes, often tied to permitting requirements. For example, in Irving, Texas, outdoor advertising companies must obtain a special permit, which requires a \$1,000 up-front application fee and a \$200 annual fee.³⁶ The City of Inglewood also requires a one-time fee of \$8,550 per billboard based on the “real cost of service for a billboard.”³⁷ These fees are negligible compared to taxes and agreements designed to generate real revenue for the city. Much larger one-time fees for digital billboards are seen in the cases of Chicago, Oakland, Sacramento, and Fresno. In Chicago’s situation, this was a “one-time signing bonus.”

³³ City of Philadelphia, Payments, Assistance, & Taxes - Outdoor Advertising Tax, <https://beta.phila.gov/services/payments-assistance-taxes/business-taxes/outdoor-advertising-tax/>.

³⁴ Baltimore Brew, Inside City Hall: The Joys of Unexpected Surplus Revenues, September 24, 2013, <https://baltimorebrew.com/2013/09/24/inside-city-hall-the-joys-of-unexpected-surplus-revenues/>.

³⁵ NYC Department of Finance, Commercial Rent Tax (CRT).

³⁶ City of Irving, Texas Development Standards and Construction Codes, Part 1. – Development Standards and Building Codes Chapter 7 – Billboards and Signs, December 13, 2016, https://library.municode.com/TX/irving/codes/land_development_code?nodeId=PTIDESTBUCO_CH7BISI_S7-4.2SPSIPEBIDIIM.

³⁷ Inglewood Municipal Code, Section 12-80, Billboards and Off-site Signs, City of Inglewood 2017 Zoning Fee Schedule <https://www.cityofinglewood.org/DocumentCenter/Home/View/106>.

- **Rent:** Under a rent agreement, cities and outdoor advertising companies usually determine a flat-rate monthly or annual payment. These payments may be determined as a total lump-sum or on a per-billboard basis if the agreement includes multiple billboards. Additionally, rental fees may change over time, depending on the length of the contract. For example, Chicago determined the value of each proposed billboard in its agreement and charged a different rate based on that value. These guaranteed payments also vary over time.³⁸
- **Revenue Sharing Agreement:** Revenue sharing agreements are typically based on a percentage of advertising revenue generated by the billboard. Since revenue may vary from year-to-year, these agreements are often structured so that cities receive a set minimum annual payment that serves as a floor for their annual revenue. Like rent charges, advertisement revenue can vary by location based on its marketing desirability. Revenue sharing percentages in the cities reviewed for this analysis range dramatically from 3%-70%. A wide variety of factors contribute to these variances. Nearby cities in California such as Anaheim and large cities such as Chicago appear to be the most reasonable data points for Los Angeles.

Rent and revenue sharing appear to be the most flexible revenue frameworks, typically appearing under relocation agreements and sign development agreements for digital billboards. These types of agreements are most common in cities that require conditional use permits or restrict new digital billboard construction through relocation agreements. For example, the California cities of Sacramento, Riverside, and Roseville prohibit new off-site signs generally, and only allow these signs under special relocation agreements.³⁹ In these cases, cities negotiate directly with prospective outdoor advertisers to enact a rent or revenue share agreement. Some of the agreements result in the city receiving both a recurring rent payment or fixed fee and a portion of the advertising revenue, while others opt to take the greater of the two. These agreements may also include an up-front payment or one-time signing bonus, exemplified by JC Decaux's agreement to pay \$15,000,000 to Chicago prior to any digital billboard construction.⁴⁰

Based on our research, annual payments, rent, or revenue-sharing agreements are most applicable to the City of Los Angeles and the ordinance revisions recommended by the PLUM Committee. While billboard tax structures have been passed by several peer cities, they have been subject to litigation or refuted by state and federal government agencies.⁴¹ Rather than implement a citywide billboard tax, many cities in California and throughout North America have used relocation agreements as an avenue to control the number of digital signs that are constructed while also reducing blight and generating revenue for the city. Given these conditions, Navigant did not consider a new billboard tax in its financial analysis in Chapter 4. However, Navigant did not complete a legal analysis or risk assessment for any of these structures. The adoption of any revenue structure should be done in consultation with the City Attorney's office.

³⁸ See Appendix A: Detailed Case Studies.

³⁹ Los Angeles Advertising Coalition, Re: Signage/Outdoor Advertising Issues, October 22, 2015; Hearing Agenda Item 7, CPC-2015-3059-CA, October 19, 2015, http://clkrep.lacity.org/online/docs/2011/11-1705_misc_04-19-2016.pdf, pages 36 – 40.

⁴⁰ City of Chicago Office of the City Clerk City Council Document Tracking Sheet SO2012-7782, Guaranteed Payments Calculation, October 31, 2012, [https://www.cityofchicago.org/content/dam/city/depts/fin/supp_info/Municipal%20Marketing/CDN Ordinance and Program Agreement 121212.pdf](https://www.cityofchicago.org/content/dam/city/depts/fin/supp_info/Municipal%20Marketing/CDN%20Ordinance%20and%20Program%20Agreement%20121212.pdf).

⁴¹ For example, cities such as Toronto and New York have successfully implemented a tax on billboards, and other cities such as Pittsburgh and Baltimore are currently litigating their proposed billboard taxes and have been unable to collect tax revenue. In addition, Philadelphia successfully litigated its billboard tax, but then lost its ability to enforce its billboard ordinance when PennDOT, in conjunction with the Federal Highway Administration, revoked the City's authority to regulate billboards along state and federal roads because the City did not enforce state and federal billboard regulations.⁴¹

3. OFF-SITE DIGITAL SIGNAGE GEOGRAPHIC ANALYSIS

3.1 Current State of Off-Site Signage

The City of Los Angeles defines an off-site sign as a “sign that displays any message directing attention to a business, product, service, profession, commodity, activity, event person, institution or any other commercial message, which is generally conducted, sold, manufactured, produced, offered or occurs elsewhere than on the premises where the sign is located.” The current City Zoning Code bans off-site signs except for those in designated sign districts or that are part of a specific plan, development agreement, or relocation agreement.

Sign districts can be established on properties in C or M Zones as well as R5 Zones if the R5 zoned lot is in an area designated on an adopted community plan as a “Regional Center,” “Regional Commercial,” “High Intensity Commercial” or another redevelopment project area. However, sign districts require a lengthy review and approval process from the City Planning Commission, PLUM Committee, and full City Council. Each sign district could have different development regulations, which are defined by the City when the district is established. Accordingly, the Department of Building and Safety (DBS) cannot issue permits for off-site signs in a sign district unless the sign conforms to the established regulations for that district.

3.1.1 Current Zoning Code

The Zoning Code also limits the area, height, location, and spacing of off-site signs. Location restrictions include:

- An off-site sign greater than 80 square feet should not be placed within 200 feet of a residential zone that is on the same side of the street as the lot on which the sign is to be placed
- An off-site sign or sign support structure should not be in the half of a lot located farthest from the street frontage when residentially zoned property is located to the rear of that street frontage
- Off-site signs are also not permitted along the portion of a lot having a street frontage of less than 50 feet
- No more than four off-site signs shall be located at the intersection of two or more streets when the off-site signs are located within 150 feet of the intersection of two street frontages
- An off-site sign face shall not be located within one foot of an interior lot line

The Zoning Code also defines certain spacing requirements between two off-site signs. The table below identifies the required spacing between off-site signs, which varies depending on the size of the signs.

Table 3-1. Required Spacing for Off-Site Signs

Existing Sign Area	Proposed Sign Area is less than 80 sq. ft.	Proposed Sign Area is 80 to 300 sq. ft.	Proposed Sign Area is greater than 300 sq. ft.
Less than 80 sq. ft.	100 ft.	100 ft.	200 ft.
80 to 300 sq. ft.	100 ft.	300 ft.	300 ft.
Greater than 300 sq. ft.	200 ft.	300 ft.	600 ft.

In addition to the restrictions above, the Zoning Code also has broader sign regulations that apply to off-site signs, including illumination and additional location limitations. For example, off-site signs are not permitted within 2,000 feet of a freeway unless DBS determines the sign will not be viewed primarily from a main traveled freeway or an on-ramp/off-ramp.

3.1.2 Existing Off-Site Signage

There are ten existing sign districts in the City, and nine additional sign districts that are pending approval as of March 2017.⁴² There are also many existing off-site signs outside of sign districts that were approved prior to the City-wide billboard ban. According to the Off-Site Sign Periodic Inspection Program (OSSPIP) data received in September 2017, there are 8,241 off-site sign faces in the City, including 704 unpermitted sign faces (see Table 3-1).^{43,44} Notably, three billboard companies own more than 95 percent of these off-site signs.

Table 3-2. Existing Off-site Sign Faces

Off-site Sign Type	Permitted	Unpermitted	Total	Percent of Total
Static	7,437	704	8,141	98%
Digital	100	0	100 ⁴⁵	2%
Total	7,537	704	8,241	100%

⁴² Letter to PLUM Committee from Director of Planning, CF 11-1705, March 28, 2017. Additional information regarding two recently approved sign districts was provided by City Planning, but not included in our analysis due to data limitations.

⁴³ OSSPIP data, Department of Building and Safety, September 2017.

⁴⁴ Navigant leveraged the OSSPIP data from the Department of Building and Safety to determine the number of off-site signs located in sign districts and in each council district, using Geographic Information Systems (GIS). The OSSPIP data had 276 signs with no addresses. Of the signs that had addresses, Navigant was unable to map 16 billboards due to technological issues. It is unclear where these signs or the signs with no addresses are located or how they would affect the count of off-site signs in sign districts.

⁴⁵ The Department of Building and Safety reported that only five of the 100 digital sign faces in the OSSPIP database are currently digital. The others have been restored to a non-digital image presentation.

Table 3-3. Existing Off-site Sign Square Footage⁴⁶

Off-site Sign Type	Permitted	Unpermitted	Total	Percent of Total
Static	2,229,384	125,149	2,354,533	98%
Digital	52,955	0	52,955	2%
Total	2,282,339	125,149	2,407,488	100%

Of the 8,241 off-site signs in the City, only 100—or less than 2%—are or were previously digital signs.⁴⁷ These digital signs are on 98 sign structures, with 65% on single-facing structures and 35% on double-facing structures.

Table 3-4. Off-site Digital Signs by Structure Type⁴⁸

Sign Structure Type	Number of Structures
Single	64
Double	34
Total	98

Only 2.1% of off-site signs in an existing sign district, and these are exclusively static signs, as shown in Table 3-4.⁴⁹

Table 3-5. Off-site Signs in Sign Districts⁵⁰

Off-site Sign Type	Permitted	Unpermitted	Total	Percent of Total
Static	181	6	187	100%
Digital	0	0	0	0%
Total	181	6	187	100%

Navigant used a Geographic Information System (GIS) model to categorize existing off-site signs in the City by Council District (see Table 3-5). Figure 3-1, below, is a map of existing off-site signs by Council District. The number of signs ranges from roughly 250 to 750 per Council District. The eastern Council Districts, such as 8, 9, 10, and 14, tend to have the most off-site signs. In contrast, the northern Council Districts tend to have the fewest, such as 3, 6, 7 and 12. Council District 14 has the most existing off-site signs and Council District 12 has the fewest signs.

⁴⁶ OSSPIP data, Department of Building and Safety, September 2017.

⁴⁷ Only five of the 100 digital sign faces in OSSPIP are currently digital; the others have been converted to non-digital.

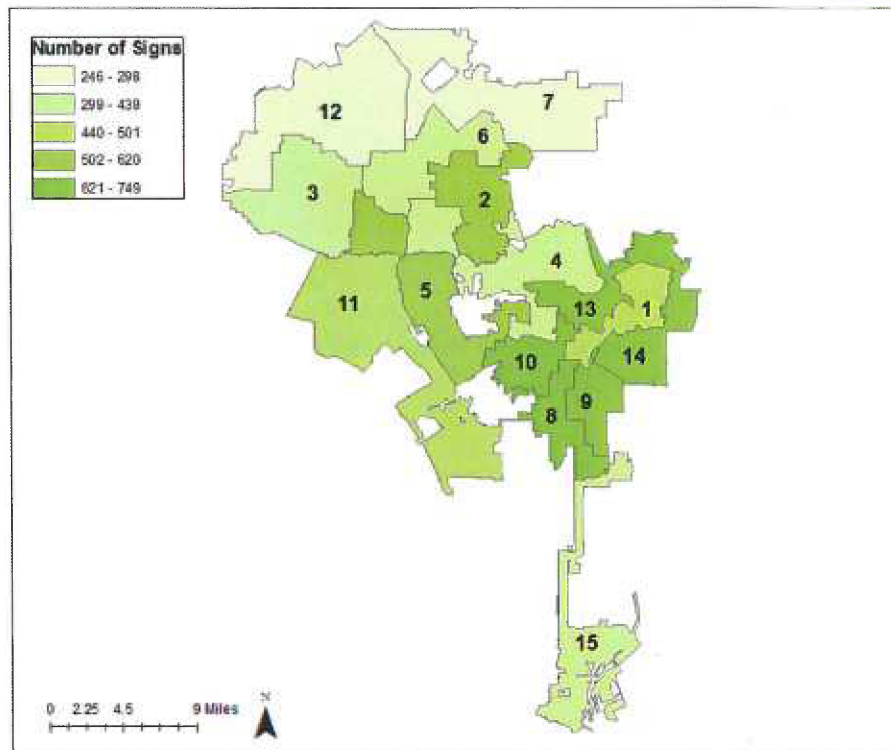
⁴⁸ OSSPIP data, Department of Building and Safety, September 2017. According to DBS, only 4 of the 98 digital sign structures in OSSPIP are currently digital; the others have been converted to non-digital.

⁴⁹ This information is based on the eight sign districts included in GIS data provided by City Planning. Additional information regarding two recently approved sign districts was later provided by City Planning, but not included in our analysis due to data limitations.

⁵⁰ Department of City Planning GIS Data.

OSSPIP data, Department of Building and Safety, September 2017.

Figure 3-1. Existing Off-Site Signs by Council District


Table 3-6. Existing Off-site Signs by Council District⁵¹

Council District	Signs (#)	Signs (%)	District Ranking
1	501	6.3%	8
2	615	7.7%	7
3	368	4.6%	13
4	414	5.2%	11
5	620	7.8%	6
6	413	5.2%	12
7	298	3.7%	14
8	698	8.8%	4
9	713	9.0%	2
10	693	8.7%	5
11	477	6.0%	9
12	246	3.1%	15
13	705	8.9%	3

⁵¹ As noted above, 294 signs in the OSSPIP data provided do not have addresses or locational data associated with them. Accordingly, these signs are not included in this table.

Council District	Signs (#)	Signs (%)	District Ranking
14	749	9.4%	1
15	439	5.5%	10
Total	7,949	100%	

3.2 Off-Site Digital Signage Scenarios

For this analysis, Navigant estimated the total number of off-site digital signs that could be installed in the City of Los Angeles under several potential scenarios within each of the City-wide and Public Options. To complete these scenarios, Navigant identified several global assumptions from the PLUM Committee's May 31st directive as specific restrictions for off-site signage outside of sign districts. These include:

- The minimum distance between off-site digital signs is 500 feet
- A 250-foot sign district buffer applies to the existing sign districts
- Off-site digital signs are not permitted along state-designated scenic highways
- Public parks, historic civic buildings and monuments,⁵² ecological preserves, schools, and libraries are not included in eligible City-owned property
- Residential buffers apply to all signs (distance varies between 100 and 200 feet, by scenario)
- Specific zone limitations (discussed in more detail in Section 3.2.2)

Navigant also developed several additional assumptions for all scenarios under both the City-wide and Public Options, including:

- A 2,000-foot highway buffer except on public property (PF, City and Metro owned property) as defined in the current Zoning Code.
- New or reconstructed digital signs are all 672 square feet, to calculate the total square footage of digital signs in each scenario.
- Single parcels with off-site digital signs are at least 2,500 square feet based on the 50-foot frontage requirement in the current Zoning Code.
- According to the OSSPIP data, approximately 65% of off-site digital sign structures are single-facing structures and 35% are double-facing structures.⁵³ Navigant applied this ratio to the digital signs in each scenario to calculate the total number of sign faces.

3.2.1 Takedown Percentage Scenario

Before using the GIS model, Navigant conducted a high-level analysis of various sign reduction goals, including a 30%, 50%, and 100% reduction in existing off-site signage. Specifically, Navigant used the

⁵² Due to data limitations, only historic civic buildings and monuments explicitly identified by the City were removed from our analysis.

⁵³ These percentages are based on the OSSPIP data in Table 3-3, which included current and former digital sign structures in the City. According to DBS, only 4 of the 98 digital sign structures in the OSSPIP database are currently digital. The others have been converted to static.

OSSPIP database to calculate the number of new or reconstructed 288 square foot or 672 square foot off-site digital signs that would be needed to achieve these sign reduction goals.

For new signs that are 288 square feet (small) in size, between 273 and 1,226 new or reconstructed off-site digital sign faces would reduce 30% of the total area of existing off-site static signage, depending on the takedown ratio (see Table 3-6). Similarly, between 454 and 2,044 small off-site digital sign faces would reduce 50% of existing off-site static signage; and finally, between 908 and 4,088 of small off-site digital sign faces would reduce 100% of existing off-site static signage.

Table 3-7. Number of 288-Square Foot Off-site Digital Sign Faces to Achieve Sign Reduction Goals

Takedown Ratio	New/Reconstructed Off-site Digital Sign Faces (288 Sq. Ft.) per Static Sign Reduction Percentage		
	30%	50%	100%
2:1	1,226	2,044	4,088
3:1	818	1,363	2,725
4:1	613	1,022	2,044
5:1	491	818	1,635
6:1	409	681	1,363
7:1	350	584	1,168
8:1	307	511	1,022
9:1	273	454	908

For new signs that are 672 square feet (large) in size, between 117 and 526 new or reconstructed off-site digital sign faces would reduce 30% of the total area of existing off-site static signage, depending on the takedown ratio (see Table 3-7). Similarly, between 195 and 876 large off-site digital sign faces would reduce 50% of existing off-site static signage; and finally, between 389 and 1,752 of large off-site digital sign faces would reduce 100% of existing off-site static signage.

Table 3-8. Number of 672-Square Foot Off-site Digital Sign Faces to Achieve Sign Reduction Goals

Takedown Ratio	New/Reconstructed Off-site Digital Sign Faces (672 Sq. Ft.) per Static Sign Reduction Percentage		
	30%	50%	100%
2:1	526	876	1,752
3:1	350	584	1,168
4:1	263	438	876
5:1	210	350	701
6:1	175	292	584
7:1	150	250	501
8:1	131	219	438
9:1	117	195	389

This scenario provides a frame of reference for the approximate number of off-site digital billboard faces required to reduce or eliminate the existing portfolio of static billboards in Los Angeles.

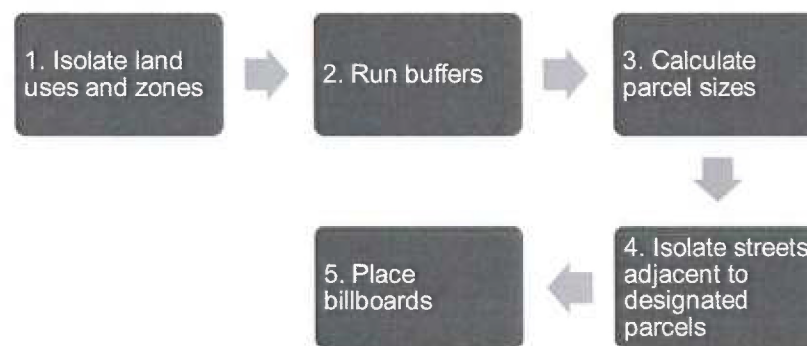
3.2.2 City-wide Option

3.2.2.1 City-wide Methodology

The City-wide Option analyzes the potential impact of allowing off-site signs on public and privately-owned property outside of sign districts in the City. The PLUM directive issued on May 31, 2017 provides specific land use regulations for off-site signs outside of sign districts for inclusion in the ordinance currently under development. Accordingly, in our analysis Navigant has restricted the private property in its City-wide Option scenarios to C, M, and PF zones in Public Facility, Industrial, and certain Commercial land use designations as specified in the PLUM directive. Additionally, Navigant included City and Metro-owned property in addition to the exceptions described previously.

To determine the approximate number of signs for each scenario based on the global assumptions outlined above and scenario-specific assumptions below, Navigant used the GIS model to provide a geographically accurate estimation. This approach leveraged GIS data directly from the Los Angeles Department of City Planning, the Mayor's Office, and publicly-available databases. Using this data, Navigant employed a five-step process to determine the total number of signs for each scenario. Figure 3-2 below provides a high-level overview of this process.

Figure 3-2. Geographic Information System Sign Estimation Process



Each step involved using tools in GIS to restrict eligible areas and ultimately model the signs that could potentially be placed in those areas. The following list below provides more detail on each step.

- 1. Isolate eligible land use designations, zones, and property:** To isolate the appropriate land use designations and zones, Navigant used the Zoning and General Plan Land Use GIS data from the Department of Planning.⁵⁴ This data included all land use designations and zones within the City. Navigant began by choosing the appropriate land use designations and zones from this data, and repeated this process for each separate land use and zone. The team then overlaid the respective land use designations and zones (e.g., Industrial land use designations and Industrial zones) on top of each other and selected zones that overlapped. Navigant also added in the City- and Metro-owned properties in this step. These properties excluded parks, libraries, and schools. The resulting land use designations, zones, and properties represented the maximum areas eligible for off-site signs without accounting for buffer restrictions.

⁵⁴ City of Los Angeles, Department of City Planning, GIS Data Sets, https://planning.lacity.org/MapGallery/MapGallery_GISdata/MapGalleryData.htm.

2. **Run buffers:** After isolating the potential eligible areas for off-site signs, Navigant needed to further restrict these areas by eliminating the locations that fell within the residential, sign district, or highway buffers. Navigant also included 100-ft buffers for State and National Parks and ecological preserves, according to certain restrictions included in the PLUM directive.⁵⁵ This required running the “Buffer” tool in GIS for the areas with additional restrictions to extend the restricted area by the designated allocation (e.g., a 250-foot buffer from sign districts). After creating the buffers for each of those areas, Navigant used the “Erase” tool in GIS to remove any areas from the previous step that overlapped with the buffers. This step resulted in the maximum areas eligible for off-site signs, accounting for buffer restrictions.
3. **Calculate lot sizes:** Now that Navigant had all the areas eligible for off-site signs after accounting for applicable restrictions, the team applied the parcel sizing restriction. This step involved using County of Los Angeles Tax Parcel Data.⁵⁶ Navigant chose to use this data for lot size rather than the data provided in the land use designation, zoning, and property files because the parcels represent official, accurate, and up-to-date information at the property level.⁵⁷ In contrast, the land use and zoning files may represent general areas or regions rather than “properties.” For this reason, Navigant calculated lot size using the “Calculate Geometry” function within GIS to determine the parcel area or lot size. Navigant then selected parcels greater than 2,500 square feet using the “Select by Attribute” tool in GIS. Finally, Navigant overlaid these parcels on the eligible area shapefiles produced in Steps 2 and 3. This step resulted in all applicable City and Metro-owned properties and land use and zoning designations restricted to lot sizes of greater than 2,500 square feet for a single parcel.
4. **Isolate streets adjacent to designated parcels:** Given that outdoor advertising companies place billboards on areas adjacent to streets to maximize advertisement views, Navigant decided to model the billboard placements on the streets rather than on buildings. This decision also ensured that billboards did not saturate the roadways by restricting billboards from being placed on both sides of one street. Thus, Navigant needed to isolate the streets adjacent to the eligible off-site sign parcels. This required the use of the “Select by Location” tool, which allowed Navigant to isolate the appropriate streets.
5. **Place billboards:** Finally, Navigant modeled the number of billboards that could be placed on the streets in the appropriate areas. This step involved using the “Generate Points Along Lines” tool in GIS. In this case, the streets represented “lines” and the billboards, “points.” The tool parameters allow users to designate a specific placement distance for the points. Navigant set this parameter to 500 feet, according to the global assumptions above. Running this tool yielded an estimate of the total number of digital billboards allowed within the City of Los Angeles based on the designated parameters.

Navigant used this process for all the City-wide Option scenarios, making scenario-specific changes, as needed. It is important to note that Navigant calculated the maximum number of off-site digital signs that could be placed within the restricted land use areas in each scenario. Given the City’s billboard policy goals, the May 2017 PLUM directive, and the direction of the latest proceedings on this topic, we

⁵⁵ These restrictions were only included for on-site digital signs in the PLUM directive; however, Navigant assumed they also applied to off-site digital signs given the areas’ sensitivity.

⁵⁶ The County of Los Angeles GIS Data Portal, Assessor Parcels – 2015 Tax Roll, 2015, <https://egis3.lacounty.gov/dataportal/2016/04/06/assessor-parcels-2015-tax-roll/>.

⁵⁷ The County of Los Angeles GIS Data Portal provides details about how the County creates tax parcels and how often it updates them. According to this site, the tax parcel data “is in its majority accurate within a couple of feet” and updated on a yearly basis. See footnote 40 for source information.

recognize these numbers may not be realistic for the City of Los Angeles. Accordingly, we also show the scenario results reduced by several scaling factors (50%, 25%, and 10%).

3.2.2.2 Caveats & Limitations

The geographic results from Navigant's analysis represent the best possible estimate of the number of digital billboard locations at the time of modeling. Several factors affect the accuracy of the model, including data availability, GIS functionality, and general model assumptions. This section aims to explain the limitations for each of these factors and how Navigant mitigated potential caveats where possible. It should also be noted that the results of the modeling aim to provide an overview of potential billboard locations; however, the study does not intend to make any recommendations about billboard placement.

- **Data:** The results rely heavily on the data input into the model, which includes both publicly available data and data provided directly from the City. Both data sources are subject to regular updates and improvements, which may affect the estimates in this report. For example, the City is currently reviewing and validating its database of City-owned properties. To mitigate potential changes, such as those listed, Navigant used the best available data at the time of modeling, consulting with City employees frequently.
- **GIS Functionality:** GIS software simply provides a model and cannot replace real-time judgement. For instance, many cities have established specific relocation policies for new digital billboards, which may require approval on a case-by-case basis. If the City institutes a similar policy, placements may vary by case. Additionally, the software has a limited number of tools and functions, in turn limiting end-user's modeling. Navigant explored all possible tools for each step of the modeling process and employed the best available tool based on the options available.
- **Assumptions:** All models require dozens of assumptions at each step throughout the process flow. Navigant based most assumptions in this model on the PLUM Directive and relied on consultations from key City stakeholders where necessary. Additionally, the model makes certain assumptions about the physical and geographic placement of billboards. Eliminating uncertainty completely in studies such as these is impossible, but the use of best available data minimizes the impact of these uncertainties.

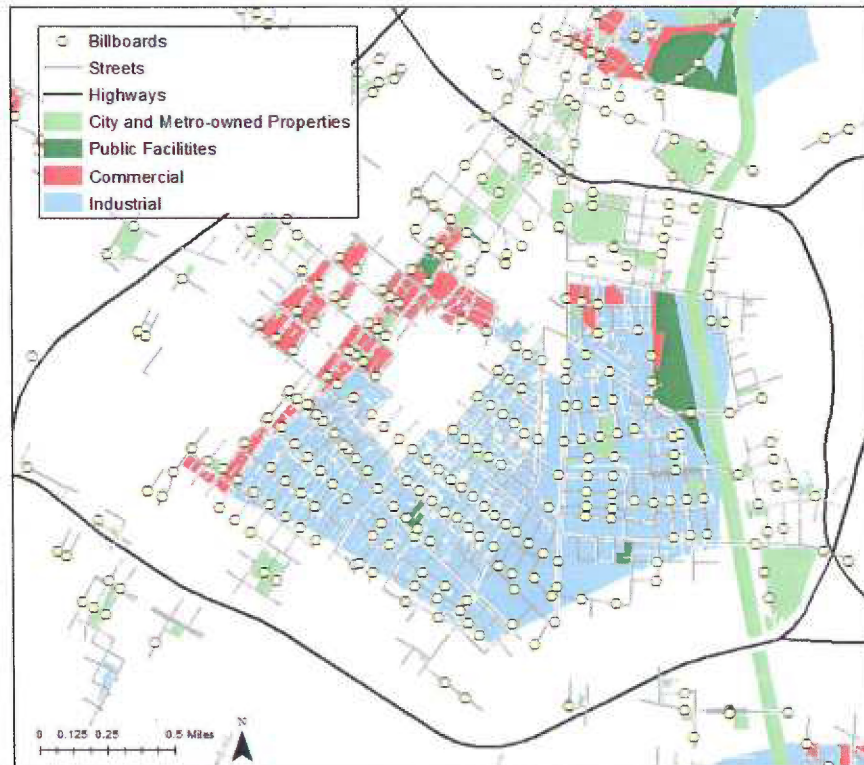
3.2.2.3 City-wide - 100-Foot Buffer Scenario

For the City-wide - 100-Foot Buffer Scenario, Navigant applied a 100-foot residential buffer to the buffer restrictions in Step 2. Based on this restriction and the global assumptions, Navigant identified 1,960 digital billboard placement options. Table 3-8 below summarizes the findings for this scenario. Figure 3-3 shows a representative section of the GIS map, identifying possible billboard placements according to these assumptions.

Table 3-9. City-wide - 100-Foot Buffer Scenario Summary

Percentage of Total	100%	50%	25%	10%
Total Sign Structures (#)	1,960	980	490	196
Total Sign Faces (#)	2,646	1,323	662	265

Figure 3-3. City-wide - 100-Foot Buffer Scenario Map



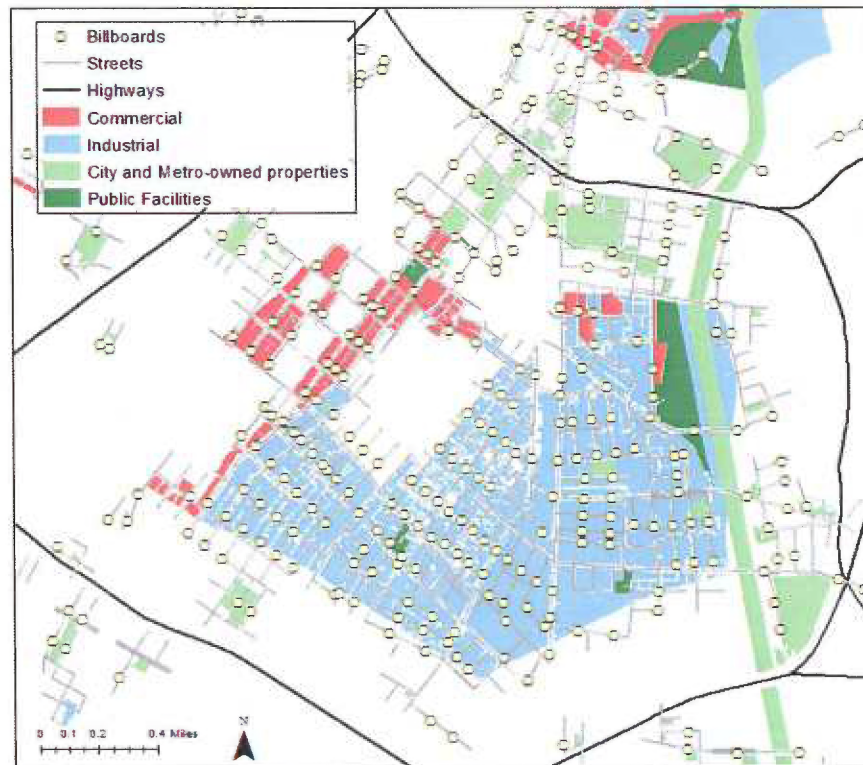
3.2.2.4 City-wide - 200-Foot Buffer Scenario

For the City-wide - 200-Foot Buffer Scenario, Navigant used the same approach as the 100-Foot Buffer Scenario but used a larger, 200-foot residential buffer. Navigant identified more than 1,440 digital billboard placement options for this scenario.

Table 3-10. City-wide - 200-Foot Buffer Scenario Summary

Percentage of Total	100%	50%	25%	10%
Total Sign Structures (#)	1,442	721	360.5	144
Total Sign Faces	1,947	973	487	195

Figure 3-4. City-wide - 200-Foot Buffer Scenario Map



3.2.2.5 City-wide - Council District Scenario

For the City-wide - Council District Scenario, Navigant did not create new digital billboard placements but rather modified the City-wide - 200-Foot Buffer Scenario results, using a calibration factor based on the number of existing off-site static signs in each Council District. The goal of this approach is to minimize new digital billboards in districts with few existing off-site signs, as a rough approximation of each District's tolerance for billboards. The calibration factor for each district is calculated from the number of signs in that district compared to District 14, the district with the largest number of existing off-site signs, as shown in the equation below:

$$\text{Calibration Factor (\%)} = \frac{\text{No. of Existing Signs in Council District A}}{\text{No. of Existing Signs in Council District 14}} \times 100\%$$

The calibration factor for District 14 itself is 100%. The calibration factor for District 4, for comparison, is 414 divided by 749, or 55%. Table 3-10 shows the calibration factors used to modify the City-wide - 200-Foot Buffer Scenario results for each Council District.

Table 3-11. Council District Calibration Factors

Council District	Existing Signs	Calibration Factor
14	749	100%
9	713	95%
13	705	94%
8	698	93%
10	693	93%
5	620	83%
2	615	82%
1	501	67%
11	477	64%
15	439	59%
4	414	55%
6	413	55%
3	368	49%
7	298	40%
12	246	33%
Total	7,949	-

Navigant then multiplied the above calibration factors by the City-wide - 200-Foot Buffer Scenario results for each district. Using this approach, Navigant identified a total of 1,023 digital billboard placement options under this scenario, broken out by Council District (Table 3-11).

Table 3-12. City-wide - 200-Foot Buffer Scenario Results Calibrated by Council District

Council District	200-Foot Buffer Scenario Sign Structures	Calibration Factor	Council District Calibrated Sign Structures
1	53	67%	35
2	112	82%	92
3	114	49%	56
4	11	55%	6
5	19	83%	16
6	176	55%	97
7	56	40%	22
8	19	93%	18
9	104	95%	99
10	16	93%	15
11	173	64%	110
12	150	33%	49
13	23	94%	22
14	343	100%	343
15	73	59%	43
Total	1,442	-	1,023

Applying the 50%, 25%, and 10% scaling factors resulted in a range of 138 to 1,381 off-site digital sign faces in the City-wide - Council District Scenario, shown below.

Table 3-13. City-wide - Council District Scenario Summary

Percentage of Total	100%	50%	25%	10%
Total Sign Structures (#)	1,023	512	256	102
Total Sign Faces (#)	1,381	691	345	138

This approach is limited in that it is calculated from the number of existing signs per district rather than the existing square footage, on which the takedown requirement would be based. Additionally, the results shown above are currently unconstrained by the takedown ratios that would be applied to existing static signs. If a minimum 2:1 takedown ratio was imposed within each district—for 672-square foot digital signs—the digital signs results must be reduced in Council District 6 (73% of the original result), Council District 9 (54% of the original result), Council District 12 (92% of the original result), and Council District 14 (25% of the original result). Further, the results vary widely in terms of the effect on existing static signage in each district. Digital signage could eliminate all existing static signage area (by square feet) in Council Districts 6, 9, 12, and 14 with a 2:1 takedown ratio, while only eliminate 6% of the existing static signage area (by square feet) in Council District 4 with a 2:1 takedown ratio. This is largely because of the land use constraints in each district. Should the City pursue a district-by-district takedown, this scenario would require more detailed analysis.

3.2.2.6 City-wide - High Traffic Scenario – Traffic Count

For the City-wide - High Traffic Scenario, Navigant applied a 100-foot residential buffer in addition to the global assumptions, like the City-wide - 100-foot Scenario. Navigant then examined traffic data from the Los Angeles Department of Transportation (LADOT).⁵⁸ This data provided traffic counts for intersections within the City of Los Angeles from 2001-2010. The team selected the top 15 most-trafficked intersections that fell within the global assumption restrictions and 100-foot residential buffer. Finally, Navigant assumed that two double-faced billboard structures could be placed at each of these intersections. Since billboard value is based on the number of views it receives, a higher trafficked location results in a greater valuation. Thus, the goal of this scenario is to determine the top 15 locations, or the 60 sign faces, with the greatest potential for revenue, excluding freeways.

Table 3-14. City-wide Intersections with Highest Traffic Count

Rank	Intersection	Traffic Count
1	La Cienega Blvd & 3rd St.	91,709
2	Wilshire Blvd & Veteran Ave	90,371
3	Laurel Canyon Blvd & Hollywood Blvd	81,646
4	Wilshire Blvd & Wellesley Ave	80,857
5	La Cienega Blvd & Airdrome St	76,983
6	Sepulveda Blvd & Lincoln Blvd	76,452
7	3rd St & Virgil Ave	75,455
8	Melrose Ave & Bronson Ave	74,969
9	Wilshire Blvd & Westwood Blvd	74,698
10	Glendale Blvd & Brandon St	73,581
11	La Cienega Blvd & Knowlton St	72,882
12	La Cienega Blvd & Jefferson St	69,760
13	Santa Monica Blvd & Sepulveda Blvd	68,391
14	Sepulveda Blvd & Imperial Hwy	68,046
15	La Brea Ave & Venice Blvd	66,772

3.2.2.7 City-wide - High Traffic Scenario – Street Type

Like the High Traffic Scenario – Traffic Count, the High Traffic Scenario – Street Type aims to identify highly trafficked streets and therefore, areas with the greatest potential for billboard revenue. However, rather than looking at traffic count, Navigant isolated streets by type, according to those with the potential for the greatest traffic, excluding freeways. Navigant determined that Boulevards, a specific type of Arterial Street, have the greatest traffic potential due to their size and speed limits. Based on this logic, Navigant isolated Boulevards from the streets used in the 100-Foot Buffer Scenario using the “Select by Attribute” table in GIS. This tool essentially selects features from a given file based on user-input parameters, which in this case was Boulevards. Finally, Navigant selected the billboards from the City-

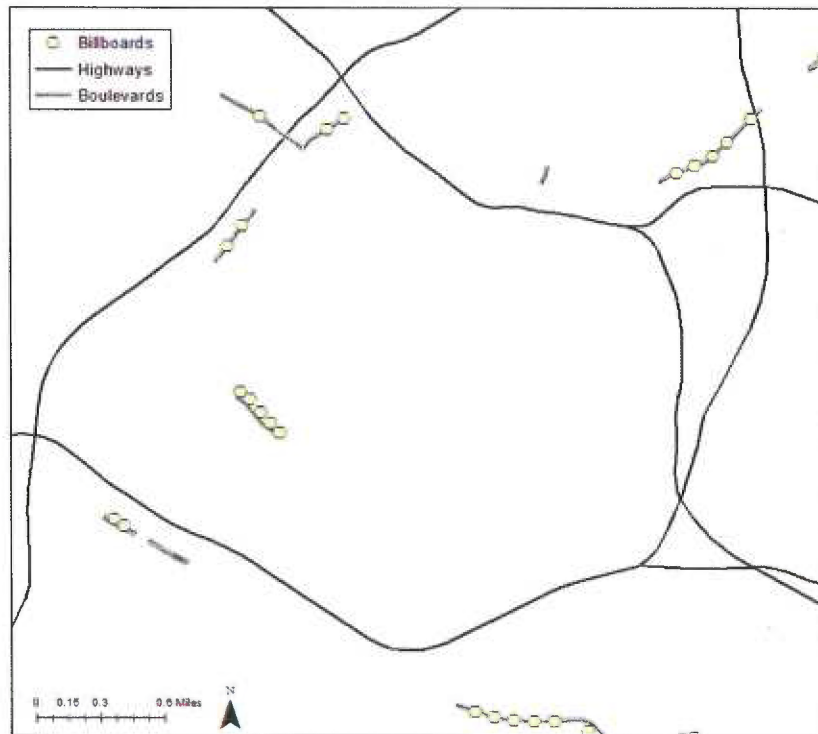
⁵⁸ LADOT, Current Count Data, 2001-2010 Traffic Volume Book, <http://ladot.lacity.org/what-we-do/traffic-volume-counts/current-count-data>.

wide - 100-Foot Buffer Scenario located on those streets, using the "Select by Location" tool. This analysis resulted in a maximum of 369 sign faces.

Table 3-15. City-wide - High Traffic Scenario – Street Type Summary

Percentage of Total	100%	50%	25%	10%
Total Sign Structures (#)	273	137	68	27
Total Sign Faces	369	184	92	37

Figure 3-5. City-wide - High Traffic Scenario – Street Type Map



3.2.2.8 City-wide - Tier 1 Sign District Scenario

The City-wide - Tier 1 Sign District Scenario is based on proposed regulations for sign districts in Los Angeles, and limits off-site digital signs to the Greater Downtown Housing Incentive Area, the LAX Specific Plan Area, the Los Angeles Zoo, the Port of Los Angeles, stadiums with more than 20,000 seats, and C or R5 zones in areas designated Regional Center Commercial or Regional Commercial.⁵⁹ The scenario also uses the same buffers and lot size restrictions as the City-wide - 200-Foot Buffer Scenario.⁶⁰ To model this scenario, Navigant used the "Erase" tool to remove areas that did not meet the buffer and lot size restrictions from the designated areas outlined above. After isolating the appropriate land types, Navigant proceeded with the remaining analysis steps, selecting the streets associated with those land types and generating the points, or signs. This scenario aims to model the maximum number of signs in potential Tier 1 sign districts if the Planning Department approves them. This scenario yielded a maximum of 372 sign structures.

Table 3-16. City-wide - Tier 1 Sign District Scenario Summary

Percentage of Total	100%	50%	25%	10%
Total Sign Structures (#)	372	186	93	37
Total Sign Faces	502	251	126	50

Figure 3-6. City-wide - Option Tier 1 Sign District Scenario Map



⁵⁹ The City Planning Department provided the shapefiles for the areas to use for this analysis.

⁶⁰ The buffers for this Scenario (like the City-wide Mid Scenario) includes a 200-ft. residential buffer, 250-ft. sign district buffer, and a 1,000-ft. highway buffer. The Scenario also restricts lots to sizes greater than 2,500 sq. ft. (or 50 ft. x 50 ft.).

3.2.3 Public Option

The Public Option analyzes the potential impact of allowing off-site signs only on City and Metro-owned property outside of sign districts in the City. Navigant has applied the global assumptions described previously to all Public Option scenarios. Importantly, the City and Metro-owned properties in these scenarios are the same as those included in the City-wide Option to provide an appropriate comparison. More specifically, Navigant leveraged the City-wide Option scenarios to create the Public Option scenarios by isolating applicable properties, streets, and billboards, using the GIS "Select by Location" tool.

Like the City-wide Option scenarios, Navigant calculated the maximum number of off-site digital signs that could be placed on publicly-owned property based on the restricted land use areas in each scenario. Accordingly, this section also presents the results reduced by scaling factors of 50%, 25%, and 10% to provide a range of scenario results.

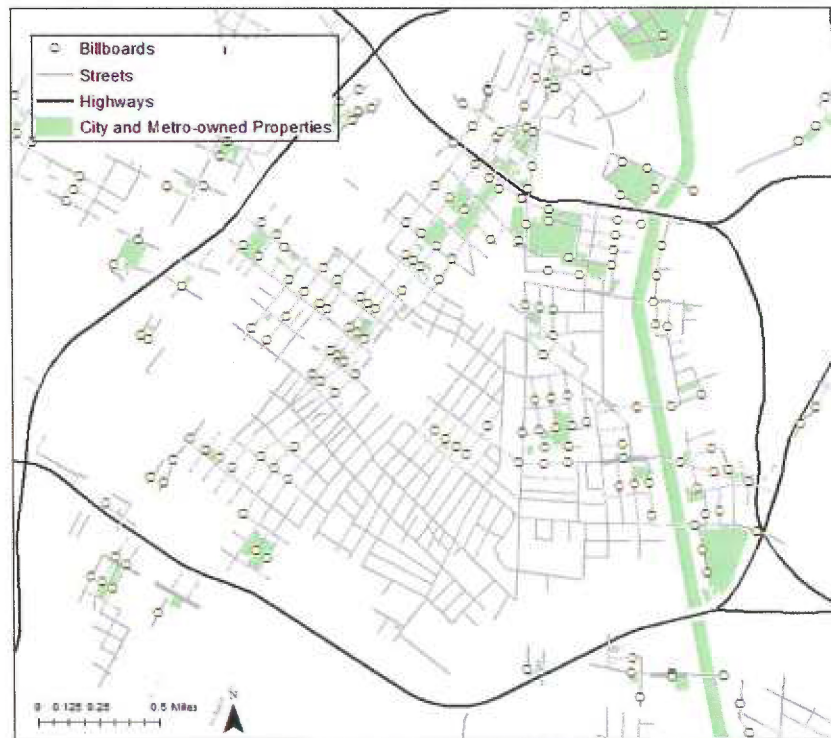
3.2.3.1 Public - 100-Foot Buffer Scenario

The Public - 100-Foot Buffer Scenario is identical to the City-wide - 100-Foot Buffer Scenario in all assumptions, except that it includes only City and Metro-owned properties. Navigant calculated this scenario by using the "Select by Location Tool," which allows users to select the billboard points adjacent to City and Metro-owned properties from the City-wide - 100-Foot Buffer Scenario. This analysis resulted in a maximum of 1,477 sign faces.

Table 3-17. Public - 100-Foot Buffer Scenario Summary

Percentage of Total	100%	50%	25%	10%
Total Sign Structures (#)	1,094	547	274	109
Total Sign Faces (#)	1,477	738	369	148

Figure 3-7. Public - 100-Foot Buffer Scenario Map



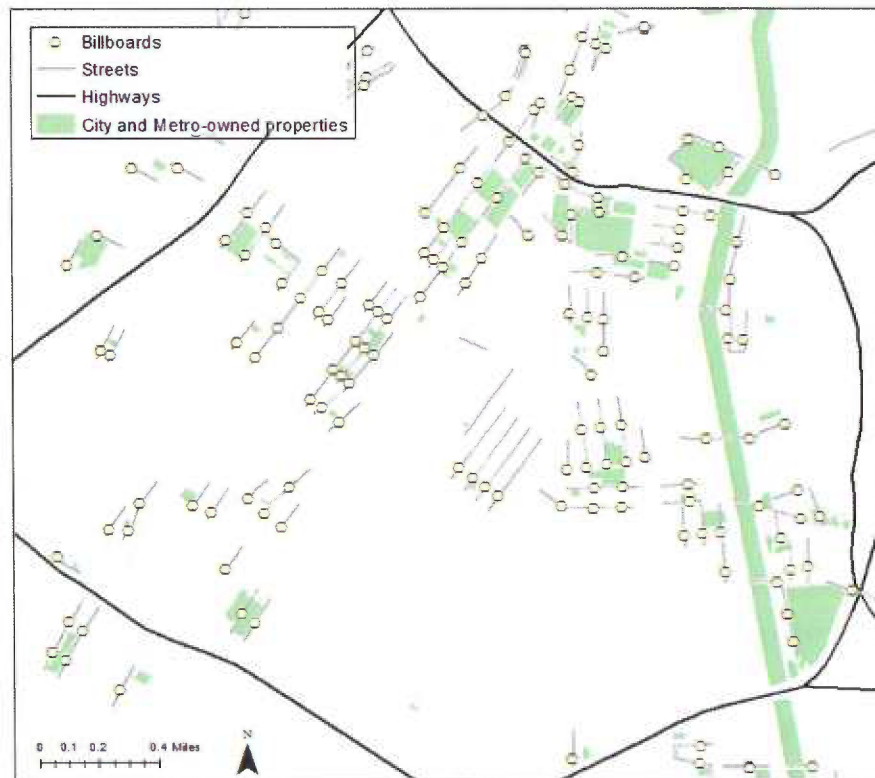
3.2.3.2 Public - 200-Foot Buffer Scenario

The Public - 200-Foot Buffer Scenario is identical to the Public - 100-Foot Buffer Scenario, except that it uses the City-wide Option 200-Foot Buffer Scenario as the base case. Like the Public - 100-Foot Buffer Scenario, Navigant selected the billboards adjacent to the City and Metro-owned properties using the "Select by Location" tool. The analysis resulted in a total of 1,046 sign faces.

Table 3-18. Public - 200-Foot Buffer Scenario Summary

Percentage of Total	100%	50%	25%	10%
Total Sign Structures (#)	775	388	194	78
Total Sign Faces (#)	1,046	523	262	105

Figure 3-8. Public - 200-Foot Buffer Scenario Map



3.2.3.3 Public - Single Parcel Scenario

The Public - Single Parcel Scenario uses the Public - 200-Foot Buffer Scenario as a basis for selecting applicable properties. Navigant then placed one sign on each parcel to calculate the total signs for this scenario. If Los Angeles used this method, the City could have a maximum of 1,354 sign faces. This scenario has more sign faces than the Public - 200-Foot Buffer Scenario because in reality, applicable parcels may not be 500 feet apart at their farthest points.

Table 3-19. Public - Single Parcel Scenario Summary

Percentage of Total	100%	50%	25%	10%
Total Sign Structures (#)	1,354	677	339	135
Total Sign Faces (#)	1,828	914	457	183

Figure 3-9. Public - Single Parcel Scenario Map



3.2.3.4 Public - Highway Scenarios A & B

Since many peer cities restrict new billboard development to public parcels adjacent to the freeway, Navigant chose to model a similar scenario for the City of Los Angeles. These parcels tend to be high-value given their potential viewership, especially in Los Angeles, where the freeways are highly trafficked. This scenario used the same assumptions as the City-wide - 100-Foot Buffer Scenario but restricted the available areas to City and Metro-owned properties adjacent to the highway. To complete this analysis, Navigant used the "Select by Location" tool to select properties adjacent to the highway and the billboard points associated with these properties. The analysis is broken into two parts: (1) Scenario A and (2) Scenario B. Scenario A models the potential for billboards based on current Caltrans regulations that require billboards to be 660-ft away from a highway. Scenario B models the potential for billboards without using the Caltrans requirement and assumes the City of Los Angeles receives a special carve-out.

Table 3-20. Public - Highway Scenario A Summary

Percentage of Total	100%	50%	25%	10%
Total Sign Structures (#)	106	53	27	11
Total Sign Faces (#)	143	72	36	14

Figure 3-10. Public - Highway Scenario A Map

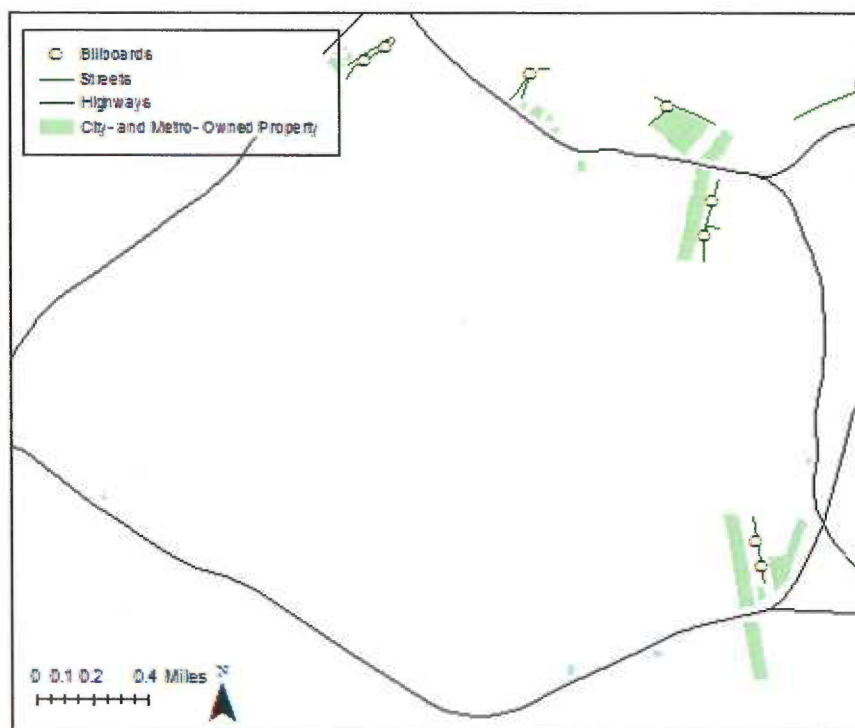
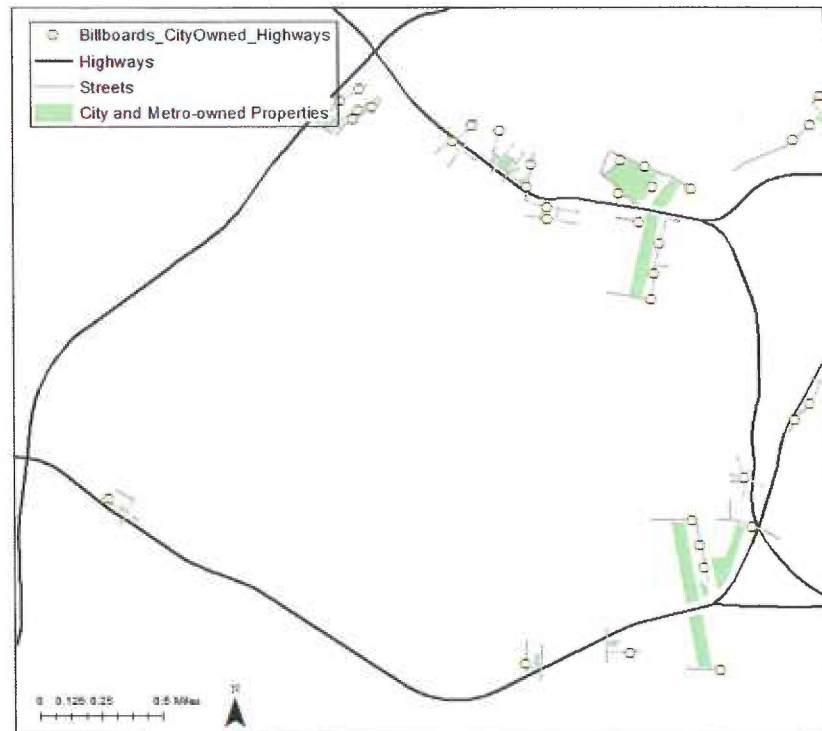


Table 3-21. Public - Highway Scenario B Summary

Percentage of Total	100%	50%	25%	10%
Total Sign Structures (#)	287	144	72	29
Total Sign Faces (#)	387	194	97	39

Figure 3-11. Public - Highway Scenario B Map



3.2.3.5 Public - Council District Scenario

Like the City-wide Option, Navigant modified the Public - 200-Foot Buffer Scenario results using a calibration factor based on the number of existing off-site static signs in each Council District (see Table 3-21). Using this approach, Navigant identified 563 digital billboard placement options under this scenario.

Table 3-22. Public - 200-Foot Buffer Scenario Results Calibrated by Council District

Council District	200-Foot Buffer Scenario Sign Structures	Calibration Factor	Council District Calibrated Sign Structures
1	51	67%	34
2	39	82%	32
3	18	49%	9
4	32	55%	18

Council District	200-Foot Buffer Scenario Sign Structures	Calibration Factor	Council District Calibrated Sign Structures
5	19	83%	16
6	80	55%	44
7	34	40%	14
8	17	93%	16
9	34	95%	32
10	10	93%	9
11	176	64%	112
12	37	33%	12
13	17	94%	16
14	183	100%	183
15	28	59%	16
Total	775	-	563

Applying the 50%, 25%, and 10% scaling factors resulted in a range of 76 to 760 off-site digital sign faces under the Public - Council District Scenario.

Table 3-23. Public - Council District Scenario Summary

Percentage of Total	100%	50%	25%	10%
Total Sign Structures (#)	563	282	141	56
Total Sign Faces (#)	760	380	190	76

Again, these results are not constrained by the takedown ratios that would be applied to existing static signs. Because of required static sign takedowns, numerous existing static signs would also be taken down under this scenario. This would result in similar district-by-district modifications as in the City-wide – Council District Scenario, which would depend on district-specific static sign portfolios and land use restrictions.

3.2.4 Scenario Comparison

Navigant assessed the relative advantages and disadvantages of the scenarios and compared the results to the peer case studies. Our findings include:

- City-wide Option vs. Public Option:** Although it allows for fewer digital signs than the City-wide Option, the Public Option still allows for flexibility and many sign placement options because City-owned property makes up a significant portion of the property eligible for off-site digital signs in our scenarios. As shown in Table 3-23, the Public Option for the 100-foot, 200-foot, and Council District scenarios include more than 50% of the signs in the Citywide Option. Given the legal complications in other cities with allowing and generating revenue on off-site digital signs on a broad, city-wide basis, the Public Option provides a viable alternative. The Public Option still allows for a potentially significant revenue generation, while giving the City more control over sign placement. Furthermore, this scenario aligns more closely to peer cities in California that often restrict the relocation of digital off-site signs to City-owned properties.

Table 3-24. Citywide and Public Option Scenario Comparison – 50% Scaling Factor

Scenario	Citywide Option (Sign Faces)	Public Option (Sign Faces)
100-foot	1323	738
200-foot	973	523
Council District	691	380

- Public - Highway Scenario and City-wide - Traffic Scenario vs. Other Scenarios:** Navigant intended the Highway Scenario and High Traffic Scenarios to illustrate options for imposing greater locational restrictions on signs while still offering large revenue generation opportunities. More specifically, the Public - Highway Scenario closely aligns to relocation agreements from peer cities such as Chicago and Sacramento. Given the opportunity for significant viewership, especially in Los Angeles, these scenarios represent several viable opportunities for revenue generation while also limiting digital sign placement.
- 100-Foot Buffer Scenarios vs. 200-Foot Buffer Scenarios:** The differences between the 100-Foot Buffer and 200-Foot Buffer Scenarios in the City-wide and Public Options are not significant. For example, the Public - 200-Foot Buffer Scenario allows the City to maintain 80% of the eligible structures from the Public - 100-Foot Buffer Scenario. Likewise, the City-wide - 200-Foot Buffer Scenario maintains 78% of the structures from the City-wide - 100-Foot Buffer Scenario. This result likely occurred because adding an additional 100-foot buffer did not make a significant change in restricting the location. Given the impact digital billboards make on residential areas, the City may consider issuing a larger buffer, since it would mitigate the effects of the billboards while still allowing for many sign structures.
- Public - Single Parcel Scenario vs. 100-Foot Buffer and 200-Foot Buffer Scenarios:** As noted above, the Public - Single Parcel Scenario resulted in a larger number of sign structures as compared to the Public - 100-Foot Buffer and 200-Foot Buffer Scenarios. This likely occurred because adjacent parcels may be less than 500 feet apart at their furthest points; in other words, the Single Parcel Scenario probably does not adhere to the current Los Angeles Sign Code.
- Council District Scenarios vs. Other Scenarios:** The Council District Scenarios in both the City-wide and Public Options limit the number of billboards allowed based on the current number of billboards in each council district. While existing signage in council districts may not reflect their future billboard preferences, this scenario provides an option that continues to limit signage in districts that currently have fewer signs than other districts.

4. OFF-SITE DIGITAL SIGNAGE FINANCIAL ANALYSIS

4.1 Current Revenue

Property owners must pay the City a one-time filing fee of \$134,608 to establish a sign district or \$67,915 to change a sign district.⁶¹ Sign owners must also pay a small one-time building permit fee to DBS for each off-site sign and a fee of \$170 every other year to survey the billboards across the City and compile the OSSPIP database.⁶² These permitting and filing fees do not produce a significant amount of revenue for Los Angeles.

Business taxes on gross receipts are the City's only on-going source of revenue from off-site signs. According to a May 2016 inter-departmental correspondence report to the PLUM Committee, companies that rent and place media on billboards are taxed at a rate of \$3.56 per thousand and property owners charging rent for billboards on their property are taxed at a rate of \$1.27 per thousand. This report estimated gross receipts from companies that rent billboards and advertise on billboards generated between approximately \$580,000 and \$700,000 per year in revenue for the City.⁶³

Navigant received updated data from the Office of Finance for 2015, 2016, and year-to-date 2017. Average gross receipts for this period were approximately \$170 million and generated approximately \$500,000 per year in revenue in for the City.

4.2 Financial Scenario Assumptions

The revenue structures in our financial scenarios are based on annual payments and up-front payments for city-wide off-site digital signs, plus rent for off-site digital signs on City-owned property.

4.2.1 Annual Payments (Fixed or Revenue Percentage)

Navigant developed several financial scenarios using fixed or variable annual payments. The range of payments is based on the City's current tax structure for advertising agencies, the City's proposed in-lieu payment structure, the City's street furniture program, and payments from case studies of peer cities.

Current tax rate: This revenue structure uses the City's existing tax rate of \$3.56 per thousand on annual gross receipts from advertising agencies. Navigant used average gross receipt data from the Office of Finance to calculate an average revenue of \$71 per square foot for existing off-site signage in the City. Given most of the City's off-site signs are static, Navigant doubled this figure to \$142 per square foot or \$95,959 per 672-square foot digital billboard, to conservatively account for the additional value of digital advertising.⁶⁴ Applying the current tax structure yields revenue of \$342 per 672-square foot digital sign, which is then multiplied by the number of digital signs in each geographic scenario to calculate potential tax revenue for the City.

⁶¹ Los Angeles Municipal Code, Section 19.01.

⁶² Interview with Department of Building and Safety, September 20, 2017.

⁶³ City of Los Angeles Interdepartmental Correspondence from Planning, CAO, and CLA, May 19, 2016.

⁶⁴ Navigant doubled the value of each square foot of digital signage in this scenario based on the minimum takedown ratio (2:1) and information on digital vs. static sign rents from publicly available sign company data in LA. This is a very conservative estimate.

City of LA's proposed annual in-lieu payment structure:⁶⁵ The CAO's Office has proposed an annual in-lieu payment structure for relocation agreements that ties existing static billboard takedown ratio options to revenue sharing for newly reconstructed digital off-site signs. This payment structure, also referred to as the "Public Benefit" payment, has been recommended by the PLUM Committee for inclusion in the current ordinance revision. On a percentage revenue-share basis, this framework would require an annual in-lieu payment ranging from 2.5% to 40% of the sign's annual advertising revenue, depending on the sign takedown ratio (between 8:1 and 2:1), as shown below in Table 4-1. Navigant used publicly available data to estimate an average annual advertising revenue of \$682,500 per digital sign for these revenue share percentages in our financial analysis.⁶⁶ The CAO's Office also provided a minimum fixed payment option, again depending on the sign takedown ratio, that ranges from \$25,000 to \$250,000 (see Table 4-2). Both payment structures are included in our financial scenarios.

Table 4-1. In-lieu Payment per Square Foot of Digital Sign Reconstruction (Revenue Share)⁶⁷

Takedown Ratio	Per 1 Square Foot	288-Square Foot Sign	672-Square Foot Sign
8:1	2.5%	2.5%	2.5%
7:1	5.0%	5.0%	5.0%
6:1	7.5%	7.5%	7.5%
5:1	10%	10%	10%
4:1	20%	20%	20%
3:1	30%	30%	30%
2:1	40%	40%	40%

Table 4-2. In-lieu Payment per Square Foot of Digital Sign Reconstruction (Minimum Payment)⁶⁸

Takedown Ratio	Per 1 Square Foot	288-Square Foot Sign	672-Square Foot Sign
8:1	\$37.20	\$10,714.00	\$25,000.00
7:1	\$74.40	\$21,429.00	\$50,000.00
6:1	\$111.61	\$32,143.00	\$75,000.00
5:1	\$148.81	\$42,857.00	\$100,000.00
4:1	\$223.21	\$64,286.00	\$150,000.00
3:1	\$297.62	\$85,714.00	\$200,000.00
2:1	\$372.02	\$107,143.00	\$250,000.00

Annual payment based on the City of LA's Street Furniture Program: In 2001, the City entered into a 20-year franchise agreement with advertising agency CBS/Decaux LLC to exclusively install advertising based street furniture throughout the City for public benefit payments and a share of the revenues generated from advertising. CBS/Decaux agreed to install 3,350 pieces of advertising based furniture and the City is guaranteed \$150 million in revenue over the 20-year term. Five types of furniture were installed, including transit shelters, public amenity kiosks (PAK), pillar-style PAKs, newsstand kiosks, and

⁶⁵ The PLUM Committee directive also refers to this payment structure as a "Public Benefit" payment.

Request for Report, PLUM Committee, May 31, 2017, p. 5.

⁶⁶ This figure is based on a conservative average rent per digital sign in the LA area, using publicly available rent figures from advertising agencies.

⁶⁷ Attachment 1 to Supplemental Attachment to the Off-site Sign Regulations and Policy Options Report, CAO report to PLUM Committee, November 1, 2016.

⁶⁸ Ibid.

automated public toilets (ATP). Navigant used the height and width of these structures to estimate the square footage of advertising signage that could be placed on each type of street furniture in the program. We then multiplied this figure by the total number of structures in the program to determine the total square footage of available signage in the program is approximately 285,450 sq. ft. (see Table 4-3). This figure was divided by the City's guaranteed revenue to estimate an annual revenue of \$26.27 per square foot of signage in the program.⁶⁹ Given the signs in the City's street furniture program are static, Navigant doubled this figure to \$52.54 per square foot to conservatively account for the additional value of digital signs. This estimate produces an annual revenue of \$35,306 for a 672-square foot digital sign, which is then multiplied by the number of signs in each scenario.

Table 4-3. Potential Advertising Signage (Sq. Ft.) in the Street Furniture Program⁷⁰

Structure Type	Structures	Sign Faces per Structure	Width (Feet)	Height (Feet)	Total Sq. Ft. of Signage
Transit Shelter	2,500	2	4.5	9.5	213,750
Public Amenity Kiosk	500	2	4.5	9	40,500
Pillar-Style PAK	100	2	4.5	9	8,100
Newsstand Kiosk	100	1	3.5	9	3,150
Automated Public Toilet	150	2	7	9.5	19,950
Total	3,350				285,450

Annual revenue share based on the peer review: Annual revenue share percentages vary widely between peer cities with different policy goals and advertising rates. For example, a proposed revenue share agreement for a digital media tower in Miami shared only 3% with the city (yet still would have been lucrative because of the high estimated revenue potential), while the Los Angeles County Metropolitan Transportation Authority (Metro) and the City of Downey receive a 70% revenue share from its single digital billboard. Based on California peers with more than one digital billboard, this analysis presents results for a 15%, 30%, and 65% annual revenue share. Like the revenue-share in-lieu payment estimates discussed above, Navigant applied these revenue share percentages to an average annual revenue of \$682,500 per digital sign for our financial analysis.

4.2.2 Rent

For off-site digital signs located on City-owned property only, Navigant assumes an annual rent fee for the use of public property equal to rent payments found in Chicago (\$139,259 annually per sign face) and Sacramento (\$112,500 annually per sign face) case studies. This financial structure requires further analysis in the future, based on actual property values and rents at City of Los Angeles-owned properties, which were not available for this study.

⁶⁹ Navigant divided the \$150 million in guaranteed revenue by 20 years to determine an annual revenue figure of \$7.5 million for the program. We then divided \$7.5 million by 285,450 sq. ft. to estimate the annual revenue per square foot of signage in the street furniture program.

⁷⁰ Coordinated Street Furniture Program, Frequently Asked Questions, <https://bss.lacity.org/Engineering/pdfs/fag.pdf>. Coordinated Street Furniture Program Presentation, Bureau of Street Services, <https://bss.lacity.org/Engineering/pdfs/background.pdf>.

4.2.3 Up-front Payments

Up-front payments may be paired with annual fees, as seen in the peer review. Since these payments are often negotiated directly with outdoor advertising companies, there is little data available for calculating an up-front payment. This analysis assumes three straightforward options:

1. Payment equal to the current Los Angeles sign district up-front payment: \$134,608 per sign district (for this analysis assumed to be \$134,608 per off-site digital sign face)
2. California peer payment (high): \$65,000 per off-site digital sign face (\$325,000 in up-front payments from five digital billboard faces in Fresno)
3. California peer payment (low): \$47,000 per off-site digital sign face (\$330,000 in up-front payments from seven digital billboard faces in Sacramento)

The revenue estimated from up-front payments is the total for all off-site digital signs installed according to the geographic scenario, over whatever time period all the signs in that scenario are installed. Each payment is a one-time payment per sign face, rather than a recurring revenue stream.

4.3 Takedown Percentage Scenario

Navigant applied the revenue structures discussed above to the number of digital signs quantified in our static sign takedown scenarios from the geographic analysis (Table 3-7).

Table 4-4 uses the percentage revenue-share in-lieu payment structure from Table 4-1 to estimate potential revenues associated with a 30% and 50%, and 100% reduction in existing static signage (using 672-square foot digital signs). This revenue structure results in potential revenues between approximately \$2 and \$144 million for new digital signs associated with a 30% reduction in existing signage, between \$4 and \$239 million for new digital signs associated with a 50% sign reduction, and between \$7 million and \$478 million for new digital signs associated with a 100% reduction in existing static signage. Similar revenues are generated using the number of signs in the 288-square foot sign scenario in Table 3-6.

Table 4-4. In-lieu Revenue Share for New/Reconstructed Off-site Digital Signs (672 Sq. Ft.) for Static Sign Reduction Scenarios

Takedown Ratio	30%		50%		100%	
	No. Digital Signs	In-lieu Payment	No. Digital Signs	In-lieu Payment	No. Digital Signs	In-lieu Payment
2:1	526	\$143.6 M	876	\$239.1 M	1,752	\$478.3 M
3:1	350	\$71.7 M	584	\$119.6 M	1,168	\$239.1 M
4:1	263	\$35.9 M	438	\$59.8 M	876	\$119.6 M
5:1	210	\$14.3 M	350	\$23.9 M	701	\$47.8 M
6:1	175	\$9.0 M	292	\$14.9 M	584	\$29.9 M
7:1	150	\$5.1 M	250	\$8.5 M	501	\$17.1 M
8:1	131	\$2.2 M	219	\$3.7 M	438	\$7.5 M
9:1	117	-	195	-	389	-

The financial scenario in Table 4-5 uses the fixed minimum in-lieu payment structure in Table 4-2 to estimate potential revenues associated with the three sign reduction scenarios. This revenue structure produced potential revenues between approximately \$3 and \$131 million for new digital signs associated with a 30% reduction in existing signage, between \$5 and \$219 million for new digital signs associated

with a 50% sign reduction, and between \$11 million and \$438 million for new digital signs associated with a 100% reduction in existing static signage. Similar revenues are generated using the number of signs in the 288-square foot digital sign scenario in Table 3-6.

Table 4-5. In-lieu Fixed Payment Revenue for New/Reconstructed Off-site Digital Signs (672 Sq. Ft.) for Static Sign Reduction Scenarios

Takedown Ratio	30%		50%		100%	
	No. Digital Signs	In-lieu Payment	No. Digital Signs	In-lieu Payment	No. Digital Signs	In-lieu Payment
2:1	526	\$131.5 M	876	\$219.0 M	1,752	\$438.0 M
3:1	350	\$70.0 M	584	\$116.8 M	1,168	\$233.6 M
4:1	263	\$39.5 M	438	\$65.7 M	876	\$131.4 M
5:1	210	\$21.0 M	350	\$35.0 M	701	\$70.1 M
6:1	175	\$13.1 M	292	\$21.9 M	584	\$43.8 M
7:1	150	\$7.5 M	250	\$12.5 M	501	\$25.1 M
8:1	131	\$3.3 M	219	\$5.5 M	438	\$11.0 M
9:1	117	-	195	-	389	-

Table 4-6, Table 4-7, and Table 4-8, show the other annual payment structures in Section 4.2.1 to estimate potential revenues associated with 672-square foot digital off-site signs under the three sign reduction scenarios. Results vary widely based on the revenue structure.

Table 4-6. Other Annual Payment Options in the 30% Sign Reduction Scenario

Takedown Ratio	30%					
	No. Digital Signs	Current Tax	Street Furniture	15% Revenue Share	30% Revenue Share	65% Revenue Share
2:1	526	\$0.2 M	\$18.6 M	\$53.8 M	\$107.7 M	\$233.3 M
3:1	350	\$0.1 M	\$12.4 M	\$35.8 M	\$71.7 M	\$155.3 M
4:1	263	\$0.09 M	\$9.3 M	\$26.9 M	\$53.8 M	\$116.7 M
5:1	210	\$0.07 M	\$7.4 M	\$21.5 M	\$43.0 M	\$93.2 M
6:1	175	\$0.06 M	\$6.2 M	\$17.9 M	\$35.8 M	\$77.6 M
7:1	150	\$0.05 M	\$5.3 M	\$15.4 M	\$30.7 M	\$66.5 M
8:1	131	\$0.04 M	\$4.6 M	\$13.4 M	\$26.8 M	\$58.1 M
9:1	117	\$0.04 M	\$4.1 M	\$12.0 M	\$24.0 M	\$51.9 M

Table 4-7. Other Annual Payment Options in the 50% Sign Reduction Scenario

Takedown Ratio	50%					
	No. Digital Signs	Current Tax	Street Furniture	15% Revenue Share	30% Revenue Share	65% Revenue Share
2:1	876	\$0.3 M	\$30.9 M	\$89.7 M	\$179.4 M	\$388.6 M
3:1	584	\$0.2 M	\$20.6 M	\$59.8 M	\$119.6 M	\$259.1 M
4:1	438	\$0.15 M	\$15.5 M	\$44.8 M	\$89.7 M	\$194.3 M
5:1	350	\$0.12 M	\$12.4 M	\$35.8 M	\$71.7 M	\$155.3 M
6:1	292	\$0.1 M	\$10.3 M	\$29.9 M	\$59.8 M	\$129.5 M
7:1	250	\$0.08 M	\$8.8 M	\$25.6 M	\$51.2 M	\$110.9 M
8:1	219	\$0.07 M	\$7.7 M	\$22.4 M	\$44.8 M	\$97.2 M
9:1	195	\$0.07 M	\$6.9 M	\$20.0 M	\$39.9 M	\$86.5 M

Table 4-8. Other Annual Payment Options in the 100% Sign Reduction Scenario

Takedown Ratio	100%					
	No. Digital Signs	Current Tax	Street Furniture	15% Revenue Share	30% Revenue Share	65% Revenue Share
2:1	1,752	\$0.6 M	\$61.9 M	\$179.4 M	\$358.7 M	\$777.2 M
3:1	1,168	\$0.4 M	\$41.2 M	\$119.6 M	\$239.1 M	\$518.2 M
4:1	876	\$0.3 M	\$30.9 M	\$89.7 M	\$179.4 M	\$388.6 M
5:1	701	\$0.2 M	\$24.8 M	\$71.8 M	\$143.5 M	\$311.0 M
6:1	584	\$0.2 M	\$20.6 M	\$59.8 M	\$119.6 M	\$259.1 M
7:1	501	\$0.17 M	\$17.7 M	\$51.3 M	\$102.6 M	\$222.3 M
8:1	438	\$0.15 M	\$15.5 M	\$44.8 M	\$89.7 M	\$194.3 M
9:1	389	\$0.13 M	\$13.7 M	\$39.8 M	\$79.6 M	\$172.6 M

Table 4-9 below shows the up-front payment amounts for the three sign reduction scenarios. The range of values for each scenario represents the three up-front payment structures described in Section 4.2.3.

Table 4-9. Up-Front Payments in the Static Sign Reduction Scenarios

Takedown Ratio	30%		50%		100%	
	No. Digital Signs	Up-Front Payment	No. Digital Signs	Up-Front Payment	No. Digital Signs	Up-Front Payment
2:1	526	\$24.7 - \$70.8 M	876	\$41.2 - \$117.9 M	1,752	\$82.3 - \$235.8 M
3:1	350	\$16.5 - \$47.1 M	584	\$27.4 - \$78.6 M	1,168	\$54.9 - \$157.2 M
4:1	263	\$12.4 - \$35.4 M	438	\$20.6 - \$59.0 M	876	\$41.2 - \$117.9 M
5:1	210	\$9.9 - \$28.3 M	350	\$16.5 - \$47.1 M	701	\$32.9 - \$94.4 M
6:1	175	\$8.2 - \$23.6 M	292	\$13.7 - \$39.3 M	584	\$27.4 - \$78.6 M
7:1	150	\$7.1 - \$20.2 M	250	\$11.8 - \$33.7 M	501	\$23.5 - \$67.4 M
8:1	131	\$6.2 - \$17.6 M	219	\$10.3 - \$29.5 M	438	\$20.6 - \$59.0 M
9:1	117	\$5.5 - \$15.7 M	195	\$9.2 - \$26.2 M	389	\$18.3 - \$52.4 M

4.4 City-Wide Option Revenue

Navigant applied the revenue structures discussed in Section 4.2 to the number of 672-square foot digital sign faces quantified in each Geographic City-wide Option scenario. The annual payment options are exclusive of one another (e.g., either the current tax rate or a 65% revenue share), while the rent and up-front payments are additive to the total revenue for the City. Navigant did not include the 100% City-wide - 100-Foot Buffer and 200-Foot Buffer scenarios in the financial analysis because the number of sign faces exceeded the number needed to remove all existing static signage in the City at the lowest proposed takedown ratio (2:1).

4.4.1 City-wide - 100-Foot Buffer Scenario

Navigant applied the revenue structures discussed in Section 4.2 to the number of 672-square foot digital sign faces quantified in the Geographic City-wide - 100-Foot Buffer Scenario. This analysis resulted in the range of potential revenues shown below in Table 4-10.

Table 4-10. Revenue Options for the City-wide - 100-Foot Buffer Scenario

Revenue Component	Payment Type	Annual Payment for each Scaling Factor		
		50%	25%	10%
Annual Payment	Fixed In-lieu Payment (8:1 – 2:1)	\$33.1 – \$330.8 M	\$16.6 – \$165.5 M	\$6.6 – \$66.3 M
	Rev. Share In-lieu Payment (8:1 – 2:1)	\$22.6 – \$361.2 M	\$11.3 – \$180.7 M	\$4.5 – \$72.3 M
	Current Tax	\$0.5 M	\$0.2 M	\$0.1 M
	Street Furniture	\$46.7 M	\$23.4 M	\$9.4 M
	Revenue Share (15%-65%)	\$135.4 – \$586.9 M	\$67.8 – \$293.7 M	\$27.1 – \$117.6 M
Annual Rent		\$83.0 – \$102.8 M	\$41.5 – \$51.4 M	\$16.7 – \$20.6 M
Up-front Payment (One-Time)		\$62.2 – \$178.1 M	\$31.1 – \$89.1 M	\$12.5 – \$35.7 M

The fixed in-lieu payment structure produced potential revenues between approximately \$33 and \$331 million for 50% of digital signs in the City-wide - 100-Foot Buffer scenario, based on the takedown ratio. The percentage revenue share in-lieu payment structure produced potential revenues between approximately \$23 and \$361 million for 50% of new digital signs, also based on the takedown ratio.

4.4.2 City-wide - 200-Foot Buffer Scenario

Navigant applied the revenue structures to the number of 672-square foot digital sign faces quantified in the Geographic City-wide - 200-Foot Buffer Scenario, resulting in the potential revenues in Table 4-11.

Table 4-11. Revenue Options for the City-wide - 200-Foot Buffer Scenario

Revenue Component	Payment Type	Annual Payment for each Scaling Factor		
		50%	25%	10%
Annual Payment	Fixed In-lieu Payment (8:1 – 2:1)	\$24.3 – \$243.3 M	\$12.2 – \$121.8 M	\$4.9 – \$48.8 M
	Rev. Share In-lieu Payment (8:1 – 2:1)	\$16.6 – \$265.6 M	\$8.3 – \$133.0 M	\$3.3 – \$53.2 M
	Current Tax	\$0.3 M	\$0.2 M	\$0.06 M
	Street Furniture	\$34.4 M	\$17.2 M	\$6.9 M
	Revenue Share (15%-65%)	\$99.6 – \$431.6 M	\$49.9 – \$216.0 M	\$20.0 – \$86.5 M
Annual Rent		\$58.8 – \$72.8 M	\$29.5 – \$36.5 M	\$11.8 – \$14.6 M
Up-front Payment (One-Time)		\$45.7 – \$131.0 M	\$22.9 – \$65.6 M	\$9.2 – \$26.2 M

The fixed in-lieu payment structure produced potential revenues between approximately \$24 and \$243 million for 50% of digital signs in the City-wide - 200-Foot Buffer scenario. The percentage revenue share in-lieu payment structure produced potential revenues between approximately \$17 and \$266 million.

4.4.3 City-wide - Council District Scenario

Navigant applied the revenue structures to the number of 672-square foot digital sign faces quantified in the Geographic City-wide - Council District Scenario. This analysis resulted in the range of potential revenues in Table 4-12.

Table 4-12. Revenue Options for the City-wide - Council District Scenario

Revenue Component	Payment Type	Annual Payment for each Scaling Factor			
		100%	50%	25%	10%
Annual Payment	Fixed In-lieu Payment (8:1 – 2:1)	\$34.5 – \$345.3 M	\$17.3 – \$172.8 M	\$8.6 – \$86.3 M	\$3.4 – \$34.5 M
	Rev. Share In-lieu Payment (8:1 – 2:1)	\$23.6 – \$377.0 M	\$11.8 – \$188.6 M	\$5.9 – \$94.2 M	\$2.4 – \$37.7 M
	Current Tax	\$0.5 M	\$0.2 M	\$0.1 M	\$0.05 M
	Street Furniture	\$48.8 M	\$24.4 M	\$12.2 M	\$4.9 M
	Revenue Share (15%-65%)	\$141.4 – \$612.6 M	\$70.7 – \$306.5 M	\$35.3 – \$153.1 M	\$14.1 – \$61.2 M
Annual Rent		\$85.5 – \$105.8 M	\$42.8 – \$52.9 M	\$21.4 – \$26.5 M	\$8.6 – \$10.6 M
Up-front Payment (One-Time)		\$64.9 – \$185.9 M	\$32.5 – \$93.0 M	\$16.2 – \$46.4 M	\$6.5 – \$18.6 M

The fixed in-lieu payment structure produced potential revenues between approximately \$17 and \$173 million for 50% of digital signs in the City-wide - Council District Scenario. The percentage revenue share in-lieu payment option produced potential revenues between approximately \$12 and \$189 million for 50% of digital signs in this scenario.

4.4.4 City-wide - High Traffic Scenario

Navigant applied the revenue structures to the Geographic City-wide - High Traffic Scenario. This analysis resulted in the potential revenues shown in Table 4-13.

Table 4-13. Revenue Options for the City-wide - High Traffic Scenario

Revenue Component	Payment Type	Annual Payment for each Scaling Factor			
		100%	50%	25%	10%
Annual Payment	Fixed In-lieu Payment (8:1 – 2:1)	\$9.2 – \$92.3 M	\$4.6 – \$46.0 M	\$2.3 – \$23.0 M	\$0.9 – \$9.3 M
	Rev. Share In-lieu Payment (8:1 – 2:1)	\$6.3 – \$100.7 M	\$3.1 – \$50.2 M	\$1.6 – \$25.1 M	\$0.6 – \$10.1 M
	Current Tax	\$0.1 M	\$0.06 M	\$0.03 M	\$0.01 M
	Street Furniture	\$13.0 M	\$6.5 M	\$3.2 M	\$1.3 M
	Revenue Share	\$37.8 –	\$18.8 –	\$9.4 –	\$3.8 –

Revenue Component	Payment Type	Annual Payment for each Scaling Factor			
		100%	50%	25%	10%
	(15%-65%)	\$163.7 M	\$81.6 M	\$40.8 M	\$16.4 M
Annual Rent		\$23.4 –	\$11.7 –	6.0 –	2.3 –
		\$29.0 M	\$14.5 M	7.4 M	2.8 M
Up-front Payment (One-Time)		\$17.3 –	\$8.6 –	\$4.3 –	\$1.7 –
		\$49.7 M	\$24.8 M	\$12.4 M	\$5.0 M

The fixed in-lieu payment structure produced potential revenues between approximately \$9 and \$92 million for 100% of digital signs in the High Traffic scenario. The percentage revenue share in-lieu payment option produced potential revenues between approximately \$6 and \$101 million for 100% of digital signs in this scenario.

4.4.5 City-wide - Tier 1 Sign District Scenario

Navigant applied the revenue structures to the number of digital sign faces quantified in the Geographic City-wide - Tier 1 Sign District Scenario. Although there is currently no ongoing revenue-sharing or in-lieu payments associated with off-site signs in sign districts, this scenario illustrates the hypothetical revenue potential if off-site signs were limited to sign districts but did have a payment structure in place. This analysis resulted in the potential revenues in Table 4-14.

Table 4-14. Revenue Options for the City-wide - Tier 1 Sign District Scenario

Revenue Component	Payment Type	Annual Payment for each Scaling Factor			
		100%	50%	25%	10%
Annual Payment	Fixed In-lieu Payment (8:1 – 2:1)	\$12.6 – \$125.5 M	\$6.3 – \$62.8 M	\$3.2 – \$31.5 M	\$1.3 – \$12.5 M
	Rev. Share In-lieu Payment (8:1 – 2:1)	\$8.6 – \$137.0 M	\$4.3 – \$68.5 M	\$2.1 – \$34.4 M	\$0.85 – \$13.7 M
	Current Tax	\$0.17 M	\$0.09 M	\$0.04 M	\$0.02 M
	Street Furniture	\$17.7 M	\$8.9 M	\$4.4 M	\$1.8 M
	Revenue Share (15%-65%)	\$51.4 – \$222.7 M	\$25.7 – \$111.3 M	\$12.9 – \$55.9 M	\$5.1 – \$22.2 M
Annual Rent		\$16.5 – \$20.5 M	\$8.3 – \$10.3 M	\$4.1 – \$5.0 M	\$1.7 – \$2.1 M
Up-front Payment (One-Time)		\$23.6 – \$67.6 M	\$11.8 – \$33.8 M	\$5.9 – \$17.0 M	\$2.4 – \$6.7 M

The fixed in-lieu payment structure produced potential revenues between approximately \$13 and \$126 million for 100% of digital signs in the Tier Sign District scenario. The percentage revenue share in-lieu payment option produced potential revenues between approximately \$9 and \$137 million for 100% of digital signs in this scenario.

4.5 Public Option

Navigant applied the revenue structures discussed in Section 4.2 to the number of 672-square foot digital sign faces quantified in each Geographic Public Option scenario. Navigant did not include the 100% Public - Single Parcel scenario in the financial analysis because the number of sign faces exceeded the

number needed to remove all existing static signage in the City at the lowest proposed takedown ratio (2:1).

4.5.1 Public - 100-Foot Buffer Scenario

Navigant applied the revenue structures to the number of digital sign faces quantified in the Geographic Public - 100-Foot Buffer Scenario. This analysis resulted in the potential revenues in Table 4-15.

Table 4-15. Revenue Options for the Public - 100-Foot Buffer Scenario

Revenue Component	Payment Type	Annual Payment for each Scaling Factor			
		100%	50%	25%	10%
Annual Payment	Fixed In-lieu Payment (8:1 – 2:1)	\$36.9 – \$369.3 M	\$18.5 – \$184.5 M	\$9.2 – \$92.3 M	\$3.7 – \$37.0 M
	Rev. Share In-lieu Payment (8:1 – 2:1)	\$25.2 – \$403.2 M	\$12.6 – \$201.5 M	\$6.3 – \$100.7 M	\$2.5 – \$40.4 M
	Current Tax	\$0.5 M	\$0.25 M	\$0.13 M	\$0.05 M
	Street Furniture	\$52.1 M	\$26.1 M	\$13.0 M	\$5.2 M
	Revenue Share (15%-65%)	\$151.2 – \$655.2 M	\$75.6 – \$327.4 M	\$37.8 – \$163.7 M	\$15.2 – \$65.7 M
Annual Rent		\$166.2 – \$205.7 M	\$83.0 – \$102.8 M	\$41.5 – \$51.4 M	\$16.7 – \$20.6 M
Up-front Payment (One-Time)		\$69.4 – \$198.8 M	\$34.7 – \$99.3 M	\$17.3 – \$49.7 M	\$6.9 – \$19.9 M

The fixed in-lieu payment structure produced potential revenues between approximately \$37 and \$369 million for 100% of digital signs in this scenario. The percentage revenue share in-lieu payment structure produced potential revenues between approximately \$13 and \$202 million for 100% of digital signs.

4.5.2 Public - 200-Foot Buffer Scenario

Navigant applied the revenue structures discussed above to the number of digital sign faces quantified in the Geographic Public - 200-Foot Buffer Scenario.

Table 4-16. Revenue Options for the Public - 200-Foot Buffer Scenario

Revenue Component	Payment Type	Annual Payment for each Scaling Factor			
		100%	50%	25%	10%
Annual Payment	Fixed In-lieu Payment (8:1 – 2:1)	\$26.2 – \$261.5 M	\$13.1 – \$130.8 M	\$6.6 – \$65.5 M	\$2.6 – \$26.3 M
	Rev. Share In-lieu Payment (8:1 – 2:1)	\$17.8 – \$285.6 M	\$8.9 – \$142.8 M	\$4.5 – \$71.5 M	\$1.8 – \$28.7 M
	Current Tax	\$0.35 M	\$0.18 M	\$0.89 M	\$0.04 M
	Street Furniture	\$36.9 M	\$18.5 M	\$9.3 M	\$3.7 M
	Revenue Share (15%-65%)	\$107.1 – \$464.0 M	\$53.5 – \$232.0 M	\$26.8 – \$116.2 M	\$10.7 – \$46.6 M
Annual Rent		\$117.7 – \$145.7 M	\$58.8 – \$72.8 M	\$29.5 – \$36.5 M	\$11.8 – \$14.6 M
Up-front Payment (One-Time)		\$49.2 –	\$24.6 –	\$12.3 –	\$4.9 –

Revenue Component	Payment Type	Annual Payment for each Scaling Factor			
		100%	50%	25%	10%
		\$140.8 M	\$70.4 M	\$35.3 M	\$14.1 M

The fixed in-lieu payment structure produced potential revenues between approximately \$26 and \$262 million for 100% of digital signs in this scenario. The percentage revenue share in-lieu payment structure produced potential revenues between approximately \$18 and \$296 million for 100% of digital signs.

4.5.3 Public -Single Parcel 200-Foot Buffer Scenario

Navigant applied the revenue structures discussed above to the number of digital sign faces quantified in the Geographic Public -Single Parcel 200-Foot Buffer Scenario. This analysis resulted in revenues in Table 4-17.

Table 4-17. Revenue Options for the Public -Single Parcel 200-Foot Buffer Scenario

Revenue Component	Payment Type	Annual Payment for each Scaling Factor		
		50%	25%	10%
Annual Payment	Fixed In-lieu Payment (8:1 – 2:1)	\$22.9 – \$228.5 M	\$11.4 – \$114.3 M	\$4.6 – \$45.8 M
	Rev. Share In-lieu Payment (8:1 – 2:1)	\$15.6 – \$249.5 M	\$7.8 – \$124.8 M	\$3.1 – \$50.0 M
	Current Tax	\$0.3 M	\$0.15 M	\$0.06 M
	Street Furniture	\$32.3 M	\$16.1 M	\$6.5 M
	Revenue Share (15%-65%)	\$93.6 – \$405.5 M	\$46.8 – \$202.7 M	\$18.7 – \$81.2 M
Annual Rent		\$102.8 – \$127.3 M	\$51.4 – \$63.6 M	\$20.6 – \$25.5 M
Up-front Payment (One-Time)		\$43.0 – \$123.0 M	\$21.5 – \$61.5 M	\$8.6 – \$24.6 M

The fixed in-lieu payment structure produced potential revenues between approximately \$23 and \$229 million for 50% of digital signs in this scenario. The percentage revenue share in-lieu payment structure produced potential revenues between approximately \$16 and \$250 million for 50% of digital signs.

4.5.4 Public - Council District Scenario

Navigant applied the revenue structures to the number of digital sign faces quantified in the Geographic Public - Council District Scenario. This analysis resulted in the potential revenues in Table 4-18.

Table 4-18. Revenue Options for the Public - Council District Scenario

Revenue Component	Payment Type	Annual Payment for each Scaling Factor			
		100%	50%	25%	10%
Annual Payment	Fixed In-lieu Payment (8:1 – 2:1)	\$19.0 – \$190.0 M	\$9.5 – \$95.0 M	\$4.8 – \$47.5 M	\$1.9 – \$19.0 M
	Rev. Share In-lieu Payment (8:1 – 2:1)	\$13.0 – \$207.5 M	\$6.5 – \$103.7 M	\$3.2 – \$51.9 M	\$1.3 – \$20.7 M
	Current Tax	\$0.26 M	\$0.13 M	\$0.06 M	\$0.02 M

Revenue Component	Payment Type	Annual Payment for each Scaling Factor			
		100%	50%	25%	10%
	Street Furniture	\$26.8 M	\$13.4 M	\$6.7 M	\$2.7 M
	Revenue Share (15%-65%)	\$77.8 – \$337.2 M	\$38.9 – \$168.6 M	\$19.4 – \$84.3 M	\$7.8 – \$33.7 M
Annual Rent		\$85.5 – \$105.8M	\$42.8 – \$52.9M	\$21.4 – \$26.5M	\$8.6 – \$10.6M
Up-front Payment (One-Time)		\$35.7 – \$102.3 M	\$17.9 – \$51.2 M	\$8.9 – \$25.6 M	\$3.6 – \$10.2 M

The fixed in-lieu payment structure produced potential revenues between approximately \$19 and \$190 million for 100% of digital signs in this scenario. The percentage revenue share in-lieu payment structure produced potential revenues between approximately \$13 and \$208 million for 100% of digital signs.

4.5.5 Public - Highway Scenario A

Navigant applied the revenue structures to the number of digital sign faces quantified in the Geographic Public - Highway Scenario A. This analysis resulted in the potential revenues in Table 4-19.

Table 4-19. Revenue Options for the Public - Highway Scenario A

Revenue Component	Payment Type	Annual Payment for each Scaling Factor			
		100%	50%	25%	10%
Annual Payment	Fixed In-lieu Payment (8:1 – 2:1)	\$3.6 – \$35.8 M	\$1.8 – \$18.0 M	\$0.9 – \$9.0 M	\$0.35 – \$3.5 M
	Rev. Share In-lieu Payment (8:1 – 2:1)	\$2.4 – \$39.0 M	\$1.2 – \$19.7 M	\$0.6 – \$9.8 M	\$0.2 – \$3.8 M
	Current Tax	\$0.05 M	\$0.025 M	\$0.012 M	\$0.004 M
	Street Furniture	\$5.0 M	\$2.5 M	\$1.3 M	\$0.5 M
	Revenue Share (15%-65%)	\$14.6 – \$63.4 M	\$7.4 – \$31.9 M	\$3.7 – \$16.0 M	\$1.4 – \$6.2 M
Annual Rent		\$16.1 – \$19.9 M	\$8.1 – \$10.0 M	\$4.1 – \$5.0 M	\$1.6 – \$1.9 M
Up-front Payment (One-Time)		\$6.7 – \$19.2 M	\$3.4 – \$9.7 M	\$1.7 – \$4.8 M	\$0.7 – \$1.9 M

The fixed in-lieu payment structure produced potential revenues between approximately \$4 and \$36 million for 100% of digital signs in this scenario. The percentage revenue share in-lieu payment structure produced potential revenues between approximately \$2 and \$39 million for 100% of digital signs.

4.5.6 Public - Highway Scenario B

Navigant applied the revenue structures to the number of digital sign faces quantified in the Geographic Public - Highway Scenario B. This analysis resulted in the potential revenues in Table 4-20.

Table 4-20. Revenue Options for the Public - Highway Scenario B

Revenue Component	Payment Type	Annual Payment for each Scaling Factor			
		100%	50%	25%	10%
Annual Payment	Fixed In-lieu Payment (8:1 – 2:1)	\$9.7 – \$96.8 M	\$4.9 – \$48.5 M	\$2.4 – \$24.3 M	\$1.0 – \$9.8 M
	Rev. Share In-lieu Payment (8:1 – 2:1)	\$6.6 – \$105.7 M	\$3.3 – \$53.0 M	\$1.7 – \$26.5 M	\$0.7 – \$10.7 M
	Current Tax	\$0.1 M	\$0.06 M	\$0.03 M	\$0.01 M
	Street Furniture	\$13.7 M	\$6.8 M	\$3.4 M	\$1.4 M
	Revenue Share (15%-65%)	\$39.6 – \$171.7 M	\$19.9 – \$86.1 M	\$9.9 – \$43.0 M	\$4.0 – \$17.3 M
Annual Rent		\$43.5 – \$53.9 M	\$21.8 – \$27.0 M	\$10.9 – \$13.5 M	\$4.4 – \$5.4 M
Up-front Payment (One-Time)		\$18.2 – \$52.1 M	\$9.1 – \$26.1 M	\$4.6 – \$13.1 M	\$1.8 – \$5.2 M

The fixed in-lieu payment structure produced potential revenues between approximately \$10 and \$97 million for 100% of digital signs in this scenario. The percentage revenue share in-lieu payment structure produced potential revenues between approximately \$7 and \$106 million for 100% of digital signs.

APPENDIX A. DETAILED CASE STUDIES

Navigant reviewed the history of digital billboards, with a focus on policy and revenues, for eight cities. The next sections present these in-depth case studies in the following order:

1. Chicago, IL
2. Sacramento, CA
3. Long Beach, CA
4. Anaheim, CA
5. Miami, FL
6. Los Angeles Metro, CA
7. Philadelphia, PA
8. Toronto, Canada

A.1 Chicago

Background

In 2012, Chicago enacted a digital sign ordinance, which allowed the City to establish a “City-wide coordinated sixty sign face digital network, or City Digital Network” on public land. More specifically, the City would establish the digital signs along its Interstate highways through an agreement with a contractor, JC De Caux, a large outdoor advertising firm. In the lease agreement, the City initially agreed to lease land for the billboards to JC De Caux from 2014-2036. The two agreed that the 60 billboards would be built in a phased approach during this time frame. Additionally, JC De Caux would assume full responsibility for selling advertisements on the digital billboards and conducting routine operation and maintenance on them, including covering the cost of electricity and other associated costs. Once the lease expires, JC De Caux and the City will renegotiate terms or JC De Caux will be required to remove the digital billboard structures. Chicago enacted this agreement as part of its larger Municipal Marketing Initiative, a program aimed at identifying and exploring innovative marketing methods to generate revenue for the Chicago.

Digital Billboard Overview	
City	Chicago
State	IL
Population	2,700,000
Data Year	2015
Signs Converted or Built	60
Upfront Payment (\$)	\$15,000,000
Sign Rent or Fee (\$/year)	\$8,705,263
City Revenue Share (%)	30-50%
City Revenue (\$/year)	\$22,823,065

Policy Overview

Like most cities considering the construction of digital billboards, Chicago reviewed and updated its policies regarding digital signage to ensure sound management of them. This included changing zoning ordinances to allow for off-site digital signs, specifically by freeways. Like most other cities, Chicago included strict restrictions, regarding size, luminescence, and zoning. For instance, the billboards must not be placed within any residential zones, public parks, or waterways. Additionally, the advertisements must not have any sort of flashing or animation and adhere to a 1,200-square foot size restriction.

Revenue Estimation

Given that Chicago's primarily aimed to generate revenue from the City Digital Network, the City included three methods of accomplishing this: asking for an upfront payment, requiring monthly rent, and entering into a revenue-sharing agreement. For the first method, requiring an upfront payment, JC De Caux agreed to pay Chicago \$15,000,000.⁷¹ This payment generally functions as a sign-on bonus for the City. It is unclear how the City calculated this initial payment. For the second method, monthly rent, the City assessed the locations of each of the proposed billboard sites based on advertisement desirability. The City graded each proposed sign face a “B”, “B+”, “A-”, “A”, and “A+”, which corresponded to a number of “contractual total program points” from 1-5, respectively.⁷² In turn, each program point was evaluated as having a value of \$137,362.65, or the total 182 points divided by the \$25,000,000 in guaranteed fees (or rent).⁷³ Finally, the third method, ad-revenue sharing percentage, was determined based on the estimated distributable gross revenues from advertisements. More specifically, Chicago estimated the potential ad-revenue and split these up into three buckets: less than \$25,000,000, \$25,000,000-\$30,000,000, and greater than \$30,000,000.⁷⁴ Depending on the revenue in any given year, JC De Caux would pay Chicago, 50%, 40%, or 30%, respectively.⁷⁵

⁷¹ City of Chicago, Office of the City Clerk, Agreement with Interstate JC De Caux LLC and amendment of Municipal Code for establishment of Citywide Coordinated Digital Signage Network, October 31, 2012, https://www.cityofchicago.org/content/dam/city/depts/fin/supp_info/Municipal%20Marketing/CDN_Ordinance_and_Program_Agreement_121212.pdf.

⁷² Ibid.

⁷³ Ibid.

⁷⁴ Ibid.

⁷⁵ Ibid.

A.2 Sacramento

Background

The City of Sacramento currently has a prohibition on new billboards except as part of a relocation or funding agreement. The City has seven Clear Channel digital billboards as well as six digital billboards from its agreement with the Sacramento Kings. The City has amended its sign ordinance numerous times over the past few years to allow for certain digital billboard exceptions.

Digital Billboard Overview	
City	Sacramento
State	CA
Population	495,000
Data Year	2014
Signs Converted or Built	13
Upfront Payment (\$)	\$330,000
Sign Rent or Fee (\$/year)	\$180,000
City Revenue Share (%)	30%
City Revenue (\$/year)	Unknown

Policy Overview

In 2007, the City adopted an ordinance that prohibits any new off-site signs except for those associated with a billboard relocation agreement. These agreements allow companies to construct new billboards in exchange for the permanent removal of existing billboards. In 2010, the City adopted an ordinance that authorized the construction of digital billboards on certain City-owned lands as part of a relocation agreement. In 2014, the City Code was further amended to allow the construction and operation of digital billboards on certain City-owned lands under either relocation agreements that require the permanent removal of billboards or funding agreements that provide funding for a City-owned facility capable of hosting professional major league sports.⁷⁶ An agreement under this Code amendment can authorize the construction of up to six digital billboards that must be located on City-owned parcels adjacent to the freeway in certain commercial or industrial zones. The ordinance also limits the size and placement of new billboards that are part of these agreements. These restrictions include:

- Billboard size may not exceed 700 square foot.
- Off-site signs must be at least 250 feet from each other.
- Relocation agreements may be approved within 660 feet of a freeway.
- The original sign associated with a relocation agreement must be removed prior to construction or installation of the new sign.
- The digital display must be oriented primarily for viewing from the adjacent freeway.⁷⁷

Relocation and funding agreements under this City Code amendment must be noticed and heard before the Planning and Design Commission and City Council, and ultimately approved by City Council.⁷⁸

Revenue Estimation

In July 2009, the City released a Request for Proposal (RFP) for the development and operation of two-sided digital billboards on at least three City-owned sites near major freeways as well as any other City-owned sites proposed by the bidders. The City selected Clear Channel Outdoor, Inc. for an exclusive

⁷⁶ Under a funding agreement, the billboard owner must fund at least 40% of the costs to design and construct a city-owned indoor arena or outdoor stadium that is capable of hosting professional major-league sports and has permanent seating for at least 15,000 persons. Sacramento City Code 15.148.965 – Digital billboards on city land.

⁷⁷ Sacramento City Code 15.148.815 – Relocation of off-site signs pursuant to relocation agreements.

⁷⁸ Sacramento City Code 15.148.815 – Relocation of off-site signs pursuant to relocation agreements.

lease contract with the City for 7 digital billboard sign faces on four sites.⁷⁹ The agreement had a 25-year term, a \$330,000 signing bonus for the four signs, and a \$15,000 monthly fixed rent fee per sign for the first five years of the agreement. For years 6-10 of the agreement, the monthly rent is the higher of \$15,000 or one-twelfth of 30 percent of the average annual net revenue realized by Clear Channel during lease years 3, 4, and 5. For the five-year period after the tenth year of the contract, the monthly rent will be the higher of the rent paid during the previous five-year period and one-twelfth of 30 percent of the average annual net revenue realized by Clear Channel during the preceding five-year period. Revenue generated from this agreement is directed to the City's General Fund. Clear Channel also agreed to remove 17 existing sign structures with 24 sign faces as part of the agreement.⁸⁰

The City also has a funding agreement with the Sacramento Downtown Arena LLC, the company that owns the Sacramento Kings basketball team. The Sacramento Downtown Arena LLC paid for approximately 46 percent of the \$477 million Downtown Plaza arena, a city-owned facility that the Kings operate.⁸¹ Accordingly, the company built six new digital billboards on City parcels alongside freeways without taking down any existing billboards, per the 2014 City Code amendment. The company's financial contribution to the City-owned facility replaced in full any rents or other consideration the City would otherwise be entitled to for the digital billboard leases.⁸²

⁷⁹ "Exclusive Right to Negotiate – Digital Billboards," Report to Council, City of Sacramento, August 25, 2009.

⁸⁰ "Leases – Digital Billboards on City-owned Sites," Report to Council, City of Sacramento, May 11, 2010.

⁸¹ "City rewriting billboard laws for Kings," *The Sacramento Bee*, May 15, 2014

(<http://www.sacbee.com/news/local/article2598869.html>).

⁸² Master Lease for Digital Billboards, City of Sacramento and Sacramento Downtown Arena LLC

(https://www.cityofsacramento.org/-/media/Corporate/Files/Arena/052014Documents/12-ExhibitI_Billboard-master-lease-FINAL.pdf?la=en).

A.3 Long Beach

Background

In December 2009, the Long Beach City Council adopted an ordinance for a one-year moratorium on off-site billboards, "supergraphic" signs, and the conversion of existing billboards to digital billboards within the city. In December 2010, the moratorium was extended for another year. In March 2012, the City Council approved an ordinance banning digital billboards.

In October 2013, City Council revisited the billboard issue, and directed staff in the Department of Development Services to come up with a proposal to meet advertisers' demands for digital billboards while reducing the number of billboards overall.⁸³ After approximately nine months of hearings and revisions to this proposal, the City Council unanimously approved the revised proposed ordinance in June 2014. The ordinance allows new billboards (both digital and static) in the city, with takedown requirements.^{84,85}

Digital Billboard Overview	
City	Long Beach
State	CA
Population	470,130
Data Year	2009
Signs Converted or Built	3+
Upfront Payment (\$)	\$0
Sign Rent or Fee (\$/year)	\$0
City Revenue Share (%)	\$0
City Revenue (\$/year)	\$0

Policy Overview

The policy has the goal of reducing the number of existing, nonconforming billboards (those that were installed prior to and therefore do not meet current city standards) in Long Beach – reducing blight – while allowing new digital billboards to be installed under a "cap-and-replace program." New billboards are allowed under Conditional Use Permits with the following takedown requirements:

- Eight billboards removed for one new digital billboard (8:1)
- Six billboards removed for one new static billboard (6:1)
- Four billboards removed to convert a static billboard to digital (4:1)
- Eight billboards removed to convert and enlarge a static billboard to digital (8:1)

Prior to permitting new billboards, city staff were required to conduct an inventory of all billboards in the city (paid for by the billboard companies) to identify non-compliant billboards. Advertising companies must meet the takedown requirements from their existing inventories of non-compliant billboards. Companies that do not have enough existing billboards to remove may still install a new digital billboard, but only under a separate development agreement that contains appropriate public benefits. Once all nonconforming billboards are removed, new conversions to digital will be done on a 1:1 basis.

In the Long Beach municipal code (Chapter 21.54), as amended by the ordinance,⁸⁶ billboards will only receive a Conditional Use Permit if:

⁸³ City of Long Beach Department of Development Services, January 7, 2014

(<https://longbeach.legistar.com/View.ashx?M=F&ID=2826412&GUID=E06F4E48-5BB1-4D8E-A996-44FBF0F62C35>).

⁸⁴ Harry Saltzgaver, "SO MOVED: Ordinance To Allow Electronic Billboards Approved," *The Grunion Gazette*, June 13, 2014 (http://www.gazettes.com/news/so-moved-ordinance-to-allow-electronic-billboards-approved/article_bc01ad24-f1b2-11e3-990c-001a4bcf887a.html).

⁸⁵ CJ Dablo, "New LB ordinance to allow for electronic billboards," *Signal Tribune*, June 20, 2014 (<http://www.signaltribunenewspaper.com/?p=24144>).

⁸⁶ An Ordinance of the City Council of the City of Long Beach Amending and Restating Chapter 21.54, Related to Billboards (<https://longbeach.legistar.com/View.ashx?M=F&ID=2834444&GUID=529CC7A4-1BF4-4AFE-8A5F-7409ABD14D35>).

- The proposed billboard does not represent a net increase in billboard sign area citywide
- The applicant or developer has a written plan and letter of intent explaining how it will remove certain amounts of existing billboard area in exchange for the right to construct or convert a digital billboard
- The proposed billboard does not constitute a hazard to vehicles on a street or freeway
- Adequate spacing exists between the proposed billboard and any other billboards in the vicinity, such that it avoids negative aesthetic impacts
- The size of the proposed billboard will not be out of context with its environment
- The proposed digital billboard will not cause light and glare to intrude on residential land uses
- Approval of the permit is consistent with the intent of Chapter 21.54, which is primarily to provide reasonable billboard control and to cause the eventual elimination of nonconforming billboards from the city

The following billboard development standards are imposed for new billboards (additional freeway-oriented billboard standards in parenthesis):

- Maximum area of 675 square feet
- 35 feet above curb grade (50 feet above the nearest freeway lane⁸⁷)
- Spacing between billboards as required by the California DOT, otherwise 300 feet
- Allowed on streets classified as Freeway, Regional Corridor, or Major Arterial
- Allowed in zoning districts classified as Regional Highway Commercial, Light Industrial, Medium Industrial, and General Industrial (and Commercial Storage and Port-related Industrial)⁸⁸

Additionally, freeway-oriented billboards may not be placed within 500 feet of any residential, institutional, or park district, or within 660 feet of a section of freeway that has been landscaped if the billboard will be viewed primarily by people traveling on the freeway (unless authorized by the Outdoor Advertising Act and/or Caltrans).

In October 2014, the large advertising company Clear Channel was reportedly the first to propose new digital billboards in Long Beach. The company's proposal was for two digital billboards along the 710 freeway (each 14x48 foot double-sided), in exchange for removing 36 non-conforming signs.⁸⁹ In 2016, the City of Long Beach reported having removed 176 nonconforming billboards through the Billboard Ordinance, in exchange for three new or converted digital billboards.⁹⁰

⁸⁷ Amended 40 feet to 50 feet for freeway-oriented billboards by Ordinance 16-0007 in 2016, along with other revisions to slightly loosen the restrictions on new billboards along landscaped freeway segments

(<https://longbeach.legistar.com/View.ashx?M=F&ID=4439038&GUID=79F6FEAA-A2F0-4670-8811-ED5B8A008CDC>).

⁸⁸ Zoning Districts Established, Long Beach Development Services

(http://www.lbds.info/planning/current_planning/zoning_districts_established.asp).

⁸⁹ Eric Bradley, "Electronic billboards may be coming to Long Beach," *Press Telegram*, October 1, 2014

(<http://www.presstelegram.com/2014/10/01/electronic-billboards-may-be-coming-to-long-beach/>).

⁹⁰ City of Long Beach 2016 Year in Review (<http://www.longbeach.gov/globalassets/2016-long-beach-vir/>).

Revenue Estimation

Advertising companies must pay for sign removals to meet the takedown requirements for new digital signage and conversions; however, there is no revenue generation for the city outside of permitting fees. There may be opportunity for revenue sharing agreements under the specific development agreements for companies that do not have enough signs to meet the takedown requirements. The Department of Development Services charges zoning fees for Conditional Use Permits subject to a surcharge. Billboards are included in the "Major" category and the total fee is currently \$8,384 (effective October 2017 through September 2018).⁹¹

The City of Long Beach also charged a one-time fee to recover the cost to inventory the existing billboards for each advertising company, which accrued to the Development Services Fund.⁹² The fee was tiered as follows:

No. of Billboards	1-29	30-59	60-89	90+
Proposed Fee	\$8,250	\$12,500	\$16,500	\$20,750

⁹¹ Planning Bureau Fee Schedule, Department of Development Services
(<http://www.lbds.info/civica/filebank/blobdload.asp?BlobID=2616>).

⁹² City of Long Beach Department of Development Services, June 10, 2014
(<https://longbeach.legistar.com/View.ashx?M=F&ID=3111536&GUID=AF8A2478-4132-45CC-A93C-60FE4EA5A5FC>).

A.4 Anaheim

Background

New outdoor billboards have been banned in Anaheim since 2006, except for outdoor display advertising at high speed rail stations.⁹³ In February 2014, the City of Anaheim issued a Request for Proposal (RFP) for “Indoor/Outdoor Advertising Services” for the Anaheim Regional Transportation Intermodal Center (ARTIC) facility, which provides rail, bus, taxi, and other services for daily commuters, visitors, and travelers.⁹⁴

Digital Billboard Overview	
City	Anaheim
State	CA
Population	351,043
Data Year	2017
Signs Converted or Built	2
Upfront Payment (\$)	\$0
Sign Rent or Fee (\$/year)	\$0
City Revenue Share (%)	25%
City Revenue (\$/year)	> \$80,000

Through the RFP, Anaheim sought a cutting-edge advertising company to develop a marketing and sales plan and to design, permit, install, and operate indoor and outdoor advertising structures at the facility. The goal of the advertising development was to maximize revenues for the city, “create a sense of place,” and “complement the iconic architectural design” of the facility and adjacent sporting and entertainment venues.⁹⁵

Clear Channel Outdoor (CCO) was selected as the provider in October 2014, under a proposed 20-year contract to operate the digital billboards at ARTIC.⁹⁶ However, the three digital billboards proposed for the facility, including one large 84-foot-tall billboard on the 57 freeway, were rejected by the Planning Commission in November 2014. The Planning Commission cited the citywide ban on all billboards in its decision. This decision went before the City Council on November 25, 2014, at the same time the City Council was set to decide whether to approve the long-term contract with CCO.⁹⁷ In the face of significant opposition from residents—reportedly fueled by a competitor to CCO—the City Council backed away from the proposed billboard on the 57 freeway, but moved forward with plans for the two smaller signs.⁹⁸

Policy Overview

In June 2012, the City Council adopted an ordinance which created sign standards specific to transit facilities. This ordinance permitted signs, including off-site advertising signs, in conjunction with a transit facility. The signs could be approved by the Planning Director, subject to the following findings:

- The signs must be part of a coordinated sign program.
- The signs must complement the architecture of the transit facility and provide a unifying element along the streetscape.

⁹³ Matthew Cunningham, “Anaheim City Council to Vote on Controversial ARTIC Electronic Billboard Proposal,” Anaheim Blog, November 23, 2014 (<http://www.anaheimblog.net/2014/11/25/anaheim-city-council-vote-artic-electronic-billboard-proposal/>).

⁹⁴ <http://www.anaheim.net/3329/ARTIC>

⁹⁵ RFP for Indoor/Outdoor Advertising Services, City of Anaheim, February 14, 2014 (http://local.anaheim.net/docs_agend/questys_pub/MG48034/AS48073/AS48076/AI48407/DO48410/1.pdf).

⁹⁶ Indoor/Outdoor Advertising Project and License Agreement by City of Anaheim and Clean Channel Outdoor Inc. for the Anaheim Regional Transportation Intermodal Center, October 7, 2014 (http://local.anaheim.net/docs_agend/questys_pub/MG48034/AS48073/AS48076/AI48407/DO48409/DO_48409.PDF).

⁹⁷ Imran Ghorri and Art Marroquin, “Anaheim rejects digital billboards for transit center,” *The Orange County Register*, November 4, 2014 (<http://www.ocregister.com/2014/11/04/anaheim-rejects-digital-billboards-for-transit-center/>).

⁹⁸ Adam Elmahrek, “Anaheim Backs Away from Proposal for Giant Billboard,” *Voice of OC*, November 26, 2014 (<https://voiceofoc.org/2014/11/anaheim-backs-away-from-proposal-for-giant-billboard/>).

- The size, scale and style of the signs shall be internally consistent and consistent with the scale of the transit facility and the surrounding land uses.

In September 2012, a coordinated sign program was approved for the ARTIC facility. The program included “monument” signs, wall signs above the building entrances, bus shelter and train platform signs (including outdoor advertising panels), and other informational signs. However, California State law then prohibited off-site advertising on landscaped freeways which would have prohibited these signs. To address this prohibition, Anaheim supported Senate Bill 694 in 2013, which authorized local agencies that plan to build and operate future high-speed rail stations to establish an advertising display program.⁹⁹

Revenue Estimation

The compensation structure considered in the RFP was for the advertising company to pay an annual license fee to the City of Anaheim. The license fee would be an amount equal to the greater of (1) the proposed Minimum Annual Guarantee for the advertising program or (2) the proposed percentage of annual Gross Advertising Revenues.¹⁰⁰ The proposed Minimum Annual Guarantee would be a percentage of Net Advertising Revenues.¹⁰¹ The timing of payments and other elements would also be defined in the response to the RFP.

The originally selected advertising company, CCO, proposed an annual license fee of the greater of 55% of Gross Advertising Revenue or a Minimum Annual Guarantee of \$325,000 in Year 1 (escalating over the 20-year agreement to \$496,005 in Year 20 and \$554,374 in Year 25, should the agreement be renewed for a 5-year Renewal Term). Overall, revenue to the city was estimated by staff to reach \$890,000 in Year 2 and \$1.7 million in Year 20, which would have gone towards ARTIC costs had the deal moved forward.

In March 2017, the company that manages the Honda Center (Anaheim Arena Management) received exclusive rights to sell advertisements on the two digital billboards (video display “monument” signs) in front of ARTIC. Under the terms of the 1-year contract, the city is entitled to a minimum of \$80,000 and 25% of any profits above the first \$120,000 the company generates in revenue (Gross Revenues). The city can also use the billboards for 10% of the advertising time.^{102, 103} This is the same revenue structure as the original deal, albeit lower dollar amounts. The city still hopes to find a purchaser for naming rights to the entire ARTIC facility, which is believed would generate an additional \$500,000 per year.¹⁰⁴

CCO is also still generating advertising revenue at ARTIC, although not from the digital billboard structures. In August 2016, the City Council authorized CCO to sell commercial advertising on the ARTIC

⁹⁹ Appeal of Planning Commission’s Decision to Deny an Amendment to the Anaheim Regional Transportation Intermodal Center (ARTIC) Coordinated Sign Program, Council Agenda Report, November 25, 2014 (http://anaheim.granicus.com/MetaViewer.php?view_id=2&clip_id=1433&meta_id=103838).

¹⁰⁰ All monies, remuneration and consideration of every kind received from the sale of advertising space.

¹⁰¹ Gross Advertising Revenue less costs and expenses paid by the advertising company.

¹⁰² Thy Vo, “Honda Center Management Company Gets ARTIC Ad Deal,” Voice of OC, March 23, 2017 (<https://voiceofoc.org/2017/03/honda-center-management-company-gets-artic-ad-deal/>).

¹⁰³ Agreement between Anaheim Arena Management Inc and the City of Anaheim for the sale of advertising on the outdoor video display monument signs at the Anaheim Regional Transportation Intermodal Center, City Council Agenda Report, March 21, 2017 (http://local.anaheim.net/docs_agend/guestys/pub/12979/13009/13010/13093/13094/Staff%20Report13094.pdf).

¹⁰⁴ Joseph Pimentel, “What will it take to make ARTIC station pay for itself?” *The Orange County Register*, August 1, 2017 (<http://www.ocregister.com/2017/04/14/artic-station-in-anaheim-not-yet-self-sustaining/>).

bus shelters and train platforms, requiring CCO to pay 50% of its gross advertising revenues to the city. All revenue will be used to offset the operating expenses of ARTIC.¹⁰⁵

¹⁰⁵ First amendment between Clear Channel Outdoor Inc. and the City of Anaheim for bus shelter and train platform advertising at the Anaheim Regional Transportation Intermodal Center, City Council Agenda Report, August 9, 2016 (http://local.anaheim.net/docs_agend/questys_pub/8144/8174/8175/10717/10718/Staff%20Report10718.pdf).

A.5 Miami

Background

Many buildings in downtown Miami are covered in advertisements. The downtown core – Urban Core – permits 45 “mural signs” which are (static) advertisements on vinyl building wrappings. There are also an estimated 30 digital LED billboards in the city,¹⁰⁶ although new freestanding billboards have been banned since 2012. Reportedly, most of Miami’s electronic billboards are in violation of county regulations.¹⁰⁷ Miami has declared the public goals of reducing the number of billboards in the city, preventing the proliferation of illegally constructed billboards, and to promote traffic safety.¹⁰⁸

Digital Billboard Overview	
City	Miami
State	FL
Population	453,579
Data Year	2010, 2015, 2017
Signs Converted or Built	30 digital billboards 3 media towers*
Upfront Payment	\$5 million (media tower)
Sign Rent or Fee	\$0/year
City Revenue Share (%)	3% Gross Sales*
City Revenue (\$/year)	~\$1 million (billboards) ~\$3.3 million (media tower)

*Associated with the media towers which have not been built.

Miami has also undergone significant controversy surrounding several giant digital signage structures proposed—but not built—by developers over the past 7 years. The first, in 2010, involved a proposal for two electronic billboards across from the Adrienne Arsht Center for the Performing Arts in the Arts + Entertainment District (specifically, the Omni redevelopment district). As proposed, the two billboards with LED screens, named the Omni Media Towers, would rise 250 feet and 350 feet from the top of a 100-foot parking structure.¹⁰⁹ Then, in 2015, a developer proposed a 633-foot media tower – the Miami Innovation Tower – with five digital LED billboards (up to 30,000 square feet each) on all sides of the structure. The Miami Innovation Tower was put forward as part of a four-block “Miami Innovation District” near Miami’s Overtown neighborhood, to boost economic development in the area (the Overtown redevelopment district).¹¹⁰

Policy Overview

Miami City Code Chapter 62 regulates murals, billboards, and banners within the city. According to code, a mural is a painting or artistic work (including collage effects) composed of pictures or arrangements of color which has a limited commercial sponsorship message, advertises a commercial product, and which is made directly onto, projected onto, or attached to a building or a wall. A billboard is a freestanding outdoor advertising sign supported by a sign structure.

County regulations also govern signs in Miami. The Sign Code of Miami-Dade County is found in Chapter 33, Article VI. The Sign Code is applicable in unincorporated and incorporated areas of the county. When applicable to a municipality (in this case, the City of Miami), the municipality is responsible for enforcement. As it is allowed to do, Miami has opted out of Division 5 of the code (Commercial Signs on Expressway Right-of-Way) but must adhere to the minimum standards of the remainder of the county’s

¹⁰⁶ Linda Robertson, “Billboard blight and mural ads are infecting downtown Miami,” *The Miami Herald*, June 18, 2017 (<http://www.miamiherald.com/news/local/community/miami-dade/article156850169.html>).

¹⁰⁷ Memorandum, Miami-Dade County Attorney, April 17, 2012 (<http://eqov.ci.miami.fl.us/Legistarweb/Attachments/67369.pdf>).

¹⁰⁸ City Code Chapter 62, Article XIII, Division 6.

¹⁰⁹ City of Miami Omni Media Towers – Maefield Development City Square Project, Letter to Commission, July 22, 2010 (<http://www.miamibeachfl.gov/WorkArea/DownloadAsset.aspx?id=59376>).

¹¹⁰ David Smiley, “Developer plans twisting, 633-foot LED billboard tower in Miami,” *The Miami Herald*, April 23, 2015 (<http://www.miamiherald.com/news/local/community/miami-dade/article19292724.html>).

Sign Code. The county retains the power to ensure that the Sign Code is uniformly interpreted and applied throughout the county.

In the Sign Code, 45 mural signs are permitted within the City of Miami Urban Core (previously, 30 and 35 mural signs were permitted).¹¹¹ The mural signs may be up to 10,000 square feet. County regulations for digital billboards require billboard sites to be more than 10 acres, and for the billboard to be an “on-site” sign that advertises products or services sold at that location (Section 33-96.1). In April 2012, the Miami-Dade County Attorney concluded that Miami had not properly interpreted or applied the Sign Code for billboards and that the county could take enforcement action with respect to signs located in Miami that were not in compliance. Specifically, the LED billboards erected in Miami were not on-site signs on at least 10 acres of land area.

Just several months previously, in February 2012, the City Commission had prohibited new freestanding billboards in the city under Ordinance No. 13311 modifying Chapter 62 of the code. The relocation and reconstruction of existing billboards is permitted that reasonably advances the city’s best interests and goal of reducing the number of billboards, especially illegally constructed billboards. No relocation and reconstruction agreement is effective without the prior approval of the City Commission.

A “media tower” is not the same as a billboard, according to Miami code. The proposed Omni Media Towers near the Arsht Center in 2010 were especially unique from a regulatory standpoint in that the developer’s attorney worked directly with city staff to create a regulatory framework for the project, including an ordinance to revise the public permitting process. The city fast-tracked the approval process and bypassed zoning hearings that would normally be required. The Miami City Commission approved the billboards in a 4-1 vote in late July 2010;¹¹² however, the project was expected to run into trouble with required Miami-Dade County and state approvals. The State of Florida had indicated at the time that the project probably violated the federal Highway Beautification Act.¹¹³ The media towers were never built, however, due to a failed deal for the land purchase.¹¹⁴

The Overtown redevelopment district was already zoned for a future media tower – thanks to previous planning efforts – however, there was still doubt about the legality of the Miami Innovation Tower under county regulations. And, unlike in 2010, the mayor spoke out against the proposal and requested the Commission to reject the plans.¹¹⁵ The Commission also changed its stance, and in June and July 2015 repealed the legislation that allowed billboard towers in the Overtown redevelopment district (part of Miami Code Chapter 21 regulating signs).¹¹⁶ Several weeks later, it passed an ordinance repealing the

¹¹¹ Agenda Item 7A, Legislative Notes, Miami-Dade County Board of County Commissioners Office of the Commission Auditor, March 2, 2012 (<http://www.miamidade.gov/auditor/library/12-03-02-bcc.pdf>).

¹¹² Oscar Pedro Musibay, “Commission approves electronic billboards,” *South Florida Business Journal*, July 29, 2010 (<https://www.bizjournals.com/southflorida/stories/2010/07/26/daily56.html>).

¹¹³ Nancy Lee, “Towering hurdles await giant billboards in Miami,” *The Miami Herald*, August 6, 2010 (<http://ue1.org/2010/08/06/towering-hurdles-await-giant-billboards-in-miami-the-miami-herald/>).

¹¹⁴ Erik Bojnansky, “Billboard Jungle,” *Biscayne Times*, August 2013 (http://www.biscaynetimes.com/index.php?option=com_content&id=1545:billboard-jungle).

¹¹⁵ David Smiley, “Miami mayor opposes 633-foot LED billboard tower for Overtown area,” *The Miami Herald*, April 29, 2015 (<http://www.miamiherald.com/news/local/community/miami-dade/article19850793.html>).

¹¹⁶ David Smiley, “Miami Commission considers banning billboard towers, approving 2016 budget,” *The Miami Herald*, September 8, 2015 (<http://www.miamiherald.com/news/local/community/miami-dade/article34395828.html>).

similar legislation that had allowed the proposed Omni media towers (Miami City Code Chapter 62, Article 8, Division 7).¹¹⁷

Revenue Estimation

The city reportedly makes almost \$4 million annually from fees charged to outdoor advertising companies; \$1 million from billboards and \$3 million from murals.¹¹⁸

The two failed media tower projects would have brought significant additional revenue to the city. The proposed Omni Media Towers near the Arsht Center would have paid an annual permit fee of \$2.28 million, and contributed a total of \$8 million over 10 years toward the Museum Park Trust to help redevelop Miami's downtown Bicentennial Park. The proposed Miami Innovation Tower would have paid \$5 million to the Southeast Overtown Park West Community Redevelopment Agency and a minimum of \$1 million per year thereafter (an estimated 3% of gross sales). The developer had also committed to hiring a percentage of workers from the local Overtown area and to pay higher than a living wage.^{119, 120}

¹¹⁷ Meeting Minutes, City of Miami City Commission, September 10, 2015

([http://eqov.ci.miami.fl.us/meetings/2015/9/2927_M_City_Commission_15-09-10_Verbatim_Minutes_\(Long\).pdf](http://eqov.ci.miami.fl.us/meetings/2015/9/2927_M_City_Commission_15-09-10_Verbatim_Minutes_(Long).pdf)).

¹¹⁸ *Biscayne Times*, August 2013.

¹¹⁹ David Smiley, "Uncertainty once again surrounds Miami Innovation Tower after vote," *The Miami Herald*, June 25, 2015

(<http://www.miamiherald.com/news/local/community/miami-dade/downtown-miami/article25536781.html>).

¹²⁰ Francisco Alvarado, "Miami Innovation Tower plans nixed by city – again," *The Real Deal*, July 23, 2015

(<https://therealdeal.com/miami/2015/07/23/miami-innovation-towers-plans-again-nixed-by-city/>).

A.6 Los Angeles County Metropolitan Transportation Authority (Metro)

Background

In 2010, Metro engaged Allvision, a media company that specializes in outdoor advertising initiatives, to develop a "Strategic Plan for Billboard Advertising." Metro structured the deal with Allvision so that it does not have to spend any money out-of-pocket; instead, Allvision receives a portion of the revenue Metro generates through its outdoor advertising agreements. The deal gives Allvision complete control over the execution of the strategic plan, including the outreach to local municipalities.

Digital Billboard Overview ^{121,122}	
City	Long Beach
State	CA
Population	470,130
Data Year	2016
Signs Converted or Built	2
Upfront Payment (\$)	\$0
Sign Rent or Fee (\$/year)	100,000
City Revenue Share (%)	22%-30% ¹²³
City Revenue (\$/year)	\$133,333

Through the strategy development process, Allvision reviewed Metro's existing 403 outdoor advertising billboards on its properties and right-of-way, submitted permit applications to Caltrans, investigated local sign ordinances, and conducted meetings with cities throughout the county. The goal of these activities and the strategic plan is to create long-term revenue for Metro by engaging local municipalities in a development agreement to building digital billboards on Metro's properties in various cities. In return, Metro will remove certain static properties in that municipality and provide a share of the revenues with the city. As of 2013, Metro and Allvision staff had met with the City of Downey, the City of Santa Clarita, and the City of Irwindale.¹²⁴

Policy Overview

Given that its properties reside within various cities, Metro must obtain certain entitlements from those cities prior to constructing digital billboards. For this reason, Metro likely must abide by local jurisdictions' sign ordinances and policies, including zoning, land use, static billboard removal, and aesthetic requirements. More specifically, the project must be approved by the City Planning Commission of the City with the new Metro billboard prior to construction. For this reason, Metro itself does not have any specific policies that govern digital billboard construction, other than that they must be on Metro property. Instead, Metro engages cities and negotiates terms directly with the applicable department. Allvision assists Metro in engaging these jurisdictions and drawing up the terms. Due to the nature of the agreements, the terms differ by city and development agreement. In general, these terms tend to include a Community Benefit clause, which allows the City to promote community events and display emergency messages.

Revenue Estimation

Like the policy restrictions, the revenue received by Metro varies by development agreement and negotiations. Although the details of the agreements vary, Metro tends to leverage the same revenue structure for all its deals. Usually Metro uses a competitive bidding process by issuing a Request for Proposal (RFP). Through this process, bidders must provide a proposed revenue structure. This structure generally includes a monthly or yearly rental fee and a revenue-sharing proportion, much like other cities

¹²¹ The figures in this table provide an example of a Metro LA agreement with the City of Long Beach. The exact terms differ from city to city.

¹²² Metro Los Angeles, Attachment C – Summary of License Agreement Key Terms, January, 28, 2016, <https://metro.legistar.com/LegislationDetail.aspx?ID=2547081&GUID=2BD51DB8-729D-4AA3-9526-B32C5E757378&FullText=1>

¹²³ The share increases each year of the agreement.

¹²⁴ Metro, Billboard Management Services, May 16, 2013,

that allow billboards through relocation or development agreements. Metro usually shares a portion of the rental fee and revenue-share proportion with the respective City that agreed to the billboard's development. More specifically, Metro usually pays the City 25% of the total annual net advertising revenue received by Metro as a "Development Fee." These terms tend to last 20 – 50 years, depending on the agreement.¹²⁵

¹²⁵ Ibid.

A.7 Philadelphia

Background

The City of Philadelphia has proposed and passed at least three ordinances related to billboard regulation over the last 20 years. Most of the City's 2,000 billboards are static; however, approximately 20 have been converted to digital in recent years.¹²⁶ In response to numerous requests to convert static signs to digital, the City passed a zoning amendment in 2015 that requires City approval and a 2:1 sign takeover ratio for the conversion of an existing sign to digital.

Digital Billboard Overview	
City	Philadelphia
State	PA
Population	1.57 Million
Data Year	2015
Signs Converted or Built	~20
Upfront Payment (\$)	\$150/year
Sign Rent or Fee (\$/year)	\$0
City Revenue Share (%)	7% tax
City Revenue (\$/year)	\$2.5M/year

Policy Overview

Prior to 2015, a settlement agreement with billboard companies required a payment of \$50 per year in licensing fees and a 7% excise tax on billboard advertisers (not operators), which generated approximately \$2.5 million per year in revenue for the City.¹²⁷ In 2015, the City passed a zoning amendment to allow for the conversion to digital signs and to adjust the licensing fees for commercial outdoor advertising signs.

The 2015 amendment prohibited digital signs within 500 feet of residential zones if the sign did not face toward the zone. Otherwise, the digital sign could not be within 1,000 feet of a residential zone. The amendment also set certain illumination standards and prohibited motion other than display changes between messages. The area in which a sign could be converted to digital was limited to within 660 feet of I-95 or I-76 unless the sign was in the Market East Advertising District, a redevelopment sign district created in 2011 that allows developers to add signage to buildings on which they make more than \$10 million in public improvements. The amendment also required that a billboard company remove two existing lawful signs with equal or greater sign area for each sign erected or converted to digital unless the company could have converted to digital prior to June 2015 but for a then-existing lease or agreement that precluded it from doing so.

The fees associated with billboards were also revised in the zoning amendment. The license fee for sign companies was increased to \$150 per year and commercial signs required a five-year fee of \$0.50 per square foot of sign face, and \$1.00 per square foot for each five-year period thereafter.¹²⁸

Revenue Estimation

While the City approved the zoning amendment described above in 2015, PennDOT, in conjunction with the Federal Highway Administration, revoked the City's authority to regulate billboards along state and federal roads because the amendment does not enforce state and federal billboard regulations. As a result, PennDOT is reviewing all existing signage along these roadways and any billboard company that obtains City approval through this zoning amendment must also obtain a license from PennDOT.¹²⁹

¹²⁶ "A Geographic and Financial Analysis of the Billboard Market in Philadelphia," Stephen Skilton, May 15, 2015.

¹²⁷ "A Geographic and Financial Analysis of the Billboard Market in Philadelphia," Stephen Skilton, May 15, 2015.

¹²⁸ City of Philadelphia Ordinance No. 130656-AA, June 18, 2015.

¹²⁹ "City Council advances pro-billboard legislation even after city stripped of authority to regulate highway billboards," *PlanPhilly*, June 8, 2016.

A.8 Toronto

Background

The City of Toronto has approximately 2,000 “third-party signs”¹³⁰ owned by advertising companies, including 50 electronic billboards.¹³¹ The City introduced a City-wide Sign Bylaw in April 2010 to reduce the number of sign bylaws into one common set of definitions and regulations for the entire City. The Bylaw also consolidated City sign enforcement into a single Sign Bylaw Unit. In addition, the City amended its tax code to support the enforcement of these new sign regulations.

Digital Billboard Overview	
City	Toronto
State	Canada
Population	2.8 million
Data Year	2017
Signs Converted or Built	50
Upfront Payment (\$)	\$0
Sign Rent or Fee (\$/year)	\$25,769
City Revenue Share (%)	-
City Revenue (\$/year)	\$11,000,000/year

Policy Overview

The 2010 Sign Bylaws permit third-party signs in commercial, employment (industrial), and utility sign districts with specific size, location and spacing regulations for each district. Electronic signs are also permitted in two Special Sign Districts or through by-law amendments that must be approved by City Council. Third-party electronic signs must be less than 400 square meters in size, more than 150 meters from other third-party signs, more than 400 meters from certain highways, more than 250 meters from residential buildings, and must be renewed by the City every five years. In addition, the electricity required to operate the sign must be provided by on-site renewable energy production or a distributor that is governed by an agreement to purchase renewable energy. The City is currently considering amending the sign bylaws to more directly address growing demand for electronic and illuminated billboards; however, no change has been made.¹³²

The City’s Third-Party Sign Tax (TPST) was adopted by City Council in 2009 with a phased in implementation in 2010 and 2011. The objective of the TPST is to provide a stable source of revenue for the new Sign Bylaw Unit. The tax applies to all third-party signs in the City with a sign face greater than one square meter. The TPST consists of an annual five-tier rate structure where each third-party sign is assigned to a tier (sign class) based on sign structure type, aggregate copy area on the structure, and display technology.¹³³ The annual fees range between \$1,235 for Class I signs and \$25,769 for Class V signs. All signs displaying or containing electronic static copy or electronic moving copy areas are Class V signs.¹³⁴

The TPST was legally challenged by sign advertising companies that argued the tax was unconstitutional; however, the Ontario Superior Court disagreed, stating only that the tax could not be retroactively applied.

¹³⁰ Toronto Municipal Code Chapter 694 defines a third-party sign as a “sign which advertises, promotes, or directs attention to businesses, goods, services, matters, or activities that are not available at or related to the premises where the sign is located.”

¹³¹ “Status Update: Third Party Sign Tax,” Report for Action to Planning & Growth Management Committee, City of Toronto, May 16, 2017.

¹³² “Illuminated and Electronic Sign Study,” City of Toronto, February 2014.

¹³³ “Toronto’s Sign Regulation Strategy,” Presentation to TABIA, April 27, 2010.

¹³⁴ Third Party Sign Tax, City of Toronto website

(<https://www1.toronto.ca/wps/portal/corntentonly?vqnextoid=c4b90680bd550410VqnVCM10000071d60f89RCRD&vqnextchannel=63349ba6aa360410VqnVCM10000071d60f89RCRD>).

Ultimately, this ruling on grandfathering was also reversed in favor of the City, which allowed the City to apply the tax to all third-party signs as outlined in the amended tax code.¹³⁵

Revenue Estimation

From 2010 to 2016, the TPST has generated total net revenues of approximately \$69.6 million for the City. During this period, the number of electronic third-party signs (Class V) has increased from 22 signs in 2010 to 50 signs in 2017. Interestingly, third-party signs in all other classes have decreased since 2010.

The TPST is directed to the City's general revenues except for a one-time allocation of \$22.5 million for Arts & Culture funding. City Council approved a 2017 Operating Budget that includes net revenues of approximately \$11 million from the TPST. Approximately \$1.3 million of this revenue is associated with Class V or electronic third-party signs.¹³⁶

¹³⁵ "Toronto wins appeal on billboard tax," *The Globe and Mail*, April 2, 2012.

¹³⁶ "Status Update: Third Party Sign Tax," Report for Action to Planning & Growth Management Committee, City of Toronto, May 16, 2017.

APPENDIX B. DETAILED FINANCIAL SCENARIO RESULTS

Appendix B provides more detailed financial results for our digital sign scenarios in Section 4.

B.1 Takedown Percentage Scenario

Table B-1. In-lieu Payment Revenue (Fixed Payment) for New/Reconstructed Off-site Digital Signs (672 Sq. Ft.) per Static Sign Reduction Percentage

Takedown Ratio	30%		50%		100%	
	No. Digital Signs	In-lieu Payment	No. Digital Signs	In-lieu Payment	No. Digital Signs	In-lieu Payment
2:1	526	\$131,500,000	876	\$219,000,000	1,752	\$438,000,000
3:1	350	\$70,000,000	584	\$116,800,000	1,168	\$233,600,000
4:1	263	\$39,450,000	438	\$65,700,000	876	\$131,400,000
5:1	210	\$21,000,000	350	\$35,000,000	701	\$70,100,000
6:1	175	\$13,125,000	292	\$21,900,000	584	\$43,800,000
7:1	150	\$7,500,000	250	\$12,500,000	501	\$25,050,000
8:1	131	\$3,275,000	219	\$5,475,000	438	\$10,950,000
9:1	117	-	195	-	389	-

Table B-2. In-lieu Payment Revenue (Revenue Share) for New/Reconstructed Off-site Digital Signs (672 Sq. Ft.) per Static Sign Reduction Percentage

Takedown Ratio	30%		50%		100%	
	No. Digital Signs	In-lieu Payment	No. Digital Signs	In-lieu Payment	No. Digital Signs	In-lieu Payment
2:1	526	\$143,598,000	876	\$239,148,000	1,752	\$478,296,000
3:1	350	\$71,662,500	584	\$119,574,000	1,168	\$239,148,000
4:1	263	\$35,899,500	438	\$59,787,000	876	\$119,574,000
5:1	210	\$14,332,500	350	\$23,887,500	701	\$47,843,250
6:1	175	\$8,957,813	292	\$14,946,750	584	\$29,893,500
7:1	150	\$5,118,750	250	\$8,531,250	501	\$17,096,625
8:1	131	\$2,235,188	219	\$3,736,688	438	\$7,473,375
9:1	117	-	195	-	389	-

Table B-3. Other Annual Payment Options in the 30% Sign Reduction Scenario

Takedown Ratio	30%					
	No. Digital Signs	Current Tax	Street Furniture	15% Revenue Share	30% Revenue Share	65% Revenue Share
2:1	526	\$179,690	\$18,571,419	\$53,849,250	107,698,500	\$233,346,750
3:1	350	\$119,565	\$12,357,408	\$35,831,250	71,662,500	\$155,268,750
4:1	263	\$89,845	\$9,285,709	\$26,924,625	53,849,250	\$116,673,375
5:1	210	\$71,739	\$7,414,445	\$21,498,750	42,997,500	\$93,161,250
6:1	175	\$59,783	\$6,178,704	\$17,915,625	35,831,250	\$77,634,375
7:1	150	\$51,242	\$5,296,032	\$15,356,250	30,712,500	\$66,543,750
8:1	131	\$44,752	\$4,625,201	\$13,411,125	26,822,250	\$58,114,875
9:1	117	\$39,969	\$4,130,905	\$11,977,875	23,955,750	\$51,904,125

Table B-4. Other Annual Payment Options in the 50% Sign Reduction Scenario

Takedown Ratio	50%					
	No. Digital Signs	Current Tax	Street Furniture	15% Revenue Share	30% Revenue Share	65% Revenue Share
2:1	876	\$299,255	\$30,928,827	\$89,680,500	179,361,000	\$388,615,500
3:1	584	\$199,503	\$20,619,218	\$59,787,000	119,574,000	\$259,077,000
4:1	438	\$149,627	\$15,464,413	\$44,840,250	89,680,500	\$194,307,750
5:1	350	\$119,565	\$12,357,408	\$35,831,250	71,662,500	\$155,268,750
6:1	292	\$99,752	\$10,309,609	\$29,893,500	59,787,000	\$129,538,500
7:1	250	\$85,404	\$8,826,720	\$25,593,750	51,187,500	\$110,906,250
8:1	219	\$74,814	\$7,732,207	\$22,420,125	44,840,250	\$97,153,875
9:1	195	\$66,615	\$6,884,842	\$19,963,125	39,926,250	\$86,506,875

B.2 City-Wide Option

Table B-5. In-lieu Payment Revenue (Fixed Payment) for New/Reconstructed Off-site Digital Signs (672 Sq. Ft.) in the 100-Foot Buffer Scenario

Takedown Ratio	In-lieu Payment for each Scaling Factor			
	100%	50%	25%	10%
2:1	\$661,500,000	\$330,750,000	\$165,500,000	\$66,250,000
3:1	\$529,200,000	\$264,600,000	\$132,400,000	\$53,000,000
4:1	\$396,900,000	\$198,450,000	\$99,300,000	\$39,750,000
5:1	\$264,600,000	\$132,300,000	\$66,200,000	\$26,500,000
6:1	\$198,450,000	\$99,225,000	\$49,650,000	\$19,875,000
7:1	\$132,300,000	\$66,150,000	\$33,100,000	\$13,250,000
8:1	\$66,150,000	\$33,075,000	\$16,550,000	\$6,625,000
9:1	-	-	-	-

Table B-6. In-lieu Payment Revenue (Revenue Share) for New/Reconstructed Off-site Digital Signs (672 Sq. Ft.) in the 100-Foot Buffer Scenario

Takedown Ratio	In-lieu Payment for each Scaling Factor			
	100%	50%	25%	10%
2:1	\$722,358,000	\$361,179,000	\$180,726,000	\$72,345,000
3:1	\$541,768,500	\$270,884,250	\$135,544,500	\$54,258,750
4:1	\$361,179,000	\$180,589,500	\$90,363,000	\$36,172,500
5:1	\$180,589,500	\$90,294,750	\$45,181,500	\$18,086,250
6:1	\$135,442,125	\$67,721,063	\$33,886,125	\$13,564,688
7:1	\$90,294,750	\$45,147,375	\$22,590,750	\$9,043,125
8:1	\$45,147,375	\$22,573,688	\$11,295,375	\$4,521,563
9:1	-	-	-	-

Table B-7. Other Annual Payment Options in the 100-Foot Buffer Scenario

Annual Payment Type	Annual Payment for each Scaling Factor			
	100%	50%	25%	10%
Current Tax	\$903,914	\$451,957	\$226,149	\$90,528
Street Furniture	\$93,422,004	\$46,711,002	\$23,373,155	\$9,356,323
15% Revenue Share	\$270,884,250	\$135,442,125	\$67,772,250	\$27,129,375
30% Revenue Share	\$541,768,500	\$270,884,250	\$135,544,500	\$54,258,750
65% Revenue Share	\$1,173,831,750	\$586,915,875	\$293,679,750	\$117,560,625

Table B-8. Total Up-Front Payment Options in the 100-Foot Buffer Scenario

Up-Front Payment Type	Total Up-Front Payment for each Scaling Factor			
	100%	50%	25%	10%
Sign District Payment (\$134,608/face)	\$356,172,768	\$178,086,384	\$89,110,496	\$35,671,120
\$65,000/face	\$171,990,000	\$85,995,000	\$43,030,000	\$17,225,000
\$47,000/face	\$124,362,000	\$62,181,000	\$31,114,000	\$12,455,000

Table B-9. In-lieu Payment Revenue (Fixed Payment) for New/Reconstructed Off-site Digital Signs (672 Sq. Ft.) in the 200-Foot Buffer Scenario

Takedown Ratio	In-lieu Payment for each Scaling Factor			
	100%	50%	25%	10%
2:1	\$486,750,000	\$243,250,000	\$121,750,000	\$48,750,000
3:1	\$389,400,000	\$194,600,000	\$97,400,000	\$39,000,000
4:1	\$292,050,000	\$145,950,000	\$73,050,000	\$29,250,000
5:1	\$194,700,000	\$97,300,000	\$48,700,000	\$19,500,000
6:1	\$146,025,000	\$72,975,000	\$36,525,000	\$14,625,000
7:1	\$97,350,000	\$48,650,000	\$24,350,000	\$9,750,000
8:1	\$48,675,000	\$24,325,000	\$12,175,000	\$4,875,000
9:1	-	-	-	-

Table B-10. In-lieu Payment Revenue (Revenue Share) for New/Reconstructed Off-site Digital Signs (672 Sq. Ft.) in the 200-Foot Buffer Scenario

Takedown Ratio	In-lieu Payment for each Scaling Factor			
	100%	50%	25%	10%
2:1	\$531,531,000	\$265,629,000	\$132,951,000	\$53,235,000
3:1	\$398,648,250	\$199,221,750	\$99,713,250	\$39,926,250
4:1	\$265,765,500	\$132,814,500	\$66,475,500	\$26,617,500
5:1	\$132,882,750	\$66,407,250	\$33,237,750	\$13,308,750
6:1	\$99,662,063	\$49,805,438	\$24,928,313	\$9,981,563
7:1	\$66,441,375	\$33,203,625	\$16,618,875	\$6,654,375
8:1	\$33,220,688	\$16,601,813	\$8,309,438	\$3,327,188
9:1	-	-	-	-

Table B-11. Other Annual Payment Options in the 200-Foot Buffer Scenario

Annual Payment Type	Annual Payment for each Scaling Factor			
	100%	50%	25%	10%
Current Tax	\$665,125	\$332,392	\$166,367	\$66,615
Street Furniture	\$68,742,495	\$34,353,594	\$17,194,451	\$6,884,842
15% Revenue Share	\$199,324,125	\$99,610,875	\$49,856,625	\$19,963,125
30% Revenue Share	\$398,648,250	\$199,221,750	\$99,713,250	\$39,926,250
65% Revenue Share	\$863,737,875	\$431,647,125	\$216,045,375	\$86,506,875

Table B-12. Total Up-Front Payment Options in the 200-Foot Buffer Scenario

Up-Front Payment Type	Total Up-Front Payment for each Scaling Factor			
	100%	50%	25%	10%
Sign District Payment (\$134,608/face)	\$262,081,776	\$130,973,584	\$65,554,096	\$26,248,560
\$65,000/face	\$126,555,000	\$63,245,000	\$31,655,000	\$12,675,000
\$47,000/face	\$91,509,000	\$45,731,000	\$22,889,000	\$9,165,000

Table B-13. In-lieu Payment Revenue (Fixed Payment) for New/Reconstructed Off-site Digital Signs (672 Sq. Ft.) in the City-wide - Council District Scenario

Takedown Ratio	In-lieu Payment for each Scaling Factor			
	100%	50%	25%	10%
2:1	\$345,250,000	\$172,750,000	\$86,250,000	\$34,500,000
3:1	\$276,200,000	\$138,200,000	\$69,000,000	\$27,600,000
4:1	\$207,150,000	\$103,650,000	\$51,750,000	\$20,700,000
5:1	\$138,100,000	\$69,100,000	\$34,500,000	\$13,800,000
6:1	\$103,575,000	\$51,825,000	\$25,875,000	\$10,350,000
7:1	\$69,050,000	\$34,550,000	\$17,250,000	\$6,900,000
8:1	\$34,525,000	\$17,275,000	\$8,625,000	\$3,450,000
9:1	-	-	-	-

Table B-14. In-lieu Payment Revenue (Revenue Share) for New/Reconstructed Off-site Digital Signs (672 Sq. Ft.) in the City-wide - Council District Scenario

Takedown Ratio	In-lieu Payment for each Scaling Factor			
	100%	50%	25%	10%
2:1	\$377,013,000	\$188,643,000	\$94,185,000	\$37,674,000
3:1	\$282,759,750	\$141,482,250	\$70,638,750	\$28,255,500
4:1	\$188,506,500	\$94,321,500	\$47,092,500	\$18,837,000
5:1	\$94,253,250	\$47,160,750	\$23,546,250	\$9,418,500
6:1	\$70,689,938	\$35,370,563	\$17,659,688	\$7,063,875
7:1	\$47,126,625	\$23,580,375	\$11,773,125	\$4,709,250
8:1	\$23,563,313	\$11,790,188	\$5,886,563	\$2,354,625
9:1	-	-	-	-

Table B-15. Other Annual Payment Options in the City-wide - Council District Scenario

Annual Payment Type	Annual Payment for each Scaling Factor			
	100%	50%	25%	10%
Current Tax	\$471,771	\$236,056	\$117,857	\$47,143
Street Furniture	\$48,758,801	\$24,397,054	\$12,180,874	\$4,872,349
15% Revenue Share	\$141,379,875	\$70,741,125	\$35,319,375	\$14,127,750
30% Revenue Share	\$282,759,750	\$141,482,250	\$70,638,750	\$28,255,500
65% Revenue Share	\$612,646,125	\$306,544,875	\$153,050,625	\$61,220,250

Table B-16. Total Up-Front Payment Options in the City-wide - Council District Scenario

Up-Front Payment Type	Total Up-Front Payment for each Scaling Factor			
	100%	50%	25%	10%
Sign District Payment (\$134,608/face)	\$185,893,648	\$93,014,128	\$46,439,760	\$18,575,904
\$65,000/face	\$89,765,000	\$44,915,000	\$22,425,000	\$8,970,000
\$47,000/face	\$64,907,000	\$32,477,000	\$16,215,000	\$6,486,000

Table B-17. In-lieu Payment Revenue (Fixed Payment) for New/Reconstructed Off-site Digital Signs (672 Sq. Ft.) in the High Traffic Scenario

Takedown Ratio	In-lieu Payment for each Scaling Factor			
	100%	50%	25%	10%
2:1	\$92,250,000	\$46,000,000	\$23,000,000	\$9,250,000
3:1	\$73,800,000	\$36,800,000	\$18,400,000	\$7,400,000
4:1	\$55,350,000	\$27,600,000	\$13,800,000	\$5,550,000
5:1	\$36,900,000	\$18,400,000	\$9,200,000	\$3,700,000
6:1	\$27,675,000	\$13,800,000	\$6,900,000	\$2,775,000
7:1	\$18,450,000	\$9,200,000	\$4,600,000	\$1,850,000
8:1	\$9,225,000	\$4,600,000	\$2,300,000	\$925,000
9:1	-	-	-	-

Table B-18. In-lieu Payment Revenue (Revenue Share) for New/Reconstructed Off-site Digital Signs (672 Sq. Ft.) in the High Traffic Scenario

Takedown Ratio	In-lieu Payment for each Scaling Factor			
	100%	50%	25%	10%
2:1	\$100,737,000	\$50,232,000	\$25,116,000	\$10,101,000
3:1	\$75,552,750	\$37,674,000	\$18,837,000	\$7,575,750
4:1	\$50,368,500	\$25,116,000	\$12,558,000	\$5,050,500
5:1	\$25,184,250	\$12,558,000	\$6,279,000	\$2,525,250
6:1	\$18,888,188	\$9,418,500	\$4,709,250	\$1,893,938
7:1	\$12,592,125	\$6,279,000	\$3,139,500	\$1,262,625
8:1	\$6,296,063	\$3,139,500	\$1,569,750	\$631,313
9:1	-	-	-	-

Table B-19. Other Annual Payment Options in the High Traffic Scenario

Annual Payment Type	Annual Payment for each Scaling Factor			
	100%	50%	25%	10%
Current Tax	\$126,056	\$62,857	\$31,429	\$12,640
Street Furniture	\$13,028,239	\$6,496,466	\$3,248,233	\$1,306,355
15% Revenue Share	\$37,776,375	\$18,837,000	\$9,418,500	\$3,787,875
30% Revenue Share	\$75,552,750	\$37,674,000	\$18,837,000	\$7,575,750
65% Revenue Share	\$163,697,625	\$81,627,000	\$40,813,500	\$16,414,125

Table B-20. Total Up-Front Payment Options in the High Traffic Scenario

Up-Front Payment Type	Total Up-Front Payment for each Scaling Factor			
	100%	50%	25%	10%
Sign District Payment (\$134,608/face)	\$49,670,352	\$24,767,872	\$12,383,936	\$4,980,496
\$65,000/face	\$23,985,000	\$11,960,000	\$5,980,000	\$2,405,000
\$47,000/face	\$17,343,000	\$8,648,000	\$4,324,000	\$1,739,000

Table B-21. In-lieu Payment Revenue (Fixed Payment) for New/Reconstructed Off-site Digital Signs (672 Sq. Ft.) in the Tier 1 Sign District Scenario

Takedown Ratio	In-lieu Payment for each Scaling Factor			
	100%	50%	25%	10%
2:1	\$125,500,000	\$62,750,000	\$31,500,000	\$12,500,000
3:1	\$100,400,000	\$50,200,000	\$25,200,000	\$10,000,000
4:1	\$75,300,000	\$37,650,000	\$18,900,000	\$7,500,000
5:1	\$50,200,000	\$25,100,000	\$12,600,000	\$5,000,000
6:1	\$37,650,000	\$18,825,000	\$9,450,000	\$3,750,000
7:1	\$25,100,000	\$12,550,000	\$6,300,000	\$2,500,000
8:1	\$12,550,000	\$6,275,000	\$3,150,000	\$1,250,000
9:1	-	-	-	-

Table B-22. In-lieu Payment Revenue (Revenue Share) for New/Reconstructed Off-site Digital Signs (672 Sq. Ft.) in the Tier 1 Sign District Scenario

Takedown Ratio	In-lieu Payment for each Scaling Factor			
	100%	50%	25%	10%
2:1	\$137,046,000	\$68,523,000	\$34,398,000	\$13,650,000
3:1	\$102,784,500	\$51,392,250	\$25,798,500	\$10,237,500
4:1	\$68,523,000	\$34,261,500	\$17,199,000	\$6,825,000
5:1	\$34,261,500	\$17,130,750	\$8,599,500	\$3,412,500
6:1	\$25,696,125	\$12,848,063	\$6,449,625	\$2,559,375
7:1	\$17,130,750	\$8,565,375	\$4,299,750	\$1,706,250
8:1	\$8,565,375	\$4,282,688	\$2,149,875	\$853,125
9:1	-	-	-	-

Table B-23. Other Annual Payment Options in the Tier 1 Sign District Scenario

Annual Payment Type	Annual Payment for each Scaling Factor			
	100%	50%	25%	10%
Current Tax	\$171,491	\$85,745	\$43,044	\$17,081
Street Furniture	\$17,724,054	\$8,862,027	\$4,448,667	\$1,765,344
15% Revenue Share	\$51,392,250	\$25,696,125	\$12,899,250	\$5,118,750
30% Revenue Share	\$102,784,500	\$51,392,250	\$25,798,500	\$10,237,500
65% Revenue Share	\$222,699,750	\$111,349,875	\$55,896,750	\$22,181,250

Table B-24. Total Up-Front Payment Options in the Tier 1 Sign District Scenario

Up-Front Payment Type	Total Up-Front Payment for each Scaling Factor			
	100%	50%	25%	10%
Sign District Payment (\$134,608/face)	\$67,573,216	\$33,786,608	\$16,960,608	\$6,730,400
\$65,000/face	\$32,630,000	\$16,315,000	\$8,190,000	\$3,250,000
\$47,000/face	\$23,594,000	\$11,797,000	\$5,922,000	\$2,350,000

B.3 Public Option

Table B-25. In-lieu Payment Revenue (Fixed Payment) for New/Reconstructed Off-site Digital Signs (672 Sq. Ft.) in the Public - 100-Foot Buffer Scenario

Takedown Ratio	In-lieu Payment for each Scaling Factor			
	100%	50%	25%	10%
2:1	\$369,250,000	\$184,500,000	\$92,250,000	\$37,000,000
3:1	\$295,400,000	\$147,600,000	\$73,800,000	\$29,600,000
4:1	\$221,550,000	\$110,700,000	\$55,350,000	\$22,200,000
5:1	\$147,700,000	\$73,800,000	\$36,900,000	\$14,800,000
6:1	\$110,775,000	\$55,350,000	\$27,675,000	\$11,100,000
7:1	\$73,850,000	\$36,900,000	\$18,450,000	\$7,400,000
8:1	\$36,925,000	\$18,450,000	\$9,225,000	\$3,700,000
9:1	-	-	-	-

Table B-26. In-lieu Payment Revenue (Revenue Share) for New/Reconstructed Off-site Digital Signs (672 Sq. Ft.) in the Public - 100-Foot Buffer Scenario

Takedown Ratio	In-lieu Payment for each Scaling Factor			
	100%	50%	25%	10%
2:1	\$403,221,000	\$201,474,000	\$100,737,000	\$40,404,000
3:1	\$302,415,750	\$151,105,500	\$75,552,750	\$30,303,000
4:1	\$201,610,500	\$100,737,000	\$50,368,500	\$20,202,000
5:1	\$100,805,250	\$50,368,500	\$25,184,250	\$10,101,000
6:1	\$75,603,938	\$37,776,375	\$18,888,188	\$7,575,750
7:1	\$50,402,625	\$25,184,250	\$12,592,125	\$5,050,500
8:1	\$25,201,313	\$12,592,125	\$6,296,063	\$2,525,250
9:1	-	-	-	-

Table B-27. Other Annual Payment Options in the Public - 100-Foot Buffer Scenario

Annual Payment Type	Annual Payment for each Scaling Factor			
	100%	50%	25%	10%
Current Tax	\$504,566	\$252,112	\$126,056	\$50,559
Street Furniture	\$52,148,262	\$26,056,477	\$13,028,239	\$5,225,418
15% Revenue Share	\$151,207,875	\$75,552,750	\$37,776,375	\$15,151,500
30% Revenue Share	\$302,415,750	\$151,105,500	\$75,552,750	\$30,303,000
65% Revenue Share	\$655,234,125	\$327,395,250	\$163,697,625	\$65,656,500

Table B-28. Rent Payment Options in the Public - 100-Foot Buffer Scenario

Annual Rent Payment	Annual Payment for each Scaling Factor			
	100%	50%	25%	10%
\$112,500 / face	\$166,162,500	\$83,025,000	\$41,512,500	\$16,650,000
\$139,259 / face	\$205,685,926	\$102,773,333	\$51,386,667	\$20,610,370

Table B-29. Total Up-Front Payment Options in the Public - 100-Foot Buffer Scenario

Up-Front Payment Type	Total Up-Front Payment for Each Scaling Factor			
	100%	50%	25%	10%
Sign District Payment (\$134,608/face)	\$198,816,016	\$99,340,704	\$49,670,352	\$19,921,984
\$65,000/face	\$96,005,000	\$47,970,000	\$23,985,000	\$9,620,000
\$47,000/face	\$69,419,000	\$34,686,000	\$17,343,000	\$6,956,000

Table B-30. In-lieu Payment Revenue (Fixed Payment) for New/Reconstructed Off-site Digital Signs (672 Sq. Ft.) in the Public - 200-Foot Buffer Scenario

Takedown Ratio	In-lieu Payment for each Scaling Factor			
	100%	50%	25%	10%
2:1	\$261,500,000	\$130,750,000	\$65,500,000	\$26,250,000
3:1	\$209,200,000	\$104,600,000	\$52,400,000	\$21,000,000
4:1	\$156,900,000	\$78,450,000	\$39,300,000	\$15,750,000
5:1	\$104,600,000	\$52,300,000	\$26,200,000	\$10,500,000
6:1	\$78,450,000	\$39,225,000	\$19,650,000	\$7,875,000
7:1	\$52,300,000	\$26,150,000	\$13,100,000	\$5,250,000
8:1	\$26,150,000	\$13,075,000	\$6,550,000	\$2,625,000
9:1	-	-	-	-

Table B-31. In-lieu Payment Revenue (Revenue Share) for New/Reconstructed Off-site Digital Signs (672 Sq. Ft.) in the Public - 200-Foot Buffer Scenario

Takedown Ratio	In-lieu Payment for each Scaling Factor			
	100%	50%	25%	10%
2:1	\$285,558,000	\$142,779,000	\$71,526,000	\$28,665,000
3:1	\$214,168,500	\$107,084,250	\$53,644,500	\$21,498,750
4:1	\$142,779,000	\$71,389,500	\$35,763,000	\$14,332,500
5:1	\$71,389,500	\$35,694,750	\$17,881,500	\$7,166,250
6:1	\$53,542,125	\$26,771,063	\$13,411,125	\$5,374,688

7:1	\$35,694,750	\$17,847,375	\$8,940,750	\$3,583,125
8:1	\$17,847,375	\$8,923,688	\$4,470,375	\$1,791,563
9:1	-	-	-	-

Table B-32. Other Annual Payment Options in the Public - 200-Foot Buffer Scenario

Annual Payment Type	Annual Payment for each Scaling Factor			
	100%	50%	25%	10%
Current Tax	\$357,330	\$178,665	\$89,503	\$35,870
Street Furniture	\$36,930,996	\$18,465,498	\$9,250,403	\$3,707,222
15% Revenue Share	\$107,084,250	\$53,542,125	\$26,822,250	\$10,749,375
30% Revenue Share	\$214,168,500	\$107,084,250	\$53,644,500	\$21,498,750
65% Revenue Share	\$464,031,750	\$232,015,875	\$116,229,750	\$46,580,625

Table B-33. Rent Payment Options in the Public - 200-Foot Buffer Scenario

Annual Rent Payment	Annual Payment for each Scaling Factor			
	100%	50%	25%	10%
\$112,500 / face	\$117,675,000	\$58,837,500	\$29,475,000	\$11,812,500
\$139,259 / face	\$145,665,185	\$72,832,593	\$36,485,926	\$14,622,222

Table B-34. Total Up-Front Payment Options in the Public - 200-Foot Buffer Scenario

Up-Front Payment Type	Total Up-Front Payment for Each Scaling Factor			
	100%	50%	25%	10%
Sign District Payment (\$134,608/face)	\$140,799,968	\$70,399,984	\$35,267,296	\$14,133,840
\$65,000/face	\$67,990,000	\$33,995,000	\$17,030,000	\$6,825,000
\$47,000/face	\$49,162,000	\$24,581,000	\$12,314,000	\$4,935,000

Table B-35. In-lieu Payment Revenue (Fixed Payment) for New/Reconstructed Off-site Digital Signs (672 Sq. Ft.) in the Single Parcel Scenario

Takedown Ratio	In-lieu Payment for each Scaling Factor			
	100%	50%	25%	10%
2:1	\$457,000,000	\$228,500,000	\$114,250,000	\$45,750,000
3:1	\$365,600,000	\$182,800,000	\$91,400,000	\$36,600,000
4:1	\$274,200,000	\$137,100,000	\$68,550,000	\$27,450,000
5:1	\$182,800,000	\$91,400,000	\$45,700,000	\$18,300,000
6:1	\$137,100,000	\$68,550,000	\$34,275,000	\$13,725,000
7:1	\$91,400,000	\$45,700,000	\$22,850,000	\$9,150,000
8:1	\$45,700,000	\$22,850,000	\$11,425,000	\$4,575,000
9:1	-	-	-	-

Table B-36. In-lieu Payment Revenue (Revenue Share) for New/Reconstructed Off-site Digital Signs (672 Sq. Ft.) in the Single Parcel Scenario

Takedown Ratio	In-lieu Payment for each Scaling Factor			
	100%	50%	25%	10%
2:1	\$499,044,000	\$249,522,000	\$124,761,000	\$49,959,000
3:1	\$374,283,000	\$187,141,500	\$93,570,750	\$37,469,250
4:1	\$249,522,000	\$124,761,000	\$62,380,500	\$24,979,500
5:1	\$124,761,000	\$62,380,500	\$31,190,250	\$12,489,750
6:1	\$93,570,750	\$46,785,375	\$23,392,688	\$9,367,313
7:1	\$62,380,500	\$31,190,250	\$15,595,125	\$6,244,875
8:1	\$31,190,250	\$15,595,125	\$7,797,563	\$3,122,438
9:1	-	-	-	-

Table B-37. Other Annual Payment Options in the Public - Single Parcel Scenario

Annual Payment Type	Annual Payment for each Scaling Factor			
	100%	50%	25%	10%
Current Tax	\$624,473	\$312,236	\$156,118	\$62,516
Street Furniture	\$64,540,977	\$32,270,488	\$16,135,244	\$6,461,159
15% Revenue Share	\$187,141,500	\$93,570,750	\$46,785,375	\$18,734,625
30% Revenue Share	\$374,283,000	\$187,141,500	\$93,570,750	\$37,469,250
65% Revenue Share	\$810,946,500	\$405,473,250	\$202,736,625	\$81,183,375

Table B-38. Rent Payment Options in the Public - Single Parcel Scenario

Annual Rent Payment	Annual Payment for each Scaling Factor			
	100%	50%	25%	10%
\$112,500 / face	\$205,650,000	\$102,825,000	\$51,412,500	\$20,587,500
\$139,259 / face	\$254,565,926	\$127,282,963	\$63,641,481	\$25,484,444

Table B-39. Total Up-Front Payment Options in the Public - Single Parcel Scenario

Up-Front Payment Type	Total Up-Front Payment for Each Scaling Factor			
	100%	50%	25%	10%
Sign District Payment (\$134,608/face)	\$246,063,424	\$123,031,712	\$61,515,856	\$24,633,264
\$65,000/face	\$118,820,000	\$59,410,000	\$29,705,000	\$11,895,000
\$47,000/face	\$85,916,000	\$42,958,000	\$21,479,000	\$8,601,000

Table B-40. In-lieu Payment Revenue (Fixed Payment) for New/Reconstructed Off-site Digital Signs (672 Sq. Ft.) in the Public - District Attribute Scenario

Takedown Ratio	In-lieu Payment for each Scaling Factor			
	100%	50%	25%	10%
2:1	\$190,000,000	\$95,000,000	\$47,500,000	\$19,000,000
3:1	\$152,000,000	\$76,000,000	\$38,000,000	\$15,200,000
4:1	\$114,000,000	\$57,000,000	\$28,500,000	\$11,400,000
5:1	\$76,000,000	\$38,000,000	\$19,000,000	\$7,600,000
6:1	\$57,000,000	\$28,500,000	\$14,250,000	\$5,700,000

7:1	\$38,000,000	\$19,000,000	\$9,500,000	\$3,800,000
8:1	\$19,000,000	\$9,500,000	\$4,750,000	\$1,900,000
9:1	-	-	-	-

Table B-41. In-lieu Payment Revenue (Revenue Share) for New/Reconstructed Off-site Digital Signs (672 Sq. Ft.) in the Public - Council District Scenario

Takedown Ratio	In-lieu Payment for each Scaling Factor			
	100%	50%	25%	10%
2:1	\$207,480,000	\$103,740,000	\$51,870,000	\$20,748,000
3:1	\$155,610,000	\$77,805,000	\$38,902,500	\$15,561,000
4:1	\$103,740,000	\$51,870,000	\$25,935,000	\$10,374,000
5:1	\$51,870,000	\$25,935,000	\$12,967,500	\$5,187,000
6:1	\$38,902,500	\$19,451,250	\$9,725,625	\$3,890,250
7:1	\$25,935,000	\$12,967,500	\$6,483,750	\$2,593,500
8:1	\$12,967,500	\$6,483,750	\$3,241,875	\$1,296,750
9:1	-	-	-	-

Table B-42. Other Annual Payment Options in the Public - Council District Scenario

Annual Payment Type	Annual Payment for each Scaling Factor			
	100%	50%	25%	10%
Current Tax	\$259,628	\$129,814	\$64,907	\$25,963
Street Furniture	\$26,833,229	\$13,416,614	\$6,708,307	\$2,683,323
15% Revenue Share	\$77,805,000	\$38,902,500	\$19,451,250	\$7,780,500
30% Revenue Share	\$155,610,000	\$77,805,000	\$38,902,500	\$15,561,000
65% Revenue Share	\$337,155,000	\$168,577,500	\$84,288,750	\$33,715,500

Table B-43. Rent Payment Options in the Public - Council District Scenario

Annual Rent Payment	Annual Payment for each Scaling Factor			
	100%	50%	25%	10%
\$112,500 / face	\$85,500,000	\$42,750,000	\$21,375,000	\$8,550,000
\$139,259 / face	\$105,837,037	\$52,918,519	\$26,459,259	\$10,583,704

Table B-44. Total Up-Front Payment Options in the Public - Council District Scenario

Up-Front Payment Type	Total Up-Front Payment for Each Scaling Factor			
	100%	50%	25%	10%
Sign District Payment (\$134,608/face)	\$102,302,080	\$51,151,040	\$25,575,520	\$10,230,208
\$65,000/face	\$49,400,000	\$24,700,000	\$12,350,000	\$4,940,000
\$47,000/face	\$35,720,000	\$17,860,000	\$8,930,000	\$3,572,000

Table B-45. In-lieu Payment Revenue (Fixed Payment) for New/Reconstructed Off-site Digital Signs (672 Sq. Ft.) in the Public - Highway Scenario A

Takedown Ratio	In-lieu Payment for each Scaling Factor			
	100%	50%	25%	10%
2:1	\$35,750,000	\$18,000,000	\$9,000,000	\$3,500,000
3:1	\$28,600,000	\$14,400,000	\$7,200,000	\$2,800,000
4:1	\$21,450,000	\$10,800,000	\$5,400,000	\$2,100,000
5:1	\$14,300,000	\$7,200,000	\$3,600,000	\$1,400,000
6:1	\$10,725,000	\$5,400,000	\$2,700,000	\$1,050,000
7:1	\$7,150,000	\$3,600,000	\$1,800,000	\$700,000
8:1	\$3,575,000	\$1,800,000	\$900,000	\$350,000
9:1	-	-	-	-

Table B-46. In-lieu Payment Revenue (Revenue Share) for New/Reconstructed Off-site Digital Signs (672 Sq. Ft.) in the Public - Highway Scenario A

Takedown Ratio	In-lieu Payment for each Scaling Factor			
	100%	50%	25%	10%
2:1	\$39,039,000	\$19,656,000	\$9,828,000	\$3,822,000
3:1	\$29,279,250	\$14,742,000	\$7,371,000	\$2,866,500
4:1	\$19,519,500	\$9,828,000	\$4,914,000	\$1,911,000
5:1	\$9,759,750	\$4,914,000	\$2,457,000	\$955,500
6:1	\$7,319,813	\$3,685,500	\$1,842,750	\$716,625
7:1	\$4,879,875	\$2,457,000	\$1,228,500	\$477,750
8:1	\$2,439,938	\$1,228,500	\$614,250	\$238,875
9:1	-	-	-	-

Table B-47. Other Annual Payment Options in the Public - Highway Scenario A

Annual Payment Type	Annual Payment for each Scaling Factor			
	100%	50%	25%	10%
Current Tax	\$48,851	\$24,596	\$12,298	\$4,783
Street Furniture	\$5,048,884	\$2,542,095	\$1,271,048	\$494,296
15% Revenue Share	\$14,639,625	\$7,371,000	\$3,685,500	\$1,433,250
30% Revenue Share	\$29,279,250	\$14,742,000	\$7,371,000	\$2,866,500
65% Revenue Share	\$63,438,375	\$31,941,000	\$15,970,500	\$6,210,750

Table B-48. Rent Payment Options in the Public - Highway Scenario A

Annual Rent Payment	Annual Payment for each Scaling Factor			
	100%	50%	25%	10%
\$112,500 / face	\$16,087,500	\$8,100,000	\$4,050,000	\$1,575,000
\$139,259 / face	\$19,914,074	\$10,026,667	\$5,013,333	\$1,949,630

Table B-49. Total Up-Front Payment Options in the Public - Highway Scenario A

Up-Front Payment Type	Total Up-Front Payment for Each Scaling Factor			
	100%	50%	25%	10%
Sign District Payment (\$134,608/face)	\$19,248,944	\$9,691,776	\$4,845,888	\$1,884,512
\$65,000/face	\$9,295,000	\$4,680,000	\$2,340,000	\$910,000
\$47,000/face	\$6,721,000	\$3,384,000	\$1,692,000	\$658,000

Table B-45. In-lieu Payment Revenue (Fixed Payment) for New/Reconstructed Off-site Digital Signs (672 Sq. Ft.) in the Public - Highway Scenario B

Takedown Ratio	In-lieu Payment for each Scaling Factor			
	100%	50%	25%	10%
2:1	\$96,750,000	\$48,500,000	\$24,250,000	\$9,750,000
3:1	\$77,400,000	\$38,800,000	\$19,400,000	\$7,800,000
4:1	\$58,050,000	\$29,100,000	\$14,550,000	\$5,850,000
5:1	\$38,700,000	\$19,400,000	\$9,700,000	\$3,900,000
6:1	\$29,025,000	\$14,550,000	\$7,275,000	\$2,925,000
7:1	\$19,350,000	\$9,700,000	\$4,850,000	\$1,950,000
8:1	\$9,675,000	\$4,850,000	\$2,425,000	\$975,000
9:1	-	-	-	-

Table B-46. In-lieu Payment Revenue (Revenue Share) for New/Reconstructed Off-site Digital Signs (672 Sq. Ft.) in the Public - Highway Scenario B

Takedown Ratio	In-lieu Payment for each Scaling Factor			
	100%	50%	25%	10%
2:1	\$105,651,000	\$52,962,000	\$26,481,000	\$10,647,000
3:1	\$79,238,250	\$39,721,500	\$19,860,750	\$7,985,250
4:1	\$52,825,500	\$26,481,000	\$13,240,500	\$5,323,500
5:1	\$26,412,750	\$13,240,500	\$6,620,250	\$2,661,750
6:1	\$19,809,563	\$9,930,375	\$4,965,188	\$1,996,313
7:1	\$13,206,375	\$6,620,250	\$3,310,125	\$1,330,875
8:1	\$6,603,188	\$3,310,125	\$1,655,063	\$665,438
9:1	-	-	-	-

Table B-47. Other Annual Payment Options in the Public - Highway Scenario B

Annual Payment Type	Annual Payment for each Scaling Factor			
	100%	50%	25%	10%
Current Tax	\$132,205	\$66,273	\$33,137	\$13,323
Street Furniture	\$13,663,763	\$6,849,535	\$3,424,767	\$1,376,968
15% Revenue Share	\$39,619,125	\$19,860,750	\$9,930,375	\$3,992,625
30% Revenue Share	\$79,238,250	\$39,721,500	\$19,860,750	\$7,985,250
65% Revenue Share	\$171,682,875	\$86,063,250	\$43,031,625	\$17,301,375

Table B-48. Rent Payment Options in the Public - Highway Scenario B

Annual Rent Payment	Annual Payment for each Scaling Factor
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	100%	50%	25%	10%
\$112,500 / face	\$43,537,500	\$21,825,000	\$10,912,500	\$4,387,500
\$139,259 / face	\$53,893,333	\$27,016,296	\$13,508,148	\$5,431,111

Table B-49. Total Up-Front Payment Options in the Public - Highway Scenario B

Up-Front Payment Type	Total Up-Front Payment for Each Scaling Factor			
	100%	50%	25%	10%
Sign District Payment (\$134,608/face)	\$52,093,296	\$26,113,952	\$13,056,976	\$5,249,712
\$65,000/face	\$25,155,000	\$12,610,000	\$6,305,000	\$2,535,000
\$47,000/face	\$18,189,000	\$9,118,000	\$4,559,000	\$1,833,000

APPENDIX C. GEOGRAPHIC SCENARIOS BY COUNCIL DISTRICT

Given that Council Districts vary widely in terms of land uses, residential areas, and general preferences, Navigant analyzed how each of the scenarios would affect the different Council Districts by using GIS to determine the maximum allowable number of billboards per Council District for each scenario. The numbers provide additional granularity to the analysis and help illustrate the impacts of each scenario.

As shown previously, the following figure and table describe the current numbers of off-site signs in each Council District:

Figure C-1. Existing Off-Site Signs by Council District

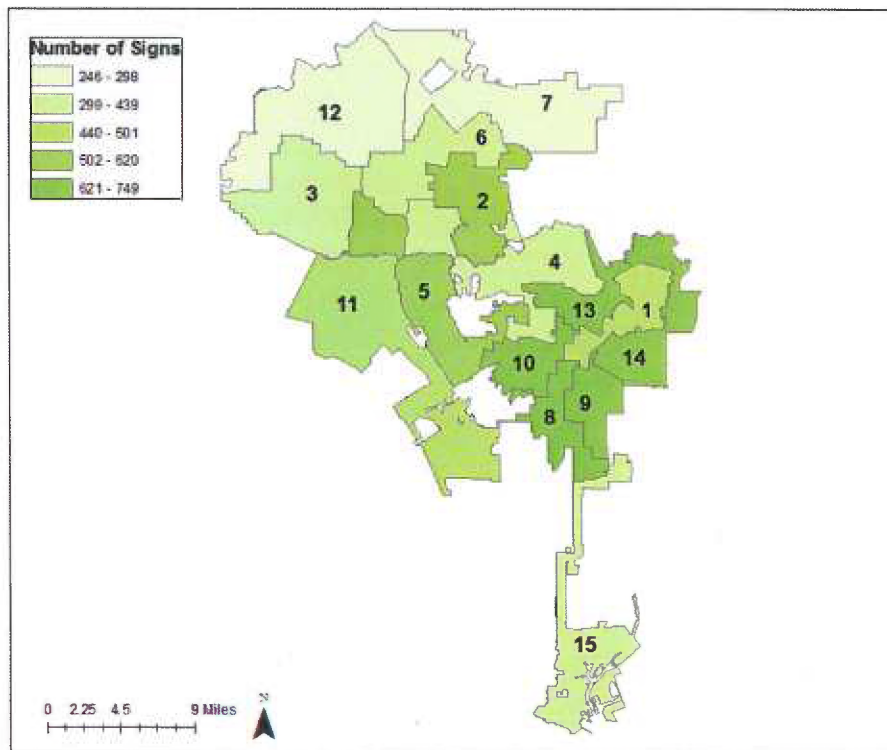


Table C-1. Existing Off-site Signs by Council District

Council District	Signs (#)	Percent of Total (%)	District Ranking
1	501	6.3%	8
2	615	7.7%	7
3	368	4.6%	13
4	414	5.2%	11
5	620	7.8%	6
6	413	5.2%	12

Council District	Signs (#)	Percent of Total (%)	District Ranking
7	298	3.7%	14
8	698	8.8%	4
9	713	9.0%	2
10	693	8.7%	5
11	477	6.0%	9
12	246	3.1%	15
13	705	8.9%	3
14	749	9.4%	1
15	439	5.5%	10
Total	7,949	100%	

Navigant did not provide breakouts for some of the scenarios due to various logistical reasons. The list below provides these exclusions and their reasoning.

- **City-wide Option District Attribute Scenario:** This scenario already includes breakouts by district, so Navigant did not include this scenario.
- **City-wide Option High Traffic by Traffic Count Scenario:** This scenario included a small set of select points based on traffic count and therefore, did not affect most of the city. Additionally, the traffic points are areas of interest and can be easily identified without conducting a geographic analysis in GIS.
- **Public Option Single Parcel Scenarios:** The City and Metro-owned properties provided by the City of Los Angeles do not completely occupy one district or another but rather overlap adjacent districts in many cases. For this reason, Navigant could not conduct an accurate geographic analysis, since the result would include a figure larger than the total number of parcels in the entire scenario.
- **Public Option District Attribute Scenario:** Navigant excluded this option for the same reasons as the City-wide Option District Attribute Scenario.

C.1 City-wide Option

Table C-2. City-wide Option 100-Foot Buffer Scenario by Council District

Council District	100-Foot Buffer Scenario (# of Billboards)
1	77
2	167
3	150
4	16
5	46
6	214

Council District	100-Foot Buffer Scenario (# of Billboards)
7	81
8	25
9	146
10	34
11	268
12	194
13	27
14	405
15	110
Total	1,960

Table C-3. City-wide Option 200-Foot Buffer Scenario by Council District

Council District	200-Foot Buffer Scenario (# of Billboards)
1	53
2	112
3	114
4	11
5	19
6	176
7	56
8	19
9	104
10	16
11	173
12	150
13	23
14	343
15	73
Total	1,442

Table C-4. City-wide Option High Traffic by Street Type Scenario (BLVDs) by Council District

Council District	High Traffic Scenario (# of Billboards)
1	1
2	25
3	11
4	6
5	19
6	38
7	3
8	0
9	6
10	0
11	89
12	15
13	0
14	28
15	32
Total	273

Table C-5. City-wide Option Tier 1 by Council District

Council District	Tier 1 Sign District Scenario (# of Billboards)
1	8
2	0
3	59
4	0
5	8
6	0
7	0
8	6
9	2
10	0
11	107
12	18

Council District	Tier 1 Sign District Scenario (# of Billboards)
13	8
14	154
15	2
Total	372

C.2 Public Option

Table C-6. Public Option 100-Foot Buffer Scenario by Council District

Council District	100-Foot Buffer Scenario (# of Billboards)
1	68
2	74
3	30
4	16
5	45
6	105
7	58
8	31
9	51
10	25
11	221
12	58
13	29
14	212
15	71
Total	1,094

Table C-7. Public Option 200-Foot Buffer Scenario by Council District

Council District	200-Foot Buffer Scenario (# of Billboards)
1	51
2	39
3	18
4	32
5	19

Council District	200-Foot Buffer Scenario (# of Billboards)
6	80
7	34
8	17
9	34
10	10
11	176
12	37
13	17
14	183
15	28
Total	775

Table C-8. Public Option Highway Scenario A by Council District

Council District	Highway Scenario A (# of Billboards)
1	3
2	3
3	2
4	0
5	0
6	2
7	10
8	0
9	0
10	0
11	65
12	2
13	1
14	11
15	7
Total	106

Table C-9. Public Option Highway Scenario B by Council District

Council District	Highway Scenario B (# of Billboards)
1	10
2	8
3	5
4	0
5	12
6	5
7	17
8	4
9	1
10	0
11	141
12	20
13	3
14	30
15	31
Total	287