

DOWNTOWN MANAGEMENT COMMISSION
June 6, 2016
5:30 pm
Regular Meeting
Council Chambers, 1777 Broadway
AGENDA

1. Roll Call
2. Election of Officers
3. Approval of May 2, 2016 Meeting Minutes
4. Public Participation
5. Police Update
6. Update on Canyon Complete Street Meeting – Walsh
7. Parks Update
8. BID Update
9. CAGID Higher Employment Projections - Becher
10. Matters from Commissioners
 - a. Report on Civic Area Meeting
 - b. Report Meeting Date with City Council Representatives
11. Matters from Staff
 - a. Retreat Date
 - b. Status of Candidates for DMC
 - c. Special Recognition for Kurt Matthews
12. Action Summary

Attachments

- Meeting Minutes – May 2, 2016
- Sales and Use Tax Revenue Report – March 2016
- Police Stats
- Downtown Boulder Open/Close List
- Update on Canyon Boulevard Complete Street Study
- Higher Development Projection Report

Upcoming Meetings/Topics

DMC Meeting July 11, 2016

Commissioner Terms

Scott Crabtree: 2012-2017 Citizen at Large
Eli Feldman: 2015-2020 Property Rep
TBD 2016-2018 Property Rep
Sue Deans 2014-2019 Property Rep
Jerry Shapins 2016-2021 Citizen at Large

DMC 2016 Priorities:

-Work with City Council and other boards and commissions, and RTD to educate and increase understanding of current downtown parking supply /demand and future needs.
- Work with the City Council, other boards and commissions, and RTD to increase awareness and understanding of all modes of transportation used by residents and visitors to access downtown, and the need to increase downtown's accessibility.
- Increase discourse and understanding of impacts the homeless population on downtown Boulder and opportunities for long-term solutions.

**CITY OF BOULDER, COLORADO
BOARDS AND COMMISSIONS MEETING MINUTES**

NAME OF BOARD/COMMISSION: **DOWNTOWN MANAGEMENT COMMISSION**

NAME/TELEPHONE OF PERSON PREPARING SUMMARY: **Ruth Weiss – 303-413-7318**

NAMES OF MEMBERS, STAFF, AND INVITED GUESTS PRESENT:

BOARD MEMBERS: **CRABTREE, SHAPINS, DEANS, FELDMAN**

STAFF: **WINTER, LANDRITH, JOBERT, SMITH, WEISS, HAYDEN, CONNELLY,
MATTHEWS, McELDOWNEY, GUIBERT, TESTA, EARP, RAHN, SCHWARTZ**

GUESTS: **Sean Maher, Maddie Steen,**

TYPE OF MEETING: **1777 West Conference Room** **May 2, 2016**

AGENDA ITEM 1 – Meeting/Roll Call: Called to order at 5:30 p.m.

AGENDA ITEM 2 – Election of Officers: hold for next meeting

AGENDA ITEM 3 – Approval of the April 4, 2016 Meeting Minutes: (see below)

AGENDA ITEM 4 – Public Participation: None

AGENDA ITEM 5 – Police Update: McEldowney said there is nothing earth shattering.

AGENDA ITEM 6 – Parks Update: Winter said that Hayden has accepted the Urban Parks Manager position.

AGENDA ITEM 7 – BID Update: None

AGENDA ITEM 8 – Update on Homeless Strategy – Karen Rahn/Wendy Schwartz: Rahn introduced herself and Wendy Schwartz. Rahn said that the city has been working for five years to address homelessness in the city: regional coordination and collaboration partnerships with more permanent solutions and putting resources where there is the highest yield. There are deliberate strategies to provide the necessary services. Schwartz gave a presentation. Schwartz said there are approximately 500 homeless with 1 in 5 being chronically homeless. Deans thought there were 1200 homeless and Schwartz said that it is dependent on area. The reasons for homelessness were presented. City funding and support was discussed. Issues such as housing as a proven solution, challenges with reliable data and system coordination, behaviors vs. housing status issues with mental health, addiction and poverty were discussed. Goals of the strategy and current initiatives were presented with regional partnerships, having a countywide effort, 7 counties with one regional housing list with its needs as a pilot being done for the last 1.5 years. Housing options with rental assistance from a \$600,000 grant to help people get back on their feet discussed. There is now a Homeless Service Collaborative Pilot for those beyond emergency services and there has been more engagement. There is a High Utilizer Project to look at homeless with the most violations to get them out of the cycle and into services. The Project EDGE is for people with mental health issues and is in conjunction with the BPD. Other issues with enforcement and service engagement, diversion from justice system, travelers and ongoing housing challenges were discussed with ongoing challenges on data. For the homeless strategies, there is a Kick Off Open House on May 18, a draft plan by August 2016 and looking forward to council adoption of the strategy in the 4th quarter of 2016.

Chief Greg Testa said the police are focusing to collaborate and work with DBI on the mall and Muni campus to address homeless issues, police staffing discussed, and two officer homeless teams that will work with engagement referral to deal with specific problems. Enforcement is a balance in terms when to issue a ticket or when to issue a warning. The goal is to modify behavior. Feldman questioned if the enforcement team worked in uniform? Testa confirmed the uniforms since they may be called to handle other criminal activity. Feldman asked if special training for the team would occur. Testa replied that his staff is trained to deal with the homeless. Feldman questioned the resources being used to treat the homeless. Testa said that people are not tracked by their homeless status and that 12 officers out of the 181 staff work in this area. Feldman asked if there are any issues or policy that DMC can support for the police. Crabtree asked if warnings are tracked and Testa said no. There is no mechanism currently to track warnings. Deans questioned the impact of homeless from other cities and does this happen and what can be done. Testa said that there is contact with folks from

Denver and he has no knowledge if Denver is sending their homeless here. Deans said that from the Portland trip, it was noted that the camps were useful. Rahn said that the Portland and Eugene have more temperate weather than Boulder and one option of stick built housing. They have more vacant land for commercial and industrial for non-profits to create the communities. Shapins said the presentation was great and wished the focus would be on achievable goals and how to make them work. Deans said there is a continuing issue downtown and appreciates that it is being focused upon, as it's an impact to downtown. Feldman said that he agreed with Shapins and the focus should be permanent fixes with housing.

AGENDA ITEM 9 - Draft of Resilient Strategic Plan – Greg Guibert, Chief Resilience Officer: Guibert is looking for feedback on this overview. Boulder was selected and funded by the Rockefeller Foundation. Urban resilience is the capacity of individuals, communities and institutions, businesses, and systems within a city to survive, adapt and thrive no matter what kinds of chronic stresses and acute shocks. It is not a recovery or disaster preparedness plan. Guibert continued that it is not all encompassing. Challenges were discussed nature, ecological and social stresses, and rising housing. The vision and strategies, actions and frontiers were presented along with economic strengths and connection to the business community. Partner and innovate, then transform and integrate which is what the government can do that will live on for generations. A question for the commission is there anything missing for the draft strategy. Are there actions that align well with your strategic roadmap? Deans asked if the city and the university were part of this effort. The reply was affirmative. Shapins suggested diving into the future of Boulder to create a common ground and make action around it. Crabtree found the tying in with businesses and what drives our economy should make sure that growth is part of the cultivation. Feldman said that transportation and parking issues bringing people downtown encourage with technological growth and what it means for our community.

AGENDA ITEM 11 - Matters from the Commissioners:

AGENDA ITEM 12 – Matters from the Staff: Upcoming meetings were discussed; Winter said that Matthews last DMC meeting will be in June. Parking manager candidates discussed. Two applicants submitted for appointment the commission. Trinity Commons is going to council tomorrow night.

AGENDA ITEM 13 – Action Items:

Infographic Refinement – Smith

Higher density development scenarios examination by RRC and FTH including modifications to the presentation and materials on development projections to include a scenario with high employee density, and demand rate with different options.

Meeting with Crabtree and Feldman before the next DMC meeting regarding the higher density scenario.

Meeting adjourned at 6:37 pm.

ACTION ITEMS:

MOTION: Shapins motioned to approve the April 4, 2016 meeting minutes. Feldman seconded the motion. All commissioners were in favor and the motion passed unanimously.

June 6, 2016

Council Chambers

Regular Meeting

APPROVED BY:

DOWNTOWN MANAGEMENT COMMISSION

Attest:

Ruth Weiss, Secretary

City of Boulder

Sales & Use Tax Revenue Report

March 2016

Issued May 24, 2016

This report provides information and analysis related to 2016 Year-to-Date (YTD) sales and use tax collections. Results are for actual sales activity through the month of March, the tax on which is received by the city in the subsequent month. For clarification of any information in this report, please contact Patrick Brown, Revenue & Licensing Officer, at (303) 441-3921 or brownp@bouldercolorado.gov.

REVENUE COMPARISONS TO COMPARABLE PERIOD IN PRIOR YEAR

As reflected in Table 1, Sales and Use Tax has increased from the comparable 2015 base by 2.92%.

**TABLE 1
ACTUAL SALES AND USE TAX REVENUE**

TAX CATEGORY	% CHANGE IN REVENUE Increase/(Decrease)	% OF TOTAL
Sales Tax	(0.35%)	72.96%
Business/Consumer Use Tax	26.92%	12.79%
Construction Use Tax	1.50%	11.32%
Motor Vehicle Use Tax	7.92%	2.92%
Total Sales & Use Tax	2.92%	100.00%

Any time a new commodity (such as recreational marijuana) becomes taxable, it generates additional revenue and increases the prior year revenue "base," but the percentage increase in revenue may distort perception of the strength of the underlying economy. For that reason, Table 2 is presented to illustrate sales and use tax revenue excluding the incremental revenue of 3.5% from the sale of recreational marijuana.

**TABLE 2
ACTUAL SALES AND USE TAX REVENUE, EXCLUDING THE INCREMENTAL REVENUE OF 3.50% FROM THE SALE OF RECREATIONAL MARIJUANA**

TAX CATEGORY	% CHANGE IN REVENUE Increase/(Decrease)	% OF TOTAL
Sales Tax	(0.74%)	72.72%
Business/Consumer Use Tax	26.78%	12.89%
Construction Use Tax	1.50%	11.43%
Motor Vehicle Use Tax	7.92%	2.95%
Total Sales & Use Tax	2.64%	100.00%

COMMUNITY, CULTURE AND SAFETY FACILITIES TAX

For March 2016 YTD, the Community, Culture and Safety Tax (an additional 0.30%, effective for 3 years beginning January 1, 2015) generated \$2,167,723. This tax is dedicated to fund a variety of projects in the Civic area along the Boulder Creek Path and on University Hill as well as improvements for several culturally oriented projects.

DETAILED ANALYSIS OF MAJOR CATEGORIES

The following monthly information is provided to identify trends in the various retail categories. While this information is useful, it is important to remember that relatively small aberrations (like the timing of remittances by certain vendors) can make relatively large monthly variances.

Retail Sales Tax – March YTD retail sales tax revenue was down 0.35% from that received in 2015. Retail sales tax started trending downward during the last half of 2015 and is being watched closely. Fortunately, the city has adequate reserves that provide time for staff to determine if this trend is short term in nature, or if it is longer term and revenue projections will need to be revised.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
5.69%	(2.88%)	(2.80%)									

Food Stores - YTD retail sales tax revenue for food stores was up by 1.23% from that received in 2015. The fluctuation from January to February is primarily due to companies who file thirteen four-week periods instead of reporting monthly. Companies who file thirteen four-week periods do so for reporting purposes. Each reporting period will then have the same number of days. Since the city reports monthly, there is one month out of the year where our report contains two filing periods for these companies. February 2016 contained two filing periods.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
(13.86%)	20.32%	0.68%									

Sales at **Eating Places** are both an important revenue source (Eating Places comprise approximately 12.26% of sales/use tax) and are often an indicator of the health of the economy in the city. This discretionary category is often correlated with disposable income and consumer confidence. Total March 2016 YTD retail tax at Eating Places is up by 4.20%.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
5.95%	11.93%	(4.38%)									

Apparel Stores - YTD retail sales were up by 7.73%. The fluctuation from January to February is attributed to the timing of receipts received in 2016 as compared to 2015.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
53.45%	(7.20%)	(0.50%)									

General Retail sales are up by 0.78% YTD. The fluctuation from January to February is attributed to the timing of receipts received in 2016 as compared to 2015.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
9.89%	(14.03%)	6.78%									

Public Utilities (primarily retail sales tax on natural gas and electricity) are down by 11.22% YTD. Tax on Public Utilities comprises over 4% of total sales and use tax revenue. Even if rates increase, the direction for this category may be uncertain if conservation strategies are successful and businesses significantly cut their energy use. According to a 2006 study by the City of Boulder, commercial and industrial sector energy use makes up 83% of Boulder's energy use.

TOTAL MARIJUANA REVENUE

The latest new revenue categories for the City of Boulder are the sale of both medical and recreational marijuana. These sources represented 0.77% and 1.87% of the total sales/use tax collected respectively in 2015.

The sale of medical marijuana generates:

- 3.86% sales and use tax on product sales paid by the purchaser and/or costs of any construction materials, furniture, fixtures, or equipment paid by the business.

Significant YTD increases / decreases by sales/use tax category are summarized in Table 3.

TABLE 3

2016 YTD RETAIL SALES TAX (% Change in Comparable YTD Collections)	
STRENGTHS: <ul style="list-style-type: none"> ▪ Food Stores up by 1.23% ▪ Eating Places up by 4.20% ▪ Apparel Stores up by 7.73% ▪ Home Furnishings up by 3.90% ▪ General Retail up by 0.78% ▪ Building Material Retail up by 1.98% ▪ Recreational Marijuana up by 43.07% ▪ All Other up by 3.58% ▪ Downtown up by 8.37% ▪ N. Broadway Annex up by 8.60% ▪ University of Colorado up by 9.08% ▪ Basemar up by 7.74% ▪ BVRC (excl 29th St) up by 0.20% ▪ Twenty-Ninth St up by 0.61% ▪ Table Mesa up by 0.41% ▪ The Meadows up by 20.01% ▪ All Other Boulder up by 6.17% ▪ Boulder County up by 11.82% ▪ Gunbarrel Commercial up by 9.31% ▪ Pearl Street Mall up by 2.21% 	WEAKNESSES: <ul style="list-style-type: none"> ▪ Transportation/Utilities down by 7.07% ▪ Automotive Trade down by 0.90% ▪ Consumer Electronics down by 25.43% ▪ Computer Related Business down by 37.09% ▪ Medical Marijuana down by 35.67% ▪ Downtown Extension down by 18.21% ▪ UHGID (the "hill") down by 2.78% ▪ N. 28th St Commercial down by 2.84% ▪ Metro Denver down by 7.38% ▪ Gunbarrel Industrial down by 5.83% ▪ Boulder Industrial down by 7.39%

2015 USE TAX (% Change in YTD Comparable Collections)	
STRENGTHS: <ul style="list-style-type: none"> ▪ Construction Use Tax up by 1.50% (when adjusted to exclude dedicated Boulder Junction tax in both years, down by 33.30%) ▪ Motor Vehicle Use Tax up by 7.92% ▪ Business Use Tax up by 26.92% 	WEAKNESSES: <ul style="list-style-type: none"> ▪ Construction Use Tax up by 1.50% (when adjusted to exclude dedicated Boulder Junction tax in both years, down by 33.30%)

BUSINESS USE TAX

March YTD Business Use Tax is up by 26.92%. This tax category can be very volatile as it is associated primarily with the amount and timing of purchase of capital assets by businesses in the city and the amount and timing of audit revenue. A significant portion of this amount is one time in nature and is not expected to reoccur in future months. Therefore, it is expected that the year-to-date increase will come back to expectations in future months.

MOTOR VEHICLE USE TAX

March YTD Motor Vehicle Use Tax is up by 7.92%, this tax category applies to the purchase of vehicles registered in the city. As individuals and businesses became more confident about jobs and the economy, they have replaced their vehicles and thus reduced the average age of their fleet. Nationally, sales have slowed. If this trend continues we may see revenue in this category flatten or even decrease for the total year.

CONSTRUCTION USE TAX

Construction Use Tax is up by 1.50% YTD. This is another very volatile tax category as it depends upon the number and timing of construction projects in any given period. Revenue in this category assumes "base" number of projects will continue indefinitely, plus revenue from large projects in the "pipeline" (based upon a review of information from the City Planning Department and the CU Capital Improvement Plan). Even when we know projects are pending, the timing of payment of Construction Use Tax is unknown. It can occur in the prior or subsequent year to the planned construction date. While there have been several large construction projects in the City it is known this level of activity cannot continue forever. Therefore, it is important that we not commit to ongoing operating expenses from this revenue source, as it will eventually decline. February YTD dollars includes significant revenue from permitting related to construction of below-grade parking structures, office buildings and a hotel.

ACCOMMODATION TAX

March YTD Accommodation Tax revenue is up by 7.64% from the same period in 2015. This increase is attributed to the timing of receipts received in 2016 as compared to 2015.

ADMISSIONS TAX

Year-to-date 2016 Admission Tax revenue is down by 11.61% from the same period in 2015. Admissions Tax collections are dependent on the number of taxable productions and events held in the City and the level of attendance at such events.

TRASH TAX

March YTD Trash Tax receipts are up by 0.20%. On-going Trash Tax remittances are due on a quarterly basis.

SHORT-TERM RENTAL (ACCOMMODATIONS) TAX

Pursuant to a vote in November 2015, for January 2016 YTD, the newly enacted Short-Term Rental Tax (homeowners renting out their property for less than 30 days at a time (7.50% tax rate)) has generated \$9,881. As of the date of this report, 194 Short Term Rental licenses have been issued.

Total Net Sales/Use Tax Receipts by Tax Category	MARCH YTD Actual			
	2015	2016	% Change	% of Total
Sales Tax	23,594,451	23,512,611	-0.35%	72.96%
Business Use Tax	3,248,639	4,123,230	26.92%	12.79%
Construction Use Tax	3,594,928	3,648,753	1.50%	11.32%
Motor Vehicle	873,276	942,438	7.92%	2.92%
Total Sales and Use Tax	31,311,293	32,227,032	2.92%	100.00%

Total Net Sales/Use Tax Receipts by Industry Type	MARCH YTD Actual			
	2015	2016	% Change	% of Total
Food Stores	4,125,012	4,169,828	1.09%	12.94%
Eating Places	3,714,660	3,883,527	4.55%	12.05%
Apparel Stores	906,894	994,489	9.66%	3.09%
Home Furnishings	726,323	751,644	3.49%	2.33%
General Retail	5,652,074	7,873,713	39.31%	24.43%
Transportation/Utilities	2,434,549	2,213,355	-9.09%	6.87%
Automotive Trade	2,033,120	2,091,465	2.87%	6.49%
Building Material - Retail	835,551	845,549	1.20%	2.62%
Construction Sales / Use Tax	3,530,822	2,974,744	-15.75%	9.23%
Consumer Electronics	635,022	471,047	-25.82%	1.46%
Computer Related Business Sector	2,442,134	1,528,865	-37.40%	4.74%
Rec Marijuana	449,126	651,354	45.03%	2.02%
Medical Marijuana	302,723	194,125	-35.87%	0.60%
All Other	3,523,283	3,583,328	1.70%	11.12%
Total Sales and Use Tax	31,311,293	32,227,032	2.92%	100.00%

Total Net Sales/Use Tax Receipts by Geographic Area	MARCH YTD Actual			
	2015	2016	% Change	% of Total
North Broadway	329,296	366,804	11.39%	1.08%
Downtown	2,001,112	2,934,236	46.63%	7.51%
Downtown Extension	204,420	183,698	-10.14%	0.56%
UHGD (the "hill")	310,011	301,725	-2.67%	0.84%
East Downtown	179,751	181,679	1.07%	0.47%
N. 28th St Commercial	1,523,842	1,520,998	-0.19%	3.61%
N. Broadway Annex	104,983	114,804	9.35%	0.28%
University of Colorado	326,796	358,297	9.64%	2.19%
Basemar	548,976	596,367	8.63%	1.96%
BVRC-Boulder Valley Regional Center	6,032,163	7,126,720	18.15%	28.28%
29th Street	1,933,647	2,059,670	6.52%	7.48%
Table Mesa	666,704	683,751	2.56%	2.28%
The Meadows	304,336	351,911	15.63%	1.23%
All Other Boulder	2,116,331	1,941,820	-8.25%	6.25%
Boulder County	271,259	278,897	2.82%	0.64%
Metro Denver	2,924,157	945,435	-67.67%	2.14%
Colorado All Other	191,661	125,524	-34.51%	0.26%
Out of State	2,954,853	3,249,295	9.96%	8.00%
Airport	9,430	48,484	414.15%	0.08%
Gunbarrel Industrial	1,958,764	2,805,000	43.20%	5.27%
Gunbarrel Commercial	337,458	369,138	9.39%	1.06%
Pearl Street Mall	774,957	792,169	2.22%	2.27%
Boulder Industrial	2,887,286	2,539,245	-12.05%	8.46%
Unlicensed Receipts	68,668	100,301	46.07%	0.00%
County Clerk	873,276	942,438	7.92%	2.96%
Public Utilities	1,477,158	1,308,627	-11.41%	4.83%
Total Sales and Use Tax	31,311,293	32,227,032	2.92%	100.00%

Miscellaneous Tax Statistics	MARCH YTD Actual		
	2015	2016	% Change
Food Service Tax	148,750	154,875	4.12%
Accommodations Tax	1,160,558	1,249,200	7.64%
Admissions Tax	144,758	127,946	-11.61%
Trash Tax	417,559	418,390	0.20%
Disposable Bag Fee	66,248	66,814	0.85%
Rec Marijuana Excise Tax	223,919	220,847	-1.37%
Short-Term Rental Tax	-	9,881	

COMPARISON OF YEAR-TO-DATE ACTUAL REVENUE FOR THE YEAR 2016 TO COMPARABLE PERIOD IN 2015

USE TAX BY CATEGORY			Standard Industrial Code	SALES TAX BY CATEGORY		
MARCH YTD Actual				MARCH YTD Actual		
2015	2016	% Change		2015	2016	% Change
27,290	21,582	-20.92%	Food Stores	4,097,722	4,148,246	1.23%
62,840	78,492	24.91%	Eating Places	3,651,820	3,805,035	4.20%
3,872	21,672	459.71%	Apparel Stores	903,021	972,817	7.73%
6,013	3,248	-45.98%	Home Furnishings	720,310	748,396	3.90%
643,138	2,825,750	339.37%	General Retail	5,008,936	5,047,963	0.78%
134,391	75,737	-43.64%	Transportation/Utilities	2,300,158	2,137,618	-7.07%
891,668	960,274	7.69%	Automotive Trade	1,141,453	1,131,190	-0.90%
9,995	3,687	-63.11%	Building Material - Retail	825,555	841,862	1.98%
3,421,751	2,820,060	-17.58%	Construction Sales / Use Tax	109,071	154,684	41.82%
19,704	12,225	-37.96%	Consumer Electronics	615,318	458,823	-25.43%
1,545,580	964,811	-37.58%	Computer Related Business Sector	896,554	564,054	-37.09%
5,284	16,355	209.52%	Rec Marijuana	443,842	634,998	43.07%
4,839	2,509	-48.15%	Medical Marijuana	297,884	191,616	-35.67%
940,477	908,020	-3.45%	All Other	2,582,807	2,675,308	3.58%
7,716,842	8,714,421	12.93%	Total Sales and Use Tax	23,594,451	23,512,611	-0.35%

USE TAX BY CATEGORY			Geographic Code	SALES TAX BY CATEGORY		
MARCH YTD Actual				MARCH YTD Actual		
2015	2016	% Change		2015	2016	% Change
5,745	23,332	306.13%	North Broadway	323,551	343,471	6.16%
331,053	1,124,401	239.64%	Downtown	1,670,059	1,809,835	8.37%
-6,853	10,901	-259.07%	Downtown Extension	211,273	172,797	-18.21%
1,504	1,788	18.88%	UHGD (the "hill")	308,507	299,937	-2.78%
17,434	12,438	-28.66%	East Downtown	162,317	169,241	4.27%
43,529	82,701	89.99%	N. 28th St Commercial	1,480,313	1,438,297	-2.84%
3,009	4,060	34.93%	N. Broadway Annex	101,975	110,744	8.60%
0	1,845	#DIV/0!	University of Colorado	326,796	356,453	9.08%
17,245	23,455	36.01%	Basemar	531,730	572,912	7.74%
237,657	1,320,773	455.75%	BVRC-Boulder Valley Regional Center	5,794,506	5,805,947	0.20%
11,179	125,434	1022.05%	29th Street	1,922,467	1,934,236	0.61%
9,455	23,801	151.73%	Table Mesa	657,249	659,951	0.41%
13,403	2,773	-79.31%	The Meadows	290,933	349,138	20.01%
1,192,301	960,792	-19.42%	All Other Boulder	924,030	981,028	6.17%
60,866	43,630	-28.32%	Boulder County	210,393	235,267	11.82%
2,032,185	119,252	-94.13%	Metro Denver	891,972	826,184	-7.38%
11,333	26,591	134.63%	Colorado All Other	180,329	98,933	-45.14%
115,776	380,402	228.57%	Out of State	2,839,077	2,868,893	1.05%
359	38,548	10637.60%	Airport	9,071	9,936	9.54%
1,696,884	2,558,383	50.77%	Gunbarrel Industrial	261,879	246,617	-5.83%
1,653	2,056	24.38%	Gunbarrel Commercial	335,805	367,081	9.31%
8,185	8,420	2.87%	Pearl Street Mall	766,772	783,749	2.21%
1,017,526	807,627	-20.63%	Boulder Industrial	1,869,760	1,731,618	-7.39%
123	41,755	33847.15%	Unlicensed Receipts	68,545	58,546	-14.59%
873,276	942,438	7.92%	County Clerk	0	0	
22,016	26,826	21.85%	Public Utilities	1,455,143	1,281,801	-11.91%
7,716,842	8,714,421	12.93%	Total Sales and Use Tax	23,594,451	23,512,611	-0.35%

COMMERCIAL AND RESIDENTIAL MALL POLICE CALL STATISTICS

MONTH	Assault		Auto Theft		Burglary		Crim. Mis.		Crim. Tres.		Disturbance		Domestic		Drunk		DUI		Felony Menacing		Fight	
	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015
January	1	3					4	3	2		24	23	1	1	10	18	3	5				
February	2	1					4	4	1	2	19	27	1	4	9		3	9				
March	5	5			1	1	6	8	1		30	25	3	1	5	12		6				
April	2						4				15		1		11							
May	5	6					3	3	1		20	15	3	3	8	10	3	3				
June																						
July																						
August		2						6		1		37		3		13						
September		3						2				30		1		8						
October		4						3				28		5		4		1				
November		2				2		4		1		21		1		18		2				
December		4								1		22				8						
MONTH	Fireworks		Hang Ups		Harassment		Indec. Exp.		Liq. Law Vio.		Littering		Loitering		Narcotics		Noise		Open Door		Party	
	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015
January			1	8	3	3		1					7	10	6	1					1	
February			7	11	9	8							5	11	3	4				2		
March			7	3	4	8	2						12	8	10	4				1		
April			5		6		1		1				10		7					1		
May			9	6	11	7	1		2	2			15	21	3	7				1		
June																						
July																						
August				13		10		1						8		3					1	
September				8		2		2		10				6		10						
October				7		7		1						3		2					1	
November				3		2								7		7					3	
December				5		6				2				9		10					2	
MONTH	Prowler		Robbery		Sex Assault		Shoplifting		Shots		Stabbing		Suicide		Suspicious		Theft		Trespass		Weapon	
	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015
January					2										2	2	19	15				
February						1									5	1	9	18				
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September																4		31				
October						1										2		16				
November						1										2		22				
December						1										2		21				



CITY OF BOULDER
JOINT ADVISORY BOARDS MEETING MEMORANDUM

TO: Members of Transportation Advisory Board, Parks and Recreation Advisory Board, Landmarks Board, Design Advisory Board, Planning Board, Downtown Management Commission, Library Commission

FROM: Michael Sweeney, Director of Public Works for Transportation
Gerrit Slatter, Principal Engineer for Capital Projects
Bill Cowern, Acting Traffic Engineer
Kathleen Bracke, GO Boulder Manager
Noreen Walsh, Senior Transportation Planner
Dave Kemp, Senior Transportation Planner
Natalie Stiffler, Transportation Planner II
Jeff Haley, Parks Planning Manager
James Hewat, Senior Historic Preservation Planner

DATE: May 9, 2016

SUBJECT: Joint Advisory Board meeting to discuss and provide feedback on the Canyon Boulevard Complete Street Study conceptual design options and the proposed evaluation measures.

EXECUTIVE SUMMARY:

The purpose of the May 18 Joint Boards meeting is to gain feedback from the seven related Boards and Commissions to this study on the Canyon Boulevard conceptual design options developed to improve travel and the travel experience along and across Canyon Boulevard from 9th to 17th streets. This feedback will be summarized and presented at the May 31 City Council Study Session on Canyon Boulevard Complete Street Study. The feedback will also be considered during the design options assessment work to be conducted this summer which will help to create a recommended design option for Canyon Boulevard.

The Boulder Civic Area Plan process envisioned improvements along and across the roadway to create greater connection and access to and through the area as well as better connections between the downtown, Civic Area and University Hill areas. The 2014 Transportation Master Plan (TMP) update also identified Canyon Boulevard for a corridor study which is an integrated planning effort coordinating with other plans and work efforts including the Civic Area Master Plan, East Arapahoe Transportation Study, FasTracks Local Optimization Downtown Transit Station study, potential historic resources, landmark designation and landmark alteration certificate review processes, downtown design guidelines, floodplain regulations and the goals and objectives of the TMP.

The Canyon Boulevard Complete Street Study has been underway since late 2015 and work completed so far includes:

- assemblage of the project staff team and an understanding of the existing conditions
- interviews with project staff team stakeholders to identify Canyon Boulevard's strengths, weaknesses, opportunities and constraints
- development of a Vision for Canyon Boulevard as well as a set of goals and objectives to reach to achieve the vision
- development of seven conceptual design options with different combinations of the complete streets features, and
- creation of measures which reflect the Study's Goals and Objectives upon which to evaluate the conceptual design options so that the study can arrive at a recommended design option

This memorandum is organized with the following sections of information to allow an understanding of the study, existing conditions and the conceptual design options and proposed evaluation measures developed to date:

1. Background
2. Description of the Conceptual Design Options
3. Proposed Evaluation Measures
4. Community Feedback
5. Next Steps

BACKGROUND:

The City of Boulder has initiated the Canyon Boulevard Complete Street Study to improve travel and the travel experience for pedestrians, bicyclists, transit users and drivers along and across Canyon Boulevard from 9th to 17th streets. The study and potential improvements to Canyon Boulevard have been identified through previous planning efforts including the Civic Area Plan and the TMP update.

This section of roadway is part of the SH119/CDOT State Highway System and is classified as a principal arterial roadway in the City of Boulder with vehicle volumes ranging from approximately 11,000 vehicles at 9th Street to over 20,000 at 17th Street as well as pedestrians, bicyclists and transit users. Locally, Canyon Boulevard serves people traveling to and through the City by all modes and regionally it links Boulder to the Town of Nederland to the west.

This study is an integrated planning effort coordinating with other plans and work efforts including the Civic Area Master Plan, East Arapahoe Transportation Study, FasTracks Local Optimization Downtown Transit Station study, historic resources and landmark preservation processes, downtown design guidelines, floodplain regulations and the 2014 Transportation Master Plan.

The project staff team is composed of representatives from the city's transportation division and the community planning and sustainability, parks and recreation departments as well as CDOT and RTD staff representatives. Project staff team meetings began in late 2015 with a walk audit of the area and meetings to discuss and listen to the strengths, weaknesses, opportunities and constraints as identified by the project team members. From these meetings the team developed a Vision for the Canyon Boulevard Complete Street Study which is:

Vision:

Canyon Boulevard will become a more accessible, safe, and inviting travel experience for pedestrians, bicyclists, transit and cars traveling across and along the corridor.

Canyon Boulevard serves as a vital connection, a linkage between the natural landscape of Boulder Canyon and Civic Area and the urban activities of the City. It will continue to serve as a transportation nexus for Boulder, moving people to and through the area, serving as both an important destination and a connector. Canyon Boulevard will combine the location's history and natural elements with the contemporary need for equity and mobility, providing increasing transportation options into the future.

This vision developed into a set of Goals and Objectives to achieve to reach the above vision. The goals and objectives are reflected in the proposed measures to be used to evaluate the conceptual design options so that the recommended option best reaches the vision for Canyon Boulevard. Further information on the proposed measures will be included later in this memorandum.

The project team has also been reviewing the existing conditions which included gathering information about the travel modes as well as an understanding of the urban design and planning contexts, and environmental considerations. A summary of the strengths, weaknesses, opportunities and constraints (SWOT) derived from the project staff team stakeholder interviews is included in the Existing Conditions Summary in **Attachment A**. Some of the most commented-on features of the corridor were the mid-block pedestrian crossings, Glen Huntington Band Shell and the Downtown Boulder Station.

Within the existing conditions summary is a description of the transportation facilities which notes that Canyon Boulevard is a four-lane, divided arterial with two lanes of traffic in each direction, a posted speed limit of 35 miles per hour, six signalized intersections and left-turn storage bays at all nine intersections. Transit service within Canyon Boulevard is provided by RTD and the Downtown Boulder Station is within the Study area. On-street bicycling occurs within a shared-use facility within the roadway and the Boulder Creek Path provides a nearby off-street facility. Pedestrian facilities include sidewalks on both sides of Canyon Boulevard and all but one intersection has pedestrian facilities across Canyon Boulevard including traffic signals and rapid flashing beacons, painted marking and vehicle yield signs.

The planning context includes the plans listed above as well as improvements in the near term to redevelop Civic Area. The urban design context includes information about the zoning setback requirements and existing adjacent land uses such as the Civic Area Park on the south side and its historic resources including the Glen Huntington Band Shell (1938) and the Municipal Building (1952).

DESCRIPTION OF THE CONCEPTUAL DESIGN OPTIONS:

The development of the conceptual design options was informed by the Civic Area Plan, TMP and other related planning work as well as the findings from the SWOT interviews and collection of existing conditions information.

All of the conceptual design options are within the 130 foot Complete Streets planning width which reflects the space available on Canyon Boulevard from zoning setback requirements outlined in Ordinance 7813 which amended the Land Use Code. The 130 foot Complete Streets planning width also allows for all modal facilities and the urban design feature of a double row of trees amenity zone along the south side of Canyon Boulevard. Features of a Complete Street include:

- ❖ *Gathering spaces* – Parks, plazas, and courtyard creating destinations along the street and opportunities for organized events, space to celebrate nature and culture and places for rest from the surrounding urban environment.

- ❖ ***Accommodations for bicyclists*** – Appropriate bicycle facilities along Canyon Boulevard will accommodate a wide range of bicycling ages and abilities and could include multi-use paths, on-street protected bike lanes, conventional bike lanes and shared-lane bike routes.
- ❖ ***Efficient roadway*** – Proactive roadway operation and design allow people to predict traffic flow and understand how to safely and efficiently move by bus or car through the area.
- ❖ ***Enhanced intersections*** – Enhanced intersections create high visibility for all users and predictable actions for people crossing paths either in a vehicle, on a bicycle or on foot. Crosswalk design should provide safe and comfortable experience for non-motorized travelers to establish convenient walking and bicycling routes across and along Canyon Boulevard.
- ❖ ***Integrated transit*** – Transit offers a high capacity option for moving people to and along a street. A complete street considers every passenger’s trip from start to finish. Transit stops enhance the public realm and activate the streetscape by providing passenger waiting areas that can include, bus shelters, way finding, lighting and public art.
- ❖ ***Active sidewalk*** – Sidewalks are central to pedestrian life. A complete street provides high quality spaces for people that feel safe, have natural features and have appropriate transitions to the streets, transit stops, and building entrances, making them easy places to walk, use a wheelchair or stop and observe street life and activity.

A brief description of the seven conceptual design options is included below and the images of these conceptual design options and their features are included in Attachment B.

- Option 1 includes a planted center median, multi-use path on the south side, sidewalks, and tree rows
- Option 2 includes multi-use path on both sides of the street, amenity zone, tree rows and intermitted planted median
- Option 3 includes a 2-way protected bike lane on the north side, sidewalks on both sides of street, tree rows and intermittent center median
- Option 4 includes a 2-way protected bike lane on the south side, sidewalks on both sides of street, tree rows and intermittent center median
- Option 5 includes conventional on-street bicycle lanes and sidewalks on both sides of street, tree rows, amenity zone and a continuous planted median.
- Option 6 includes a single direction protected bike lane on both sides of street with planted separation, north and south amenity zone, sidewalks, tree rows and a planted center median.
- Option 7 includes a buffered bike lane, sidewalk and amenity zone on both sides of street, tree rows, and planted center median.

Elements of each option may be “mixed and matched” depending on factors such as space or right-of-way availability, traffic conditions, and the land use character of sections along Canyon Boulevard. And, other variations on these alternatives are possible by block section too. It is possible that the design options will continue to evolve through the conceptual design phase of the planning process, based on community feedback, including the May 18 Joint Boards and Commissions meeting and the evaluation measures assessment results.

The seven conceptual design options have a variety of combinations for creating a complete street to improve travel and the travel experience along Canyon Boulevard from 9th to 17th streets. The Glen Huntington Band Shell influences and impacts the conceptual design options but can be accommodated and the tradeoffs that would occur in each of the options will be described during the design options assessment this summer. In Option 5, the relocation of the Glen Huntington Band Shell could occur and a brief description of the process that would consider that is included below.

Process for considering relocation of the Glen Huntington Band Shell

Should an option be selected that proposes the relocation of the Band Shell, a conceptual Landmark Alteration Certificate (LAC) request would be submitted (likely in the fall of 2016) for review by the Landmarks Board before going to the City Council with a recommended Complete Streets design. The LAC application would need to outline the rationale for the move, identify the proposed new location and status of the Band Shell seating, along with approximate new landmark boundary within the Civic Area.

- Review of an LAC for moving the Band Shell will require a Landmarks Board public hearing as prescribed in [9-11-15, B.R.C.](#) and a request to amend the designating ordinance showing a new landmark boundary. Staff's recommendation and the Landmarks Board decision would be based upon the standards set forth in [9-11-18, B.R.C.](#)
- A Landmarks Board decision can be called up for review by the City Council. If the City Council calls up the Board's decision, a subsequent City Council public hearing will be scheduled for its review in a quasi-judicial public hearing. If the City Council does not call up the Landmarks Board's decision, the Board's decision is final.
 - If a decision is made by the Landmarks Board to move the Band Shell, there would need to be subsequent review and approval of any conditions (usually by the Landmarks design review committee).
 - If the Landmarks Board were to deny a Landmark Alteration Certificate to relocate the Band Shell, a substantially similar application cannot be submitted for one year.
 - If the Landmarks Board approves an LAC, it is valid for 180 days, with the possibility to extend it 1 time for an additional 180 days.
- Also, if the Landmarks Board approves an LAC and request to amend the designating ordinance, City Council must approve the ordinance change in a subsequent step.

PROPOSED EVALUATION MEASURES:

An evaluation of the conceptual design options will be conducted over the summer of 2016 to assess their ability to fulfill the goals and objectives of the Canyon Boulevard Complete Street Study. Included in Attachment B is a compilation of the Goals and Objectives from which the measures to be used will reflect an assessment of the specific objective. At the May 18 Joint Boards meeting, there will be an exercise for the board attendees to gain feedback on the proposed measures.

COMMUNITY FEEDBACK:

It is important that the study is conducted with the community and that feedback received from multiple project stakeholders is incorporated throughout the planning process. There was a public open-house meeting on April 27, 2016 which shared the seven conceptual design options, proposed evaluation measures and other project background information. Notification of the study and public meeting was distributed to over 5,800 households by mail and a press release was issued. Digital outreach included promotion through the Civic Area email group of over 700 interested community members, the initial Canyon Study email group which is composed of 45 interested community members as well as social media promotion through the city's social media accounts. At the public meeting, there were feedback activities to gain feedback on the proposed evaluation measures, key choices of a complete street design and the ability to detail why these were key choices.

Over 35 community members attended the April 27 public meeting and provided feedback through discussions with project team representatives, comments directly on the presentation boards, project comment forms and on the public feedback boards on the vision, goals and objectives as well as the type of features they would like to see provided on Canyon Blvd and comment forms. Much of the feedback received pertained to safety, corridor character and historic preservation. The primary safety concerns were in regards to pedestrians crossing Canyon Boulevard and separation of user groups. The number and range of conceptual design options were appreciated and many meeting attendees preferred options where bicyclists and pedestrians had separate facilities. Comments on the corridor character included many on the preference for improved aesthetics such as the additional trees and landscaping areas and it being able to continue as a cross connector for vehicular traffic and provide additional space for pedestrians and bicyclists. The comments received on historic preservation were related to maintaining the band shell in its existing location and adding interpretive signage for greater understanding of the area's history. Additional comments included ideas for a roundabout at 9th and Canyon, space for service delivery vehicle parking, planting a variety of tree species, replacement of the mid-block crossings at 10th and 11th streets with grade separated crossings.

NEXT STEPS:

The next public engagement period will be in the fall of 2016 and will include a community meeting, Board and Commission feedback and recommendations and City Council consideration of a recommendation. The fall public engagement period will focus on the evaluation of the conceptual design options and the community feedback will assist in the selection of a conceptual design option. The selected conceptual design option will be presented to City Council for their consideration of recommendation.

ATTACHMENTS

- A – draft Existing Conditions Summary for the Canyon Boulevard Complete Street Study
- B – proposed Goals, Objectives and Evaluation Measures for the Canyon Boulevard Complete Street Study
- C - Canyon Boulevard Complete Street Study Conceptual Design Options 1-7

Canyon Boulevard

Complete Streets



Existing Conditions Summary

City of Boulder

February 11, 2016



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1. Overview

Canyon Boulevard, also designated as State Highway 119 (SH 119), is a major east-west roadway connection through the City of Boulder, Colorado (City). Regionally, it links Boulder to the Town of Nederland to the west and is a major facility for moving people between the downtown area and other parts of the Boulder area via cars, trucks, and transit. Locally, the corridor serves people traveling to and through the City by car, bike, bus, and on foot. The land uses directly surrounding the corridor consist of urban development with a mix of residential and service-oriented businesses to the north, and the 27-acre Civic Area to the south. As a result of the recently completed Civic Area Master Plan (June 2015), Canyon Boulevard was identified as a key improvement project for the area.

The primary focus of the Canyon Boulevard Complete Streets Study is to develop design options that complement and support existing and planned improvements in the area, incorporating Complete Streets concepts into the design of the corridor stretching from 9th Street to 17th Street in downtown Boulder. This means ensuring adequate space for all users and modes of transportation, including pedestrians, bicyclists, cars, and transit vehicles. This Existing Conditions Summary discusses the current state of several aspects of Canyon Boulevard, including the range of issues identified by key stakeholders through a strengths, weaknesses, opportunities, and threats (SWOT) analysis; the historic, current, and planned urban design context of the area; transportation elements, including an analysis of all modes of travel; and the environmental considerations in the area. This report will be used as a baseline to understand the impacts (both positive and negative) of design options developed for the corridor in the future.

1.1. Relevant Planning Context

Several current planning studies impact the decisions that are made throughout the Canyon Boulevard study area. Although many City-wide plans generally support the development of Complete Streets, several plans are directly related to the study area for Canyon Boulevard or have direct design and functional implications for the ultimate design of the corridor. The study area for Canyon Boulevard as well as the study area extents of each of related plans are shown in Figure 1 and discussed in detail below.

Figure 1. Study area map



1.1.1. Civic Area Master Plan

The Civic Area Master Plan created a new vision for the area south of, and including, Canyon Boulevard. Stretching from 9th Street to 14th Street, this land is envisioned as an active public space with a variety of civic buildings, natural environments, and displays of art interconnected by a modern downtown park. Canyon Boulevard is expected to play a major part in this vision. As the northern edge of the Civic Area, the Master Plan calls for a new, continuous greenway promenade along Canyon Boulevard between 9th Street and 14th Street.

To complement this promenade, the Master Plan calls for improving connections across Canyon Boulevard to downtown Boulder and the Pearl Street Mall. On the west end of the Civic Area, a new pedestrian corridor is planned to connect 11th Street through the Civic Area, bridging the gap between Pearl Street and University Hill. A gateway into the Civic Area is planned at 11th Street and Canyon Boulevard. On the east side of the Civic Area, between 13th Street and 14th Street, new high-density development is envisioned. Along Canyon Boulevard, the plan calls for buildings up to four stories, creating a more urban character, compared to the existing low-density development.

Additionally, the plan describes removing the existing surface parking from its current location in front of the Boulder Public Library between Arapahoe Road and Canyon Boulevard, and replacing it with parking structures at either end of the Civic Area. These new, underground structures would be located near Arapahoe Road and 9th Street on the west end of the Civic Area, and near or along 14th Street on the east end of the Civic Area.

1.1.2. East Arapahoe Transportation Plan

The East Arapahoe Transportation Plan is currently in the preliminary phases of development. The plan calls for the addition of bus rapid transit (BRT) service along Arapahoe Road between downtown Boulder and I-25. The East Arapahoe Transportation Plan is a collaboration between the City of Boulder, the Colorado Department of Transportation (CDOT), and the Regional Transportation District (RTD), the local transit agency. The west end of this project is intended to connect into the Downtown Boulder Station located at 14th Street and Canyon Boulevard. Preliminary plans suggest that East Arapahoe BRT service will use Canyon Boulevard to access the Downtown Boulder Station. During peak periods, bus service is expected to run between six- and seven-minute headways, with off-peak headways of 15 minutes. Consideration should be given to the design of Canyon Boulevard to ensure potential future BRT uses are not precluded.

1.1.3. Downtown Boulder Station Plan

As part of the FasTracks Local Optimization (FLO) program, the City of Boulder is partnering with Boulder County and RTD to improve transit access across Boulder. This has resulted in a plan to expand the Downtown Boulder Station. The final report, *FasTracks Local Optimization Facilities Study*, was published in June 2007 and identifies three alternatives. Each of these options calls for at least some new bus bays along Canyon Boulevard and would affect the bus circulation around the station. Additionally, the most dramatic alternative would move the station from its current location at 14th Street and Walnut Street and replace it with a new facility on the south side of Canyon Boulevard between 14th Street and 15th Street. The ultimate goal of the expansion is to increase capacity at the station, which is currently over capacity during the peak hours.

2. SWOT Analysis

To better understand the existing conditions of the corridor and help create a vision for the future of Canyon Boulevard, SWOT analysis was conducted. Data were collected from key stakeholders involved in the project including:

- City of Boulder Department of Parks and Recreation
- City of Boulder Department of Community Sustainability and Planning
- City of Boulder Department of Transportation
- CDOT
- RTD
- Go Boulder

The SWOT analysis resulted in a variety of comments and concerns about the existing corridor, as well as potential needs and opportunities. Some of the most commented-on features of the corridor were the mid-block pedestrian crossings between 9th Street and Broadway Street, the historic band shell at the corner of Broadway Street and Canyon Boulevard, and the Downtown Boulder Station. The specific concerns are discussed in greater detail below. Figure 2 shows all of the comments received during the SWOT analysis and the related location of that comment, if applicable.

2.1. Mid-Block Crossings

The two mid-block pedestrian crossings near the Boulder Public Library and 11th Street were brought up during multiple SWOT meetings. They received both positive and negative comments. Some of the positive comments concerned the perceived effectiveness of the signing and striping on the roadway at the crossings. Agency comments lauded the crossings' success in effectively reducing the pedestrian barrier created by Canyon Boulevard. Conversely, some comments also noted the safety concerns with the unsignalized crossings, and the increased possibility of drivers not properly yielding to crosswalk users.

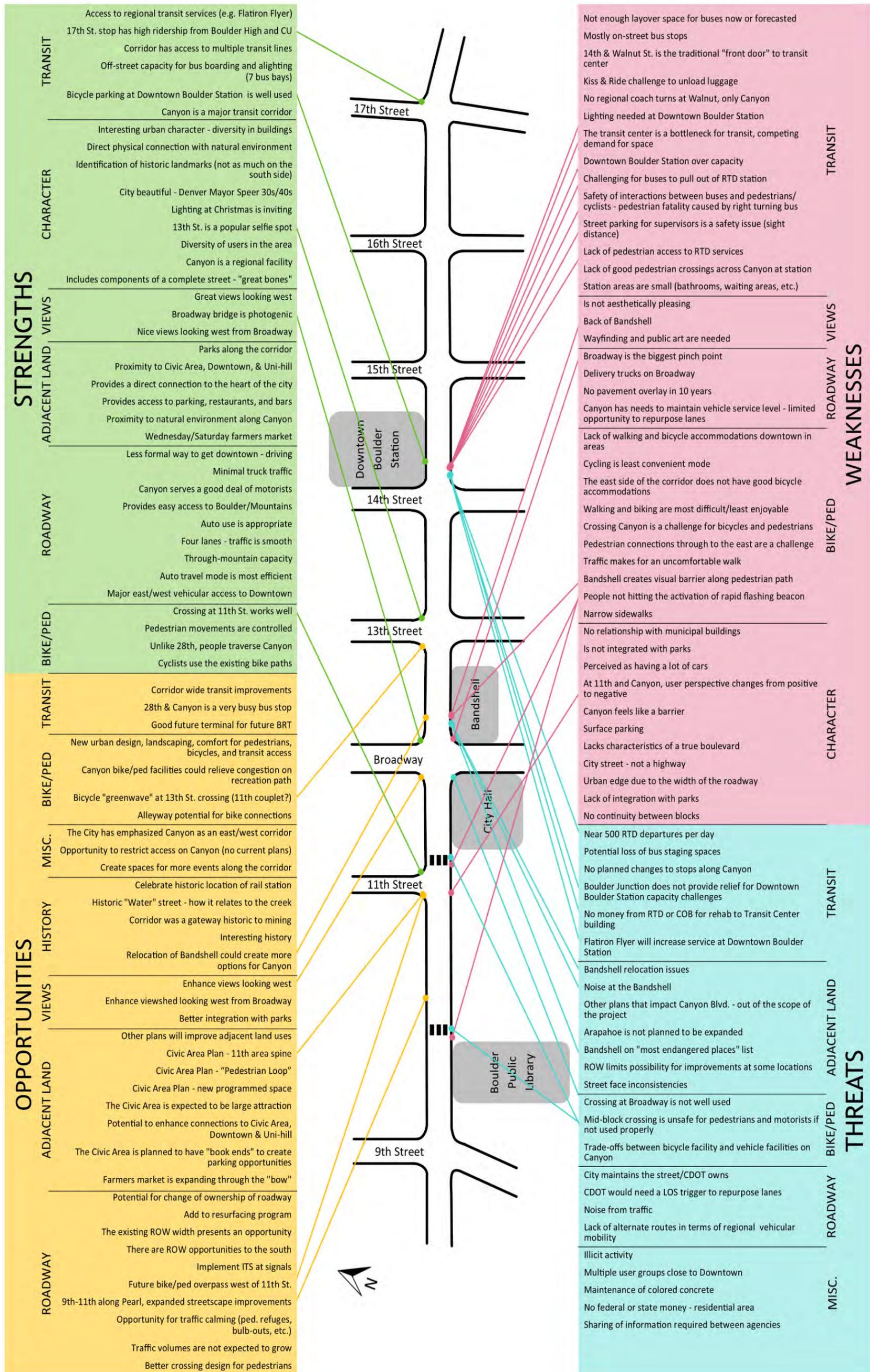
2.2. Historic Band Shell

Located at the corner of Broadway Street and Canyon Boulevard, the band shell is listed as a historic landmark. The primary concern with the band shell, as it currently exists today, is that it creates a blank wall facing Canyon Boulevard. This was noted both as being unsightly and as reflecting the noise of the street, creating an uncomfortably loud environment. Additionally, the band shell sits within the 65-foot envelope envisioned as part of Canyon Boulevard's future footprint.

2.3. Downtown Boulder Station

Currently over capacity, the Downtown Boulder Station was listed multiple times as both a weakness, threat, and opportunity for the project. Major concerns include the limited space to expand capacity within the existing station footprint, safety and access concerns for pedestrians and bicyclists traveling to and from the station, and bus circulation around the station. Stakeholders involved in the SWOT process noted the desire to improve the station and allow it to keep up with the increasing transit demand within the City of Boulder.

Figure 2. SWOT Analysis Summary



3. Urban Design Context

3.1. Historic Context

The Canyon Boulevard corridor has a long history dating back to the City of Boulder's founding in 1871. Originally known as Water Street and sometimes Railroad Street, it was subject to periodic flooding from Boulder Creek and served as the major rail corridor to downtown for passengers and freight, as well as being a starting point for narrow-gauge rail traveling west up Boulder Canyon. The Boulder Depot building, now at Boulder Junction, was originally located at 14th Street and Canyon Boulevard, roughly the site of the Downtown Boulder Station at 14th Street and Walnut Street. In 1962, the City Council officially change the name of Water Street to Canyon Boulevard at the request of the Chamber of Commerce. Today, the corridor includes multiple buildings and neighborhoods that have received, or potentially could receive, historic designation. Historic properties are further identified in Section 5.3.

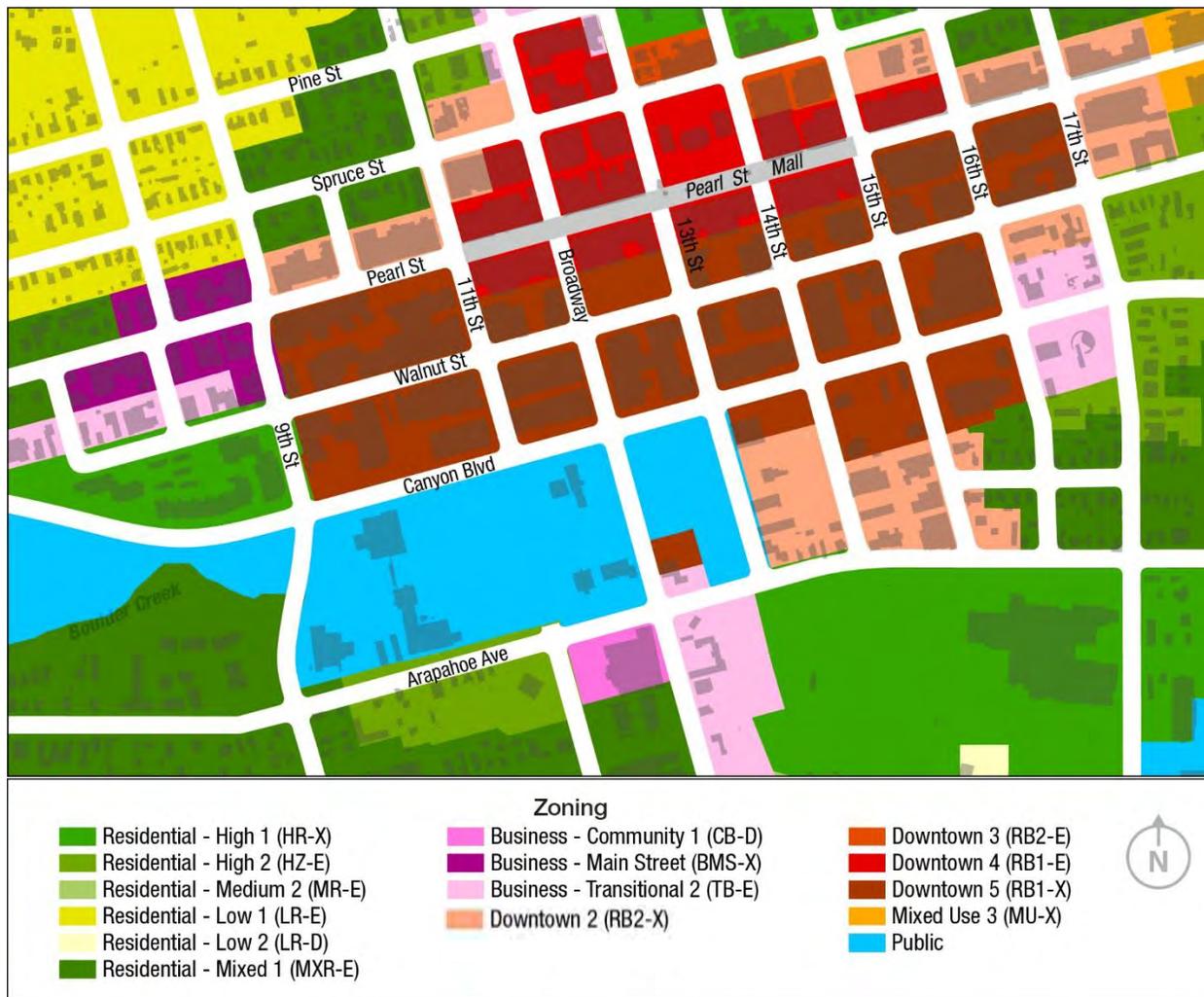
3.2. Current Conditions

Existing conditions surveyed include land use and zoning, "street wall" massing and character, hardscape design and sight furnishings, and landscape design. Generally, from north to south, the street is defined by an urban character on the north side of the street transitioning to downtown, and a park-like setting on the southern side leading to Boulder Creek. From 17th Street headed west, the street begins to gain its urban form, transitioning from smaller lot, single-family, and office uses to larger urban and municipal uses and forms.

Within the study area, land use is mixed with the north side of Canyon populated with urban office, residential, hospitality, and religious uses. The Downtown Boulder Station, between 14th and 15th streets, is a major activity center on the corridor. The south side of Canyon has a significant number of government uses within and around Central Park such as the library, municipal building, and the atrium. Light commercial uses (banks, a gas station, liquor store, etc.) line the eastern portion of the southern right-of-way. Figure 3 shows the existing zoning districts surrounding Canyon Boulevard.

The corridor is primarily surrounded by public land to the southwest and "Downtown 5" to the north and southeast. Downtown 5 is described in the City code as a higher intensity land use and as having the greatest potential for new development and redevelopment within the downtown core. In 2011, this district code was amended to include 65 foot setback from the centerline of Canyon Boulevard from 9th to 16th Street. This setback serves the urban design vision for Canyon Boulevard, as stated in the City of Boulder Downtown Urban Design Guidelines, to create better separation from traffic for pedestrians and improved streetscaping. The area of Business Transitional 2, at the east end of the study area, allows commercial and complimentary residential uses, generally serving as a buffer for residential uses.

Figure 3. Current Zoning



The corridor has generous setbacks ranging from 78 feet from the right-of-way centerline to 25 feet from a property’s lot line adjoining the right of way, whichever is greater. Current conditions exhibit curb-to-building-face setbacks ranging from 25 feet to 60 feet. The north side of Canyon Boulevard generally is lined by an urban wall with buildings ranging from one to four stories. Buildings constructed after 2000 are characterized by a significant amount of articulation and architectural detail and step back in a “wedding cake” manner at the third or fourth floor. The south side is characterized by a park-like or suburban setting with one- to two-story buildings sited within Central Park or in a more suburban manner with large setbacks and landscaped buffers. Many surface parking lots line the southern right of way.

The cross-section of the corridor changes from block to block. Figure 4 shows typical dimensions for blocks along Canyon Boulevard. Pedestrian zone conditions vary from five- to six-foot-wide, curb-attached sidewalks to nine-foot-wide paths with six to eight-foot tree lawns and larger expanses of hardscape at newer developments. Hardscape treatment changes from block to block in layout and materiality. The pedestrian realm is mostly poured-in-place concrete, with interludes of brick and stone paving at entrances to newer buildings. The north side exhibits a formal, urban character while the south side is more informal with, at times, a meandering path. Multiple vertical design details exist within and out of the right-of-way line on the northern side of the street: picket fences within the Chamberlain neighborhood, a wooden fence with brick piers at the First Presbyterian Church, raw cast-in-place (CIP) concrete retaining walls at the Downtown Boulder Station, painted CIP planter walls with stone caps from 14th Street to Broadway Street, and large, round planter pots

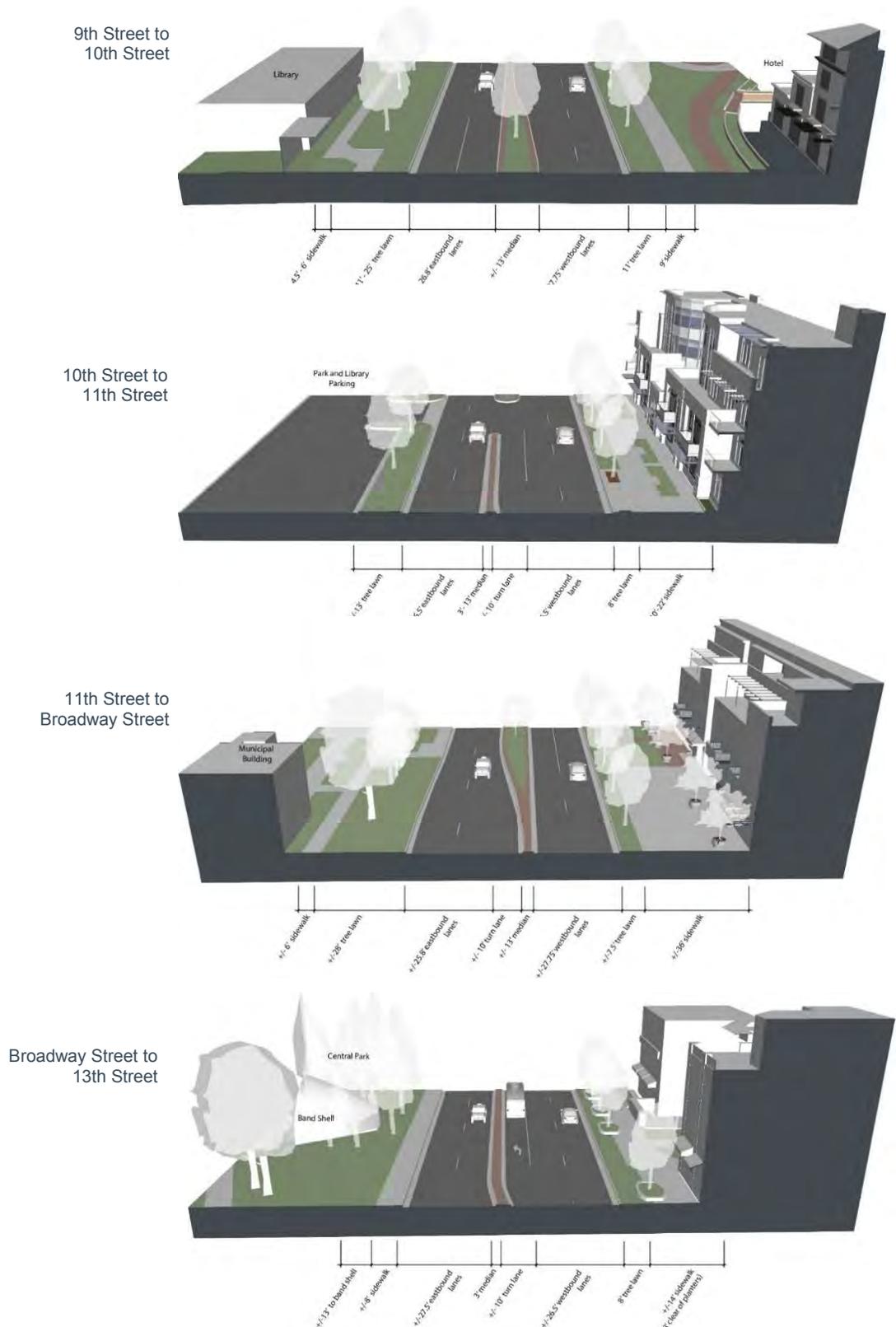
between Broadway Street and 11th Street. In addition, various corner markers appear at major intersections (sandstone markers at Broadway Street and brick markers at 13th Street) and monument signage is located at multiple commercial sites and institutions. Street lighting shows consistency throughout the corridor, with a typical “hockey puck” style roadway light. Pedestrian scale lighting, where present, is a typical 12-foot-tall globe fixture. Site furniture varies by property owner with a consistent use of wood slat and steel tube, steel strap and tube, and recycled plastic benches.

Landscape conditions, too, vary from block to block with the blocks between 9th Street and Broadway Street showing the most consistency. The north side of Canyon Boulevard has, for the most part, regularly spaced street trees in fair to good condition. The tree lawn, or street tree planting zone, is a largely consistent six- to eight-foot width with slightly narrower dimensions east of 15th Street. The south side of the street houses many mature large-canopy trees within the park and eastern commercial properties planted in an informal manner on both sides of the meandering sidewalk. Tree species within the corridor are diverse and generally show good health, though a number of ash trees are in danger of the oncoming emerald ash borer epidemic. Understory planting is mixed, with perennials, groundcover, evergreen and deciduous shrubs, though the majority of understory along the corridor is lawn or mulch. The center median is planted with a variant of shade and ornamental, flowering trees, perennials and shrubs in a legible rhythm highlighting key pedestrian and vehicular crossing points. Two old-growth trees west of 11th Street show signs of struggle.

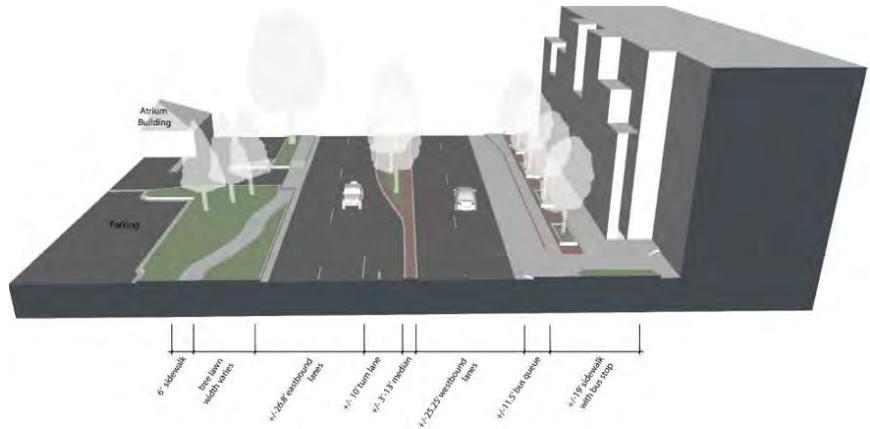
3.3. Planned Improvements

As mentioned in Section 1.1.1, major planned improvements along the corridor include a renovation and redevelopment of the Civic Area. The Master Plan calls for a new park design with increased access, public gathering spaces and plazas, visual and performance art restoration, and maintaining riparian vegetation along the creek, food vendors, and other amenities, as well as increased visual and physical access to Boulder Creek. Along Canyon Boulevard, the Master Plan calls for a pedestrian promenade with an allée of trees similar to the Champs-Élysées in Paris with multimodal, non-vehicular paths. The plan also calls for the redevelopment of the southern block between 13th and 14th Streets into a series of new buildings ranging from two to four stories with an expanded farmers market and possible development of the Civic Use Pad to the east of the Hotel St. Julien into a civic use building (conference space or event center) with a better formal relation in mass and scale to the hotel.

Figure 4. Canyon Boulevard Typical Cross-section (shown West to East)



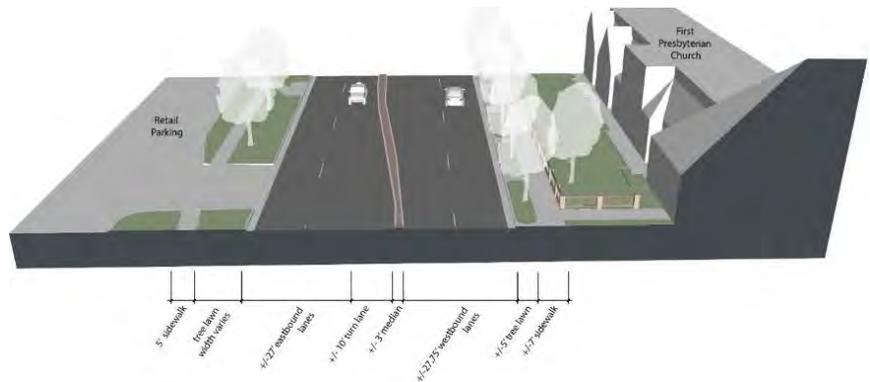
13th Street to 14th Street



14th Street to 15th Street



15th Street to 17th Street



4. Transportation Elements

Canyon Boulevard, designated as SH 119 by CDOT, currently functions as a major east-west arterial connecting the City of Boulder to the nearby mountains. The roadway is a four-lane, divided arterial with two lanes of traffic in both the eastbound and westbound directions. Within the study area, the roadway has a consistent posted speed limit of 35 miles per hour (mph). Every intersection along the corridor has left-turn storage bays, but lacks right-turn lanes. Currently, there are no on-street parking areas or dedicated bicycle facilities along Canyon Boulevard.

4.1. Vehicular Traffic

The latest traffic count data collected within the study area, taken in January 2016, shows the average daily traffic (ADT) ranging from around 11,000 vehicles per day (vpd) at 9th Street to almost 20,500 vpd at 17th Street. Heavy vehicles, which includes any vehicle with three or more axles, comprise between 2 percent and 3.5 percent of the average daily traffic volume. Table 4-1 shows the ADT and percent of heavy vehicles for each data collection location.

Table 4-1. Average daily traffic

Location	ADT	Percent Heavy Vehicles
West of 9th Street	11,025	3.53%
East of 11th Street	14,596	1.79%
East of 13th Street	15,574	2.69%
East of 17th Street	20,468	2.10%

The daily traffic pattern shows a morning peak between 7:00 a.m. and 8:00 a.m., and an evening peak between 5:00 p.m. and 6:00 p.m. West of Broadway Street, traffic volume decreases after the morning peak through the mid-day period and rises again during the evening peak period before tapering off over night. East of Broadway Street, traffic drops after the morning peak period, but then rises steadily again through the mid-day and evening periods. These locations show a much greater difference between the morning and evening peak periods than the locations west of Broadway Street. There is not a strong directional peak flow along the corridor. The daily directional traffic data at the count locations are shown in Figure 5 through Figure 8.

Figure 5. Canyon Boulevard West of 9th Street ADT

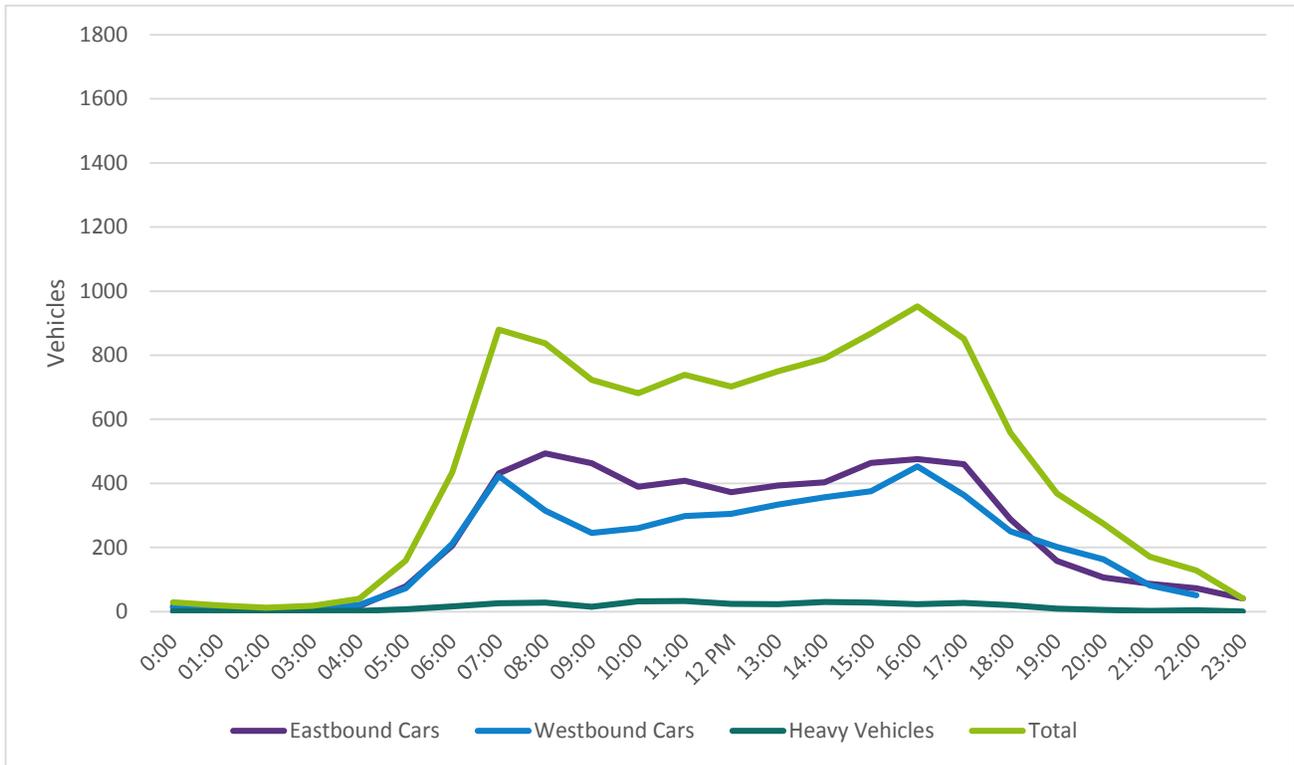


Figure 6. Canyon Boulevard East of 11th Street ADT

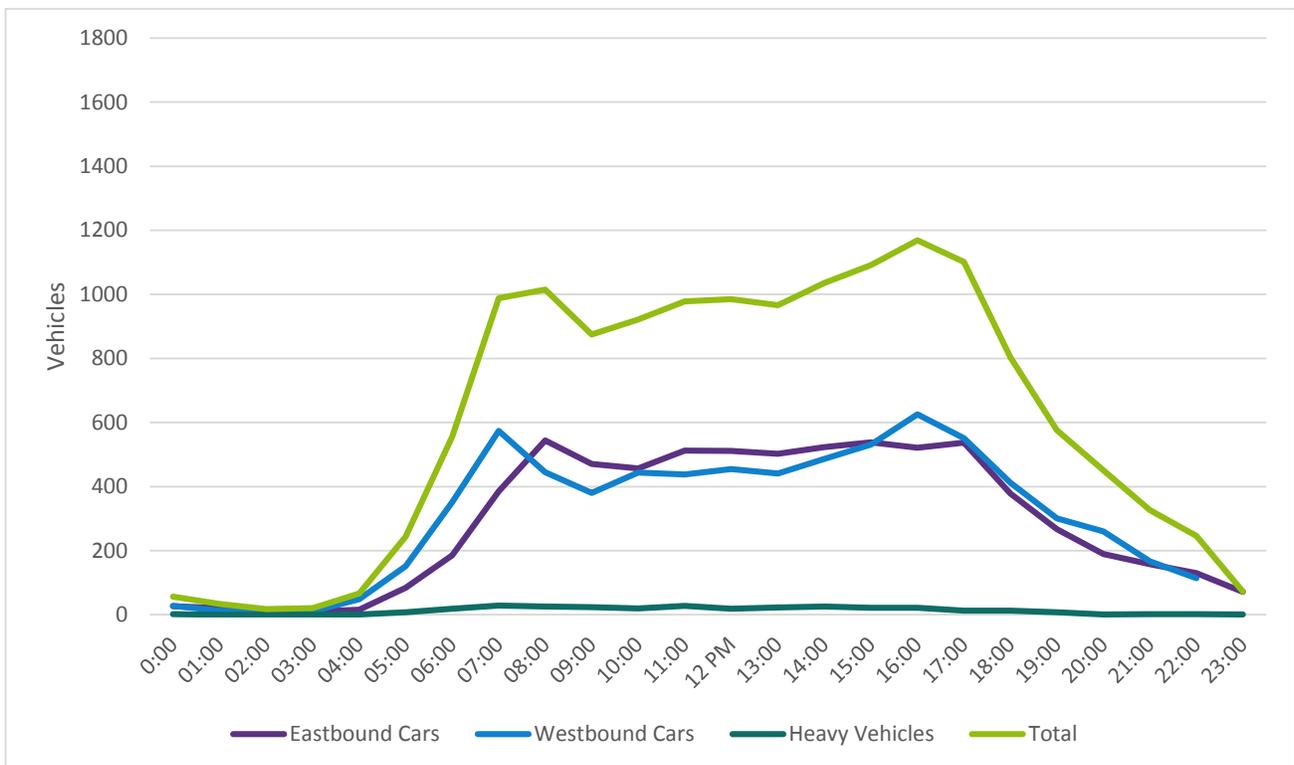


Figure 7. Canyon Boulevard East of 13th Street ADT

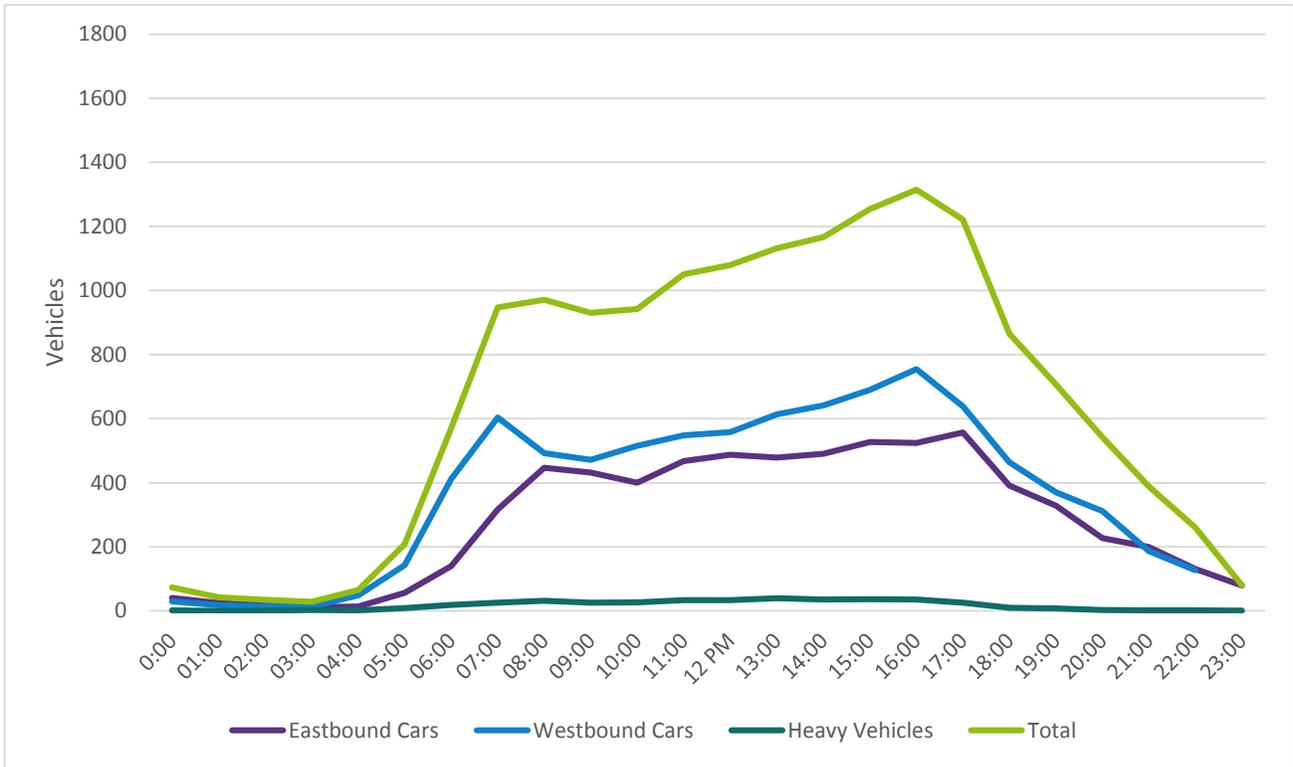
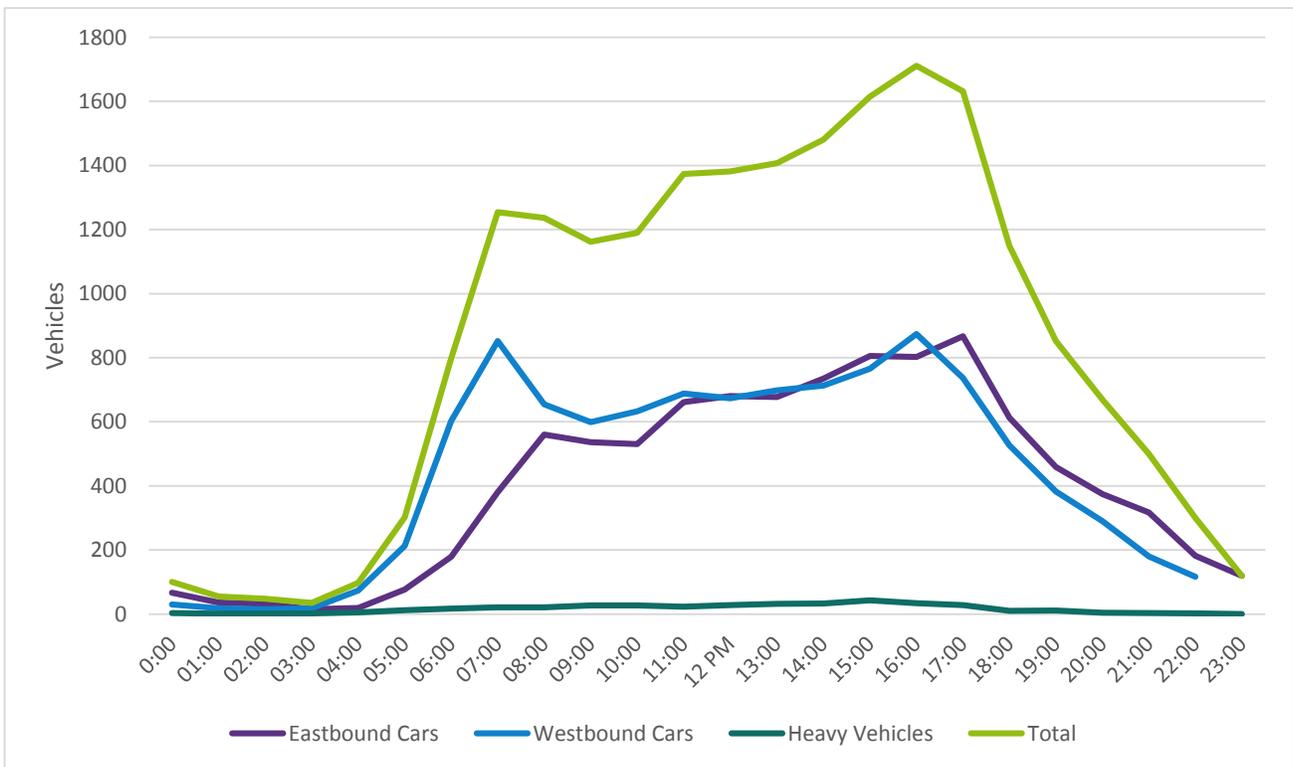


Figure 8. Canyon Boulevard East of 17th Street ADT



In total, there are six signalized intersections; one two-way, stop-controlled intersection; and two mid-block crossings along Canyon Boulevard within the study area. The busiest intersection within the study area is Broadway Street. Also designated as SH 93, Broadway Street has an ADT of 24,560 vpd where it crosses Canyon Boulevard. Each intersection within the study area is listed in Table 4-2.

Table 4-2. Study area intersections

Intersection	Control Type
9th Street	Signalized
Boulder Public Library Pedestrian Crossing	Yield (mid-block)
11th Street with Pedestrian Crossing	Stop controlled (side-street only), pedestrian crossing is yield controlled
Broadway Street	Signalized
13th Street	Signalized
14th Street	Signalized (north side is restricted to RTD vehicles only)
15th Street	Signalized
16th Street	Two-way stop controlled
17th Street	Signalized

4.2. Existing Vehicle Level of Service

To evaluate the vehicle travel conditions along Canyon Boulevard, the Highway Capacity Manual (HCM) Level of Service (LOS) methodology was used. The LOS is a measurement of the average delay per vehicle at an intersection. Based on this delay, a score of A through F is assigned, with A representing the best conditions, or smallest delay, and F reflecting the worst conditions, or greatest delay.

Synchro 9 software was used to analyze the existing congestion along the corridor. Synchro models were provided by the City of Boulder and were updated and used to evaluate the morning peak period (7:00 a.m. to 8:00 a.m.), the mid-day period (12:00 p.m. to 1:00 p.m), and the evening peak period (5:00 p.m. to 6:00 p.m.). The *2010 Highway Capacity Manual* (2010 HCM) methodology was used to calculate the level of service (LOS) for the 9th Street and Broadway Street intersections. This methodology was unable to produce LOS for the other intersections due to its limited applications; therefore, the *2000 Highway Capacity Manual* (2000 HCM) methodology was used to evaluate all other intersections. The results of this analysis are shown in

Figure 9 through Figure 11.

During the morning peak period, all intersections operate at LOS C or better. The intersection with Broadway Street experiences the most congestion, with some approaches operating at LOS D. During the mid-day peak, the corridor operates slightly better than the morning peak with all intersections operating at LOS C or better. The evening peak period is the most congested time for the corridor. During this period, the intersection at Broadway Street degrades to LOS E, with all approaches operating at LOS D or worse. Because of this delay, both the northbound and southbound approaches queue to the adjacent streets. On the northbound approach, the queue was observed at 550 feet, south to Arapahoe Road. Similarly, on the southbound approach, the queue extends north past Walnut Street to Pearl Street. The eastbound and westbound approaches along Canyon Boulevard do not experience the same queue length as the northbound and southbound approaches. On the westbound approach, queues reach back to 13th Street and, on the eastbound approach, they reach 11th Street. These queues do not cause 11th Street or 13th Street to queue significantly.

Figure 9. AM Peak Period LOS



Figure 10. Mid-Day LOS

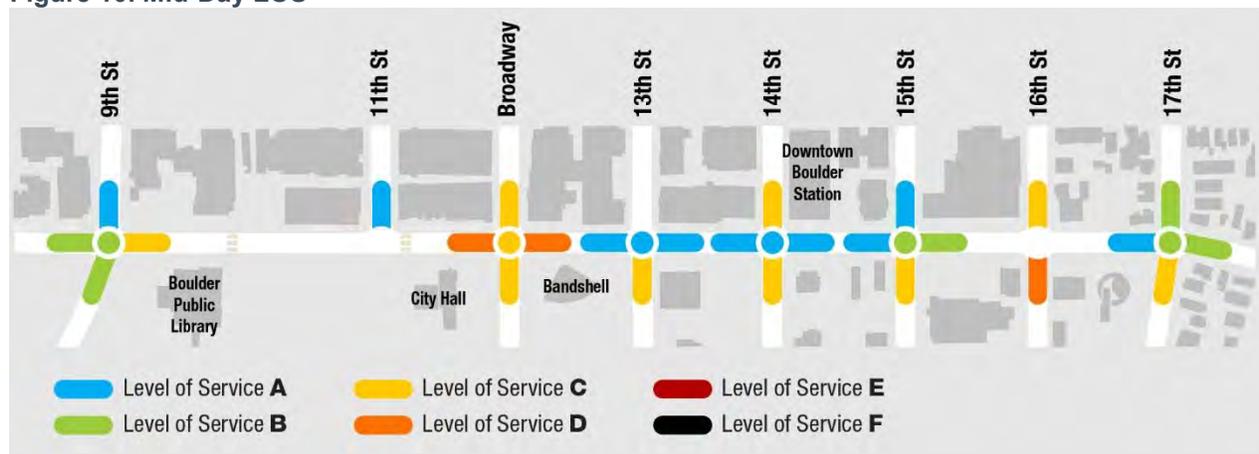


Figure 11. PM Peak Period LOS



4.3. Vehicular Travel Time

In addition to the LOS, SimTraffic 9 simulation software was used to model the corridor travel times during the morning, mid-day, and evening peak periods. The results are shown in Table 4-3. The longest travel time is experienced in the evening westbound direction, with a trip from 17th Street to 9th Street taking nearly three minutes to travel the 0.6-mile corridor. This translates to an average travel speed of 12 mph. The primary delay occurs on the western portion of the corridor between 9th Street and 13th Street. This represents half of the travel distance, but accounts for nearly 70 percent of the travel time delay. This is due to the congestion at the Broadway Street intersection, and the delay at the mid-block pedestrian crossings. The mid-block pedestrian crossings add an additional 11 seconds of travel time per vehicle in the eastbound direction and nearly 21 seconds of delay in the westbound direction during the evening peak period. Additionally, the westbound direction experiences longer travel times by about 30 seconds per vehicle compared to the eastbound direction during all three time periods. This is likely caused by slightly higher westbound vehicle volumes on the corridor.

Table 4-3. Corridor travel times

Time of Day	Direction	Travel Time (min)
Morning Peak Period	Eastbound	1.91
	Westbound	2.44
Mid-Day Period	Eastbound	2.07
	Westbound	2.51
Evening Peak Period	Eastbound	2.53
	Westbound	2.97

4.4. Transit Service

Transit service within this corridor is provided by RTD. RTD provides extensive bus service through the corridor, and operates the Downtown Boulder Station, a regional bus depot. Handling both local and regional buses, Canyon Boulevard is the primary access road into and out of the Downtown Boulder Station. Additionally, there are currently two bus storage bays along Canyon Boulevard. Located between 13th Street and 15th Street, these bays are used by RTD for bus storage during off-peak times. Figure 12 shows the local, regional, and

SkyRide routes around the study area, as well as the combined boardings and alightings at each station. The highest ridership activities are concentrated along Broadway Street and the Downtown Boulder Station. The most-used transit stop along Canyon Boulevard is the Downtown Boulder Station, which services more than 5,200 users per day.

Correlated with the high ridership, the highest concentration of bus routes are along Broadway Street and Canyon Boulevard. Figure 13 shows the individual bus routes near the study corridor, as well as which routes service each stop. Although local, regional, and SkyRide routes travel along Canyon Boulevard, the street-side bus stops on Canyon Boulevard primarily are serviced only by the local routes.

Figure 12. Existing Transit Network

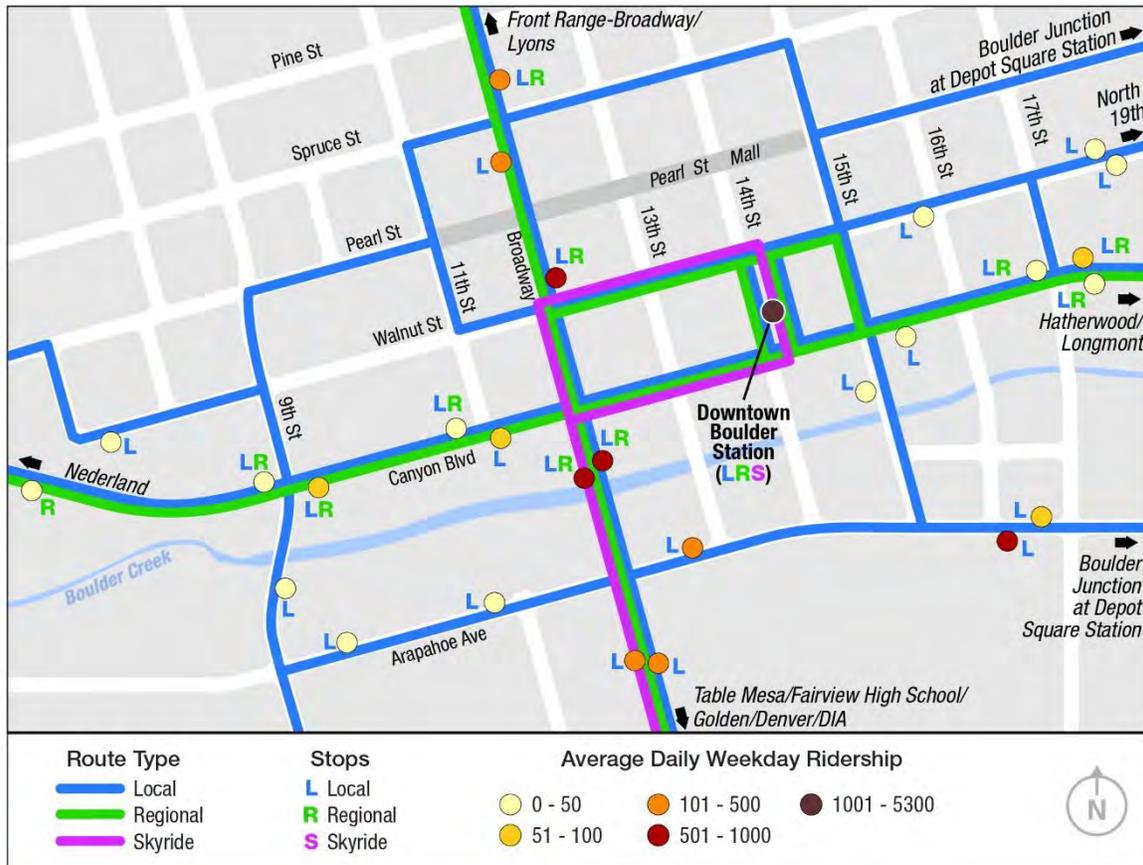
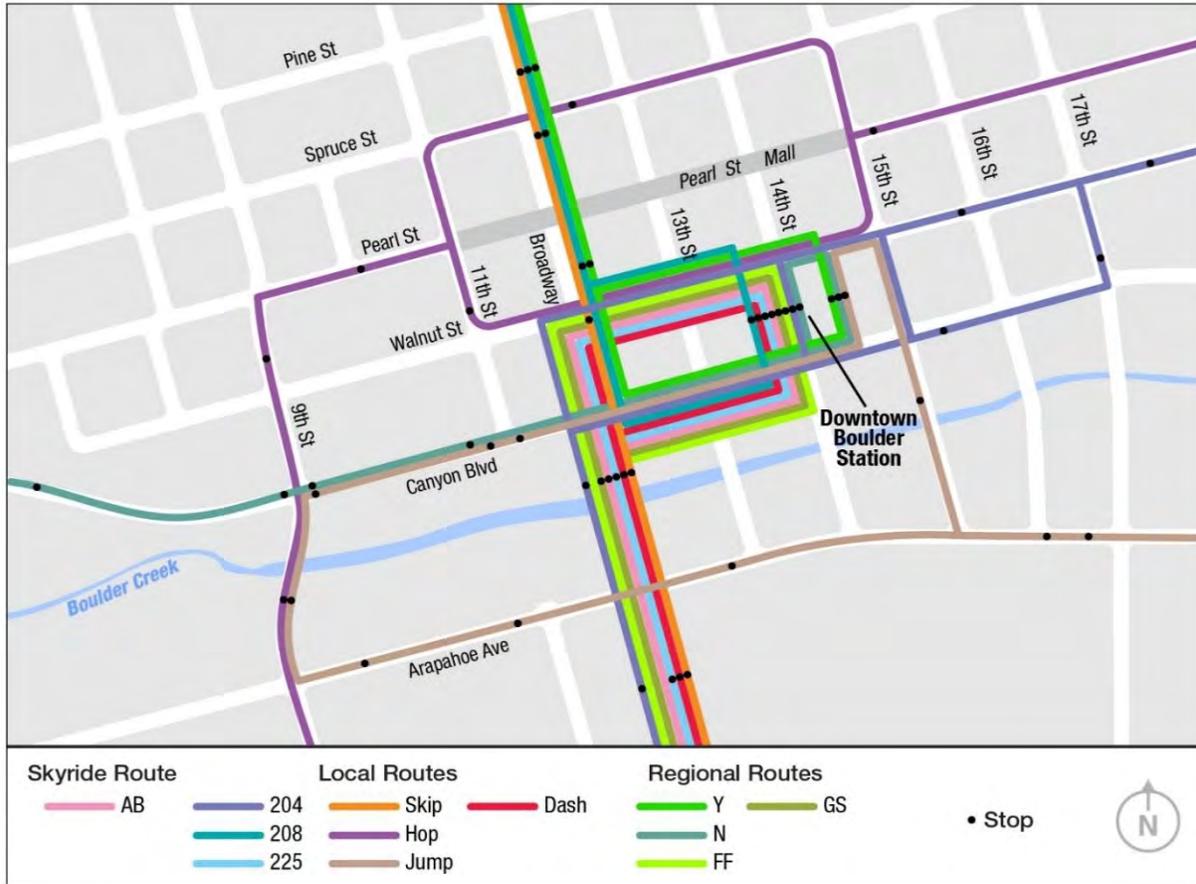


Figure 13. Individual Bus Routes Within the Study Area



Typical street-side transit stops in the area include a posted sign and bench, although in a few cases, such as at the Broadway Street and Canyon Boulevard stop, transit facilities include a shelter as well. Bus stops along Canyon Boulevard do not have pull-outs. The only place where buses stop outside the travel lanes are the two bus layover spaces near the Downtown Boulder Station.

4.5. Bicycle Facilities

Along Canyon Boulevard—and for many of the surrounding streets to the north—bicyclist are not allowed to ride on the sidewalk. Currently, there are shared-use bicycle facilities along Canyon Boulevard within the study area. The roadway network surrounding Canyon Boulevard includes roads with and without designated bicycle facilities. East-west bicycle facilities are provided one block north and south of Canyon Boulevard along Walnut Street, and the Boulder Creek Greenway. The Boulder Creek Greenway also provides regional bicycle connections to the Boulder Foothills and the Denver metropolitan region. North-south bicycle facilities exist along 9th Street, 13th Street, 15th Street, and 17th Street. Table 4-4 lists each bicycle facility by type, and Figure 14 shows a map of existing bicycle facilities within the study area. It should be noted that Walnut Street, 15th Street, Spruce Street, and 11th Street are one way, and, therefore, only provide a directional connection for bicycles as well as vehicles. This is discussed further in Section 4.7.

4.5.1. Bicycle Parking

Bicycle parking is provided on and near to the corridor, with most parking associated with businesses, the Downtown Boulder Station, the 13th Street cycletrack, and near to public building entrances in the Civic Area. Rack types range from ground-mounted U-racks; to serpentine racks; to large scale parking shelters, such as the “Bus Then Bike” parking at the Downtown Boulder Station. Additional bicycle parking options at the

Downtown Boulder Station include 140 secure spots available for registered users, several bike lockers, and outdoor covered parking.

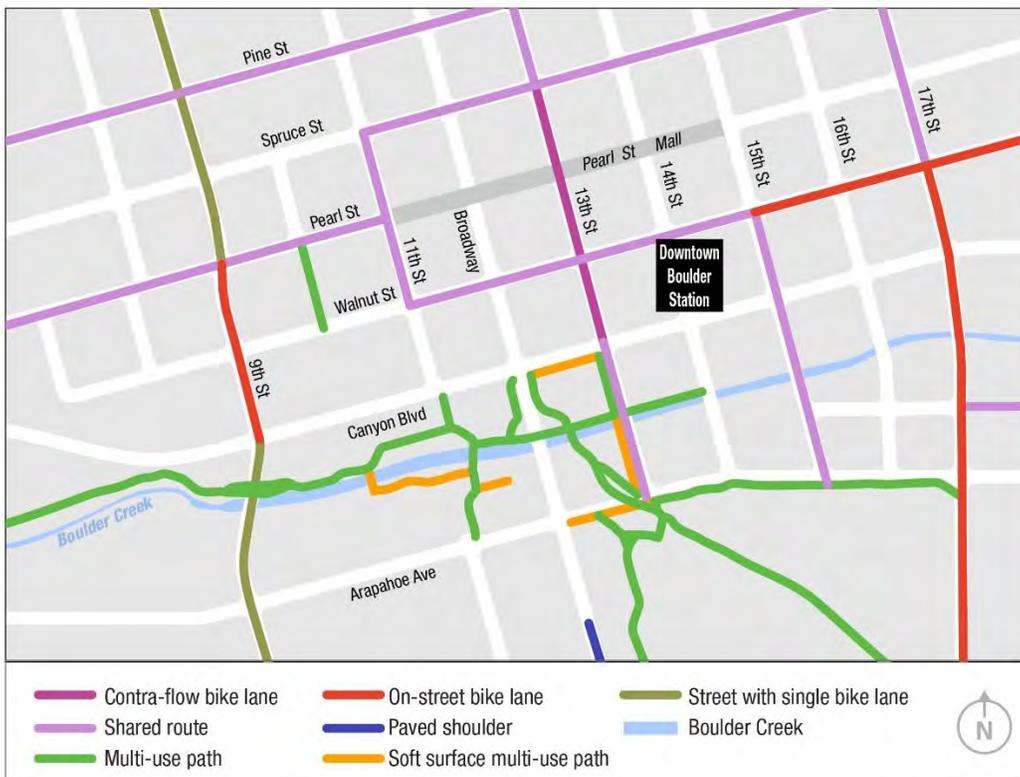
4.5.2. Bicycle Sharing

Boulder B-Cycle has six active stations within one-quarter mile of the study area; three locations north of Canyon Boulevard surrounding the Pearl Street Mall and three locations within Central Park. There is one station located on Canyon Boulevard within the study area at the Downtown Boulder Station.

Table 4-4. Bicycle Facilities within the Study Area

Road	Facility Type	Direction
9th Street	Paved shoulder	Northbound
9th Street	On-street bike lane	Southbound
13th Street	Shared-use route	Northbound
13th Street	Contra-flow bike lane	Southbound
15th Street	Shared-use route	Northbound/Southbound
17th Street	On-street bike lane	Northbound/Southbound
Walnut Street	Shared-use route	Eastbound/Westbound
Boulder Creek Greenway	Multi-use path	Eastbound/Westbound

Figure 14. Existing Bicycle Network



4.6. Bicycle Counts

Bicycle counts were collected from the turning movement count data at intersections, provided by the City of Boulder, and ADT data collected along Canyon Boulevard. Bicycle volumes, where available, are summarized in Table 4-5. This table shows a compilation of data collected over multiple days representing a large temperature range from winter months to summer months. Therefore, the volumes cannot be directly compared to each other because temperature is known to affect the volumes of bicyclists on any given day. Additional data along the Boulder Creek Greenway were collected from a permanent bike counter located along the pathway near 13th Street. This counter recorded the Boulder Creek Greenway’s bicycle volume as being between 100 and 1,300 bicycles per day, depending on the time of the year. Most intersections along Canyon Boulevard experience lower volumes compared to this facility. This is likely a reflection of the facilities provided at each location.

Table 4-5. Bicycle Volumes on Canyon Boulevard

Location	Morning Peak	Mid-day Peak	Evening Peak
West of 9 th Street along Canyon Boulevard	3	8	8
9 th Street and Canyon Boulevard	56	37	38
Between 9 th Street and Broadway Street	1	1	5
Broadway Street and Canyon Boulevard	27	33	41
Between 13 th Street and 14 th Street along Canyon Boulevard	5	6	7
13 th Street and Canyon Boulevard	112	68	137
14 th Street and Canyon Boulevard	14	28	43
15 th Street and Canyon Boulevard	26	22	10
17 th Street and Canyon Boulevard	42	18	48
East of 17 th Street along Canyon Boulevard	2	8	8

4.7. Bicycle Network Service Level

To determine the existing user experience for bicyclists traveling along Canyon Boulevard, it is important to not only understand the existing service provided directly along the corridor, but also the service provided by the surrounding roadway and bicycle facility network. This analysis will determine the function of the surrounding network in accommodating varying cycling abilities. The Level of Traffic Stress (LTS) was used for this analysis because it determines cycling comfort for a particular user group.

The LTS approach recognizes that traffic stress—a combination of several negative experience traffic stressors, such as exhaust fumes, noise, and perceived danger—is the greatest deterrent to cyclists. The LTS approach to evaluating bicycle facilities focuses on the segment of the population that would likely ride bicycles if they were separated from automobile traffic. LTS is defined as:

LTS 1: A level of traffic stress tolerable by most children

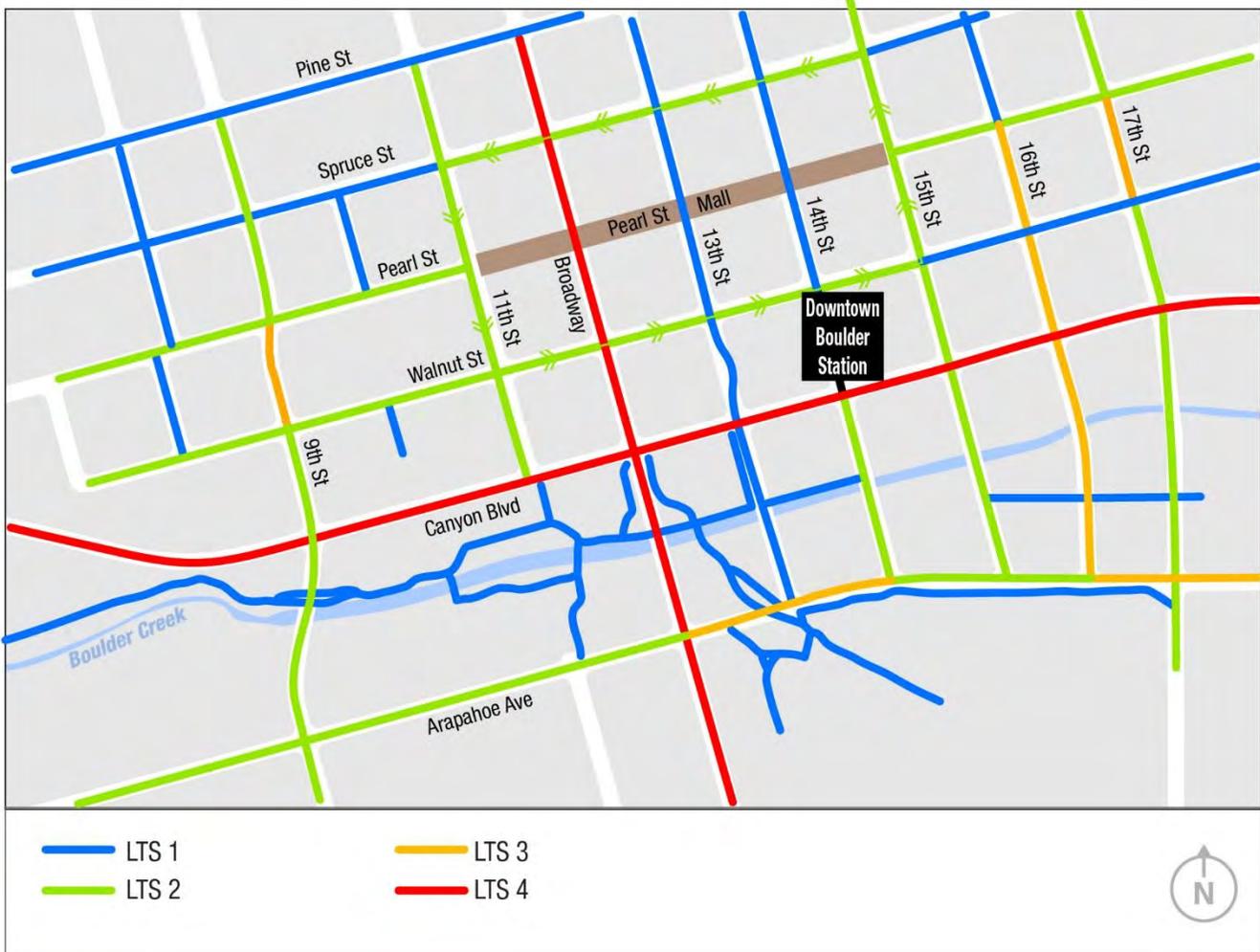
LTS 2: A level of traffic stress tolerable by the mainstream adult population

LTS 3: A level of traffic stress tolerable by a smaller portion of the adult population who are confident in their abilities, but who would prefer separation from traffic

LTS 4: A level of traffic stress tolerable by the most confident riders; these riders are comfortable mixing with heavy traffic and at higher speeds

Figure 15 shows the LTS for the network surrounding Canyon Boulevard. Several blocks north of Canyon were included in this analysis to understand the function of the one-way loop formed by Walnut Street, 15th Street, Spruce Street, and 11th Streets. Also, for the purposes of this study the Boulder Creek Greenway was included as a connection in the bicycle network.

Figure 15. Level of Traffic Stress



Because of the lack of dedicated bicycle facilities, speeds of 35 miles per hour and greater, and four lanes of traffic, Canyon Boulevard received an LTS 4, only providing a connection for the most experienced cyclist. A majority of the network received an LTS 2, with speeds on many of the roads between 20 and 25 miles per hour, no more than two lanes of vehicular traffic, and varying accommodations for cyclists provided. The cycletrack on 13th Street and the Boulder Creek Trail received an LTS 1 because of the separation from traffic provided by those facilities.

4.8. Pedestrian Facilities

There is an extensive existing pedestrian network within the study corridor. Canyon Boulevard has sidewalks in both the eastbound and westbound directions and all intersecting streets have sidewalks. Additionally, there is an existing network of off-street pedestrian facilities within the Civic Area and along Boulder Creek. Sidewalks on

the north side of Canyon Boulevard generally are about 10 feet in width, with the narrowest section being four feet near 17th Street. Along the south side of Canyon Boulevard, the pedestrian facilities are considerably narrower, ranging between four feet and eight feet.

For a majority of the corridor, the sidewalks have a buffer between the vehicle travel lanes and the pedestrian walkway. This buffer varies, from a simple three-and-a-half foot grass strip to larger raised planters. However, some sections of sidewalk are not detached from the street and do not have a significant barrier between cars and pedestrians. This occurs in multiple places on the south side of the street, including sections between Broadway Street and 14th Street, as well as on the north side near 17th Street.

Each intersection, with the exclusion of 16th Street, has existing pedestrian facilities across Canyon Boulevard, including crosswalk striping and ramps. 16th Street has ramps, but does not have a formal, striped crosswalk. Based on a visual inspection, all ramps within the study area appear to meet the most recent Americans with Disabilities Act (ADA) design standards. Additionally, there are two mid-block pedestrian crossings located between Broadway Street and 9th Street. Both share similar designs with rapid flashing beacons, painted markings, and vehicle yield signs.

4.8.1. Pedestrian Counts

Pedestrian counts were gathered from the turning movement count data collected at each intersection. For the two mid-block crossings—at the Boulder Public Library and 11th Street—data were provided by the City of Boulder from counts taken in July 2009 at the Boulder Public Library crossing, and in June 2012 at the 11th Street crossing. These counts are shown in Table 4-6. The most pedestrian movements take place between Broadway Street and 14th Street and range from around 130 to 400 pedestrian crossings during a peak period. The high number of crossings at these locations, as compared to the eastern or western ends of the study area, is likely a result of the intersections' proximity to the Downtown Boulder Station and Broadway Street and Canyon Boulevard bus stops.

Table 4-6. Pedestrian Volumes

Location	Morning Peak	Mid-day Peak	Evening Peak
9th Street and Canyon Boulevard	75	77	122
Boulder Public Library mid-block crossing	26	69	59
11th Street and Canyon Boulevard	120	152	192
Broadway Street and Canyon Boulevard	255	308	361
13th Street and Canyon Boulevard	126	252	230
14th Street and Canyon Boulevard	147	215	412
15th Street and Canyon Boulevard	116	181	254
17th Street and Canyon Boulevard	120	93	107

4.8.2. Pedestrian Level of Service

To better understand the existing pedestrian facilities, the Pedestrian Performance Measures (PPM) model methodology was used to score each sidewalk segment. This points-based-model assigns a score for certain features of the pedestrian infrastructure and, based on the total score, assigns a pedestrian level of service to the facility.

The main criteria evaluated include:

- Continuity of facility
- Width of facility
- Conflicts with motor vehicles
- Amenities and user comfort
- Maintenance
- Support of alternative transportation options, such as bicycling and public transit

Originally developed for the City of Gainesville, Florida, by the University of Florida, this methodology was chosen over others, such as the Highway Capacity Manual's Pedestrian Level of Service model, because of its ability to evaluate the corridor on a block-by-block basis and capture elements of the pedestrian experience beyond a simple point-to-point travel evaluation. The points-based methodology of the PPM model was reviewed by the Sacramento Area Council of Governments' study entitled, *Application of New Pedestrian Level of Service Measures*. The study compared the PPM model to the HCM's Pedestrian Level of Service (PLOS) model and determined them to be equally useful in their ability to evaluate pedestrian facilities. Additionally, the criteria evaluated in the PPM model, summarized above, are very similar to those evaluated by many civic pedestrian planning documents, including the City of Seattle, Washington's *Pedestrian Master Plan*, and the City of San Francisco, California's *Better Streets Plan*. Although neither of these documents specifically utilizes the PPM scoring model, they place importance on the same aspects the model evaluates. The PPM model simply gives the ability to consistently measure the features and amenities that are widely accepted to be a necessary part of a vibrant pedestrian facility.

To fully capture the pedestrian experience across the corridor, two pedestrian level of service analyses were conducted. The first, using the standard PPM methodology was applied to a corridor-wide analysis. This resulted in an overall pedestrian LOS B for the corridor. A second, modified PPM methodology then was applied to individual segments of the roadway. A modification was required to the original PPM model because it does not traditionally distinguish between the different conditions on each side of a street. Because of the variability in sidewalk characteristics between the north and south side of Canyon Boulevard, the PPM model was modified to supplement the analysis. It was determined that this modification would be applicable for use on this project as long as the modification was applied consistently to both existing conditions and any future considered alternatives. The results of the modified segment analysis are shown in Figure 16. The individual scoring tables, included as [Appendix XX](#), show the points each segment received for each criterion evaluated. The appendix also shows the original and modified scoring tables used for this analysis.

Figure 16. Pedestrian LOS



In general, the existing pedestrian facilities are adequate for transportation purposes, but do not always provide a comfortable experience. The best-scoring pedestrian facilities are those located around 13th Street and near

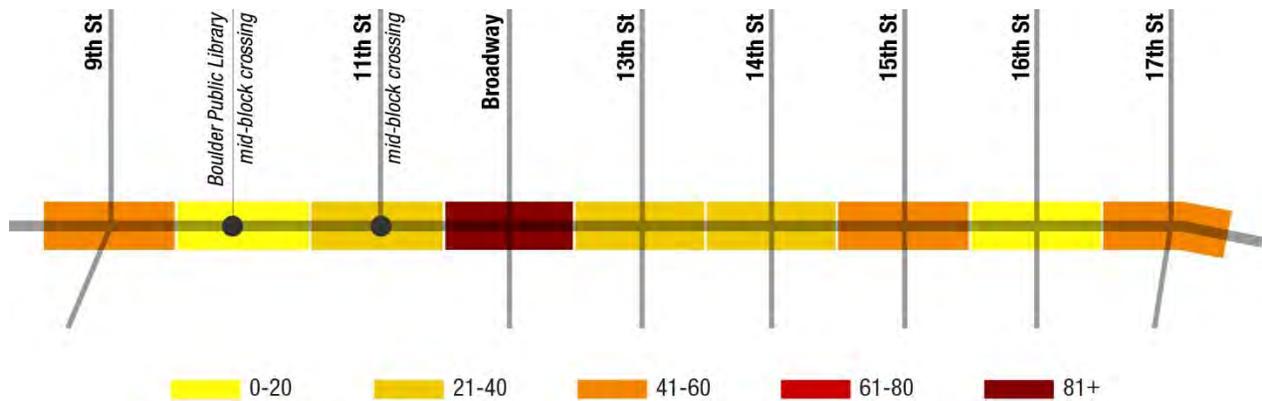
the Downtown Boulder Station. These segments scored better than the others due to the increased separation from vehicle traffic and presence of human-scaled amenities. The worst performing pedestrian facility is the southbound 14th Street sidewalk south of Canyon Boulevard. This section scored poorly due to the narrow sidewalk, lack of amenities, and high volume of driveways.

4.9. Transportation Safety

Five years of crash data (January 2010 to December 2014) were collected from crash records maintained by CDOT, the City of Boulder, and available from the Pedestrian and Bicycle Crash Analysis Tool (PBCAT). It was necessary to rectify information from all sources to ensure completeness of the information, since none of the sources was deemed to be complete on its own. Self-reported crash records were not included in the study.

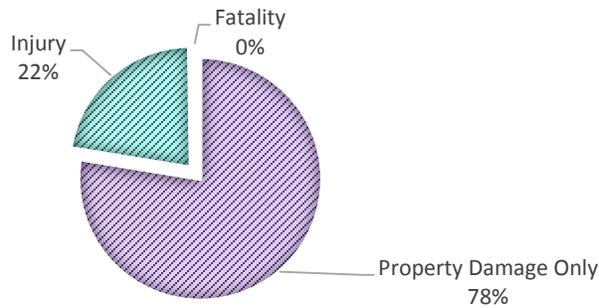
Because most crashes were reported in conjunction with an intersection, vehicle crashes were identified by roadway segment in the study area and aggregated around each intersection. Figure 17 shows the number of crashes for each segment of roadway within the study area. The highest number of vehicular crashes were located at Broadway Street, which had 117 crashes recorded. This is more than twice as many accidents as recorded at any other intersection and represents more than one-third of all crashes within the study area. Of the remaining intersections, the crashes are more evenly spread across the corridor, with 9th Street, 15th Street, and 17th Street intersections experiencing the next highest volume of crashes, ranging between 40 and 60.

Figure 17. Vehicle Crashes



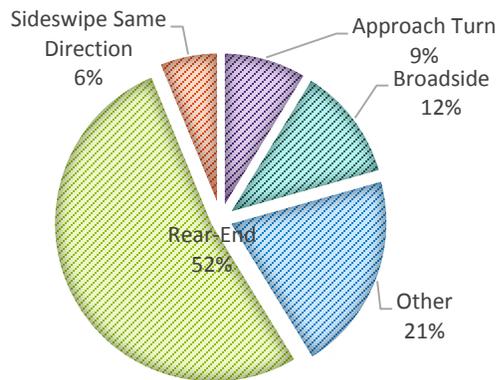
Most crashes along the corridor are minor and do not result in injuries. Injuries represent only 22 percent of all accidents. There was only one fatality in the corridor. This fatality occurred near the 14th Street intersection. Non-injury and injury crashes were evenly spread across the corridor, with each intersection having about the same percentage of non-injury and injury crashes. Figure 18 shows the percentage of each crash type within the corridor.

Figure 18. Vehicle Crashes by Type of Damage



The largest number of crashes within the study area are rear-end collisions. These types of crashes represent more than half of all crashes on the corridor, which is typical for signalized intersections. Sideswipes, approach turns, and broadsides represent an additional 30 percent of the crashes, with the remaining crashes being a combination of other crash types, including utility pole collisions, barrier collisions, and collisions with parked cars. Figure 19 shows percentage of crashes by type.

Figure 19. Vehicle Crashes by Type



Bicycle and pedestrian crashes also were recorded and analyzed for the same period and for the same segments as the vehicle crashes. The results of this analysis are shown in Table 4-7. The highest number of pedestrian crashes occurred at 15th Street and Broadway Street. Additionally, Broadway Street has the highest number of reported bicycle crashes. In general, most bicycle and pedestrian incidents within the study area occur between 11th Street and 15th Street. These are also the locations with the highest volumes of bicyclists and pedestrians. On January 20 and 21, 2016, between the hours of 6:00 a.m. and 6:00 p.m., video traffic detection devices recorded more than 75 illegal pedestrian movements crossing Canyon between 14th Street and 15th Street. Many of these crossings were related to making connections with the Downtown Boulder Station.

Table 4-7. Bicycle and Pedestrian Crashes

Location	Pedestrian Crashes	Bicycle Crashes
9th Street and Canyon Boulevard	1	1
Boulder Public Library mid-block crossing	0	0
11th Street and Canyon Boulevard	3	4
Broadway Street and Canyon Boulevard	4	6
13th Street and Canyon Boulevard	0	1
14th Street and Canyon Boulevard	2	3
15th Street and Canyon Boulevard	5	1
16th Street and Canyon Boulevard	0	0
17th Street and Canyon Boulevard	2	4

5. Environmental Considerations

5.1. Methods of Environmental Analysis

A desktop review of environmental resource data was completed to record existing environmental resources and land uses within the study area. The goal was to determine if the resources currently presented would affect the implementation of the project. Data were obtained from the City of Boulder and aerial maps from Google and ESRI ArcMap.

5.2. Socioeconomics and Environmental Justice

The study area generally is characterized as a mixed urban corridor. The west side of the corridor is zoned as downtown land use and consists of mostly commercial businesses on the north side. Businesses include restaurants, retail shops, and banks. Boulder Creek Greenway and Central Park are located south of Canyon Boulevard between 9th Street and 13th Street.

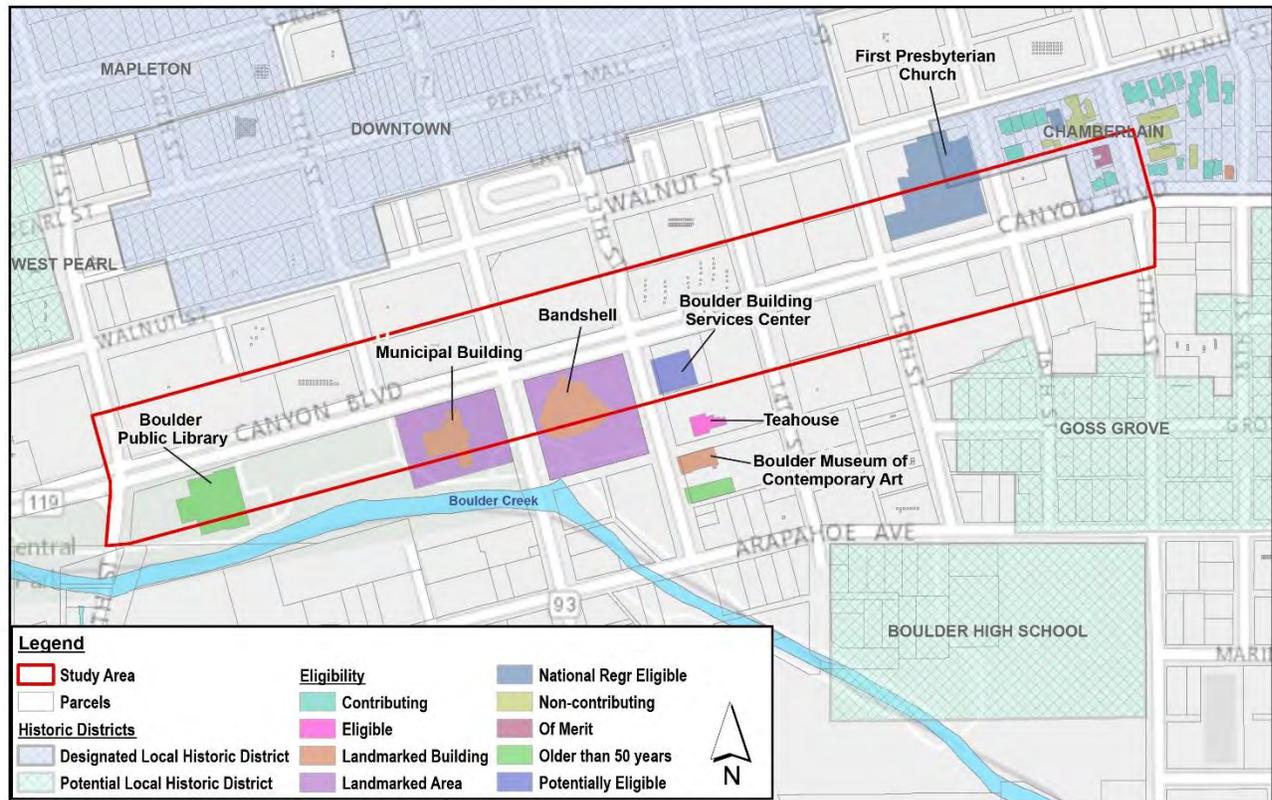
It is unlikely that minority and low-income communities exist within the study area. Currently, the Census data for the City of Boulder indicates that the minority population of the city is 12.0 percent and the low-income population is 22.8 percent (referring to the number of individuals living below the poverty level) (Census, 2010). These percentages are well below the 50-percent minority and low-income environmental justice thresholds.

5.3. Historic, Paleontological/Archaeological

Data records show there are a total of seven potential historic structures in the study area, three of which are located in the Chamberlin Historic District. The historic district is located north of Canyon Boulevard, between 15th Street and 17th Street. The district primarily contains older residential buildings that have been converted to small businesses or serve as dual purpose buildings (residential and small business) and the First Presbyterian Church. Only a portion of the First Presbyterian Church is included in the Chamberlain Historic District. It should be noted that the land surrounding both the band shell and the Municipal Building have been classified as Landmarked Areas. In addition, the Boulder Building Services Center is another potentially eligible historic

structure that is located within the study area. Figure 20 shows the designated or potential historic districts within and near to the study area, along with each potential historic structure. There were no paleontological or archaeological areas identified within the study area.

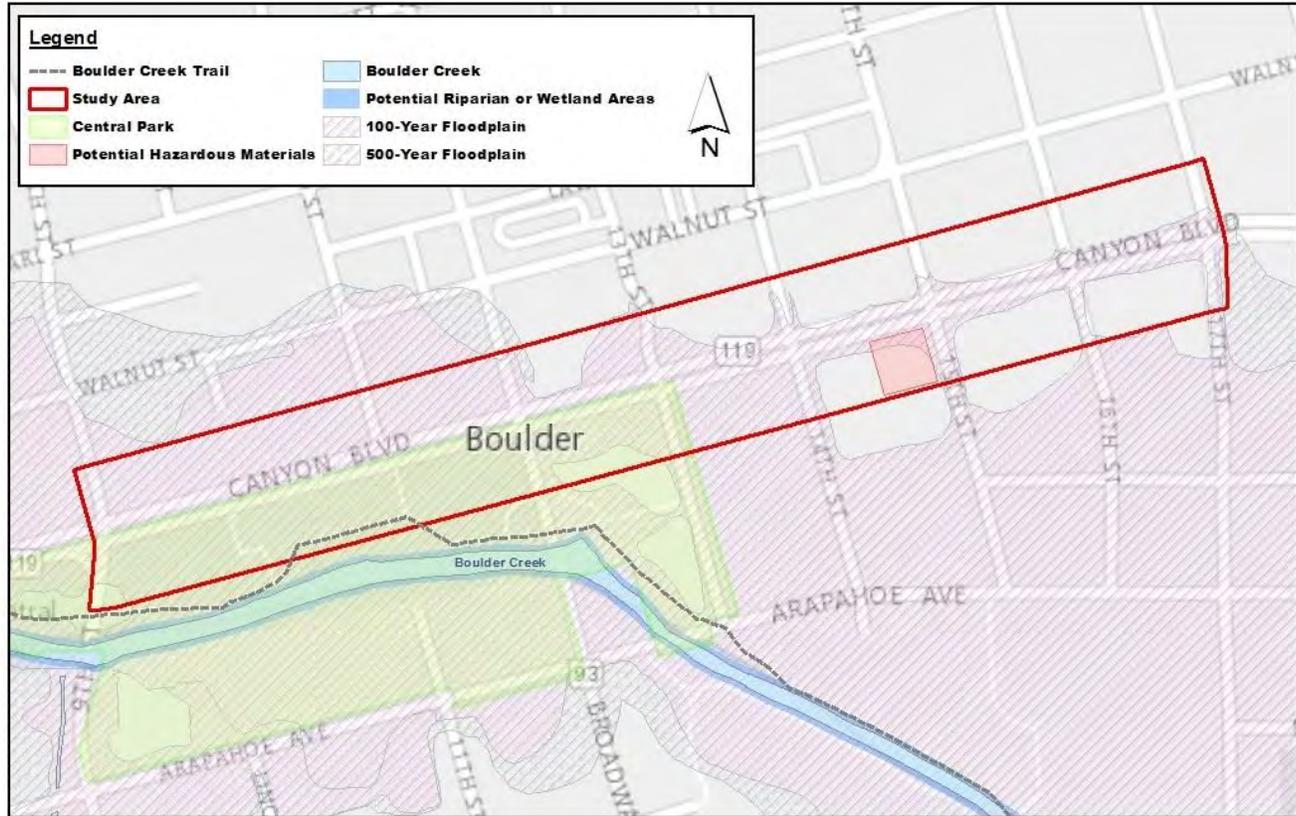
Figure 20. Potential Historic Structures



5.4. Parks and Recreation

There is one park located within the study area. Central Park (see Figure 21) is located between 9th Street and 13th Street. The park incorporates the Boulder Creek Path and Greenway, along with many other recreation opportunities.

Figure 21. Environmental Areas of Concern



5.5. Wildlife, Vegetation, and Wetlands and Waters of the United States

The study area was run through the U.S. Fish and Wildlife Service Information for Planning and Conservation database. Results show numerous resources, including 25 migratory bird species, that could be present within the study area. Migratory birds are protected under the Migratory Bird Treaty Act (MBTA). Any person or organization planning or conducting activities that may result in the taking of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures. Small trees, shrubs, and brush provide potential habitat for smaller migratory birds and larger birds, such as raptors, have the potential to nest in the taller trees, especially near Boulder Creek. A site visit to provide observations was not performed as part of this study.

Within the study area, 11 proposed, candidate, threatened, and endangered species managed by the Endangered Species Program of the U.S. Fish and Wildlife Services may occur or could potentially be affected by activities. Three of the 11 listed species are associated with riparian habitat. These listed species include the Preble's meadow jumping mouse (*Zapus hudsonius preblei*), the Ute ladies'-tresses orchid (*Spiranthes diluvialis*), and the Colorado butterfly plant (*Gaura neomexicana ssp. coloradensis*). Riparian areas (see Figure 21), where these species are most likely to exist, are located adjacent to the study area; however, any activity could potentially cause indirect effects. A field study to determine if populations for these three species exist in the study area is recommended prior to any construction.

Habitat for the eight other listed species is limited within the study area. Five species are listed because they occur downstream of the project area along the South Platte River and could be impacted by projects that would result in water depletions, including: the Least Tern (*Sterna antillarum*), the pallid sturgeon (*Scaphirhynchus albus*), the Piping Plover (*Charadrius melodus*), the Western prairie-fringed orchid (*Platanthera praeclara*), and

the Whooping Crane (*Grus americana*). There is no suitable habitat for the remaining four species. The Canada lynx (*Lynx canadensis*) occurs in high elevation spruce-fir forests. The greenback cutthroat trout (*Oncorhynchus clarki stomias*) occupies cold, clear streams of moderate gradient in the mountains and foothills. The Mexican Spotted Owl (*Strix occidentalis lucida*) occurs in mixed conifer forests and rocky canyons.

Wetland mapping received from the City of Boulder shows that any wetlands present will be associated with Boulder Creek and will exist on the south side of Canyon Boulevard between 9th Street and 13th Street. Vegetation in the study area appears to be mostly landscaped, but wetlands could potentially be present within the study area. A site visit is recommended for wetland and biological resources.

In terms of forestry, a landscaping plan will identify any effects to existing trees in the study area. Prior to removing or relocating trees within any public right of way, the City of Boulder requires an approved landscaping plan and a right-of-way permit. Furthermore, tree removal or relocation will be done in accordance with Section 3.04 of the City of Boulder *Design and Construction Standards*. If the City finds a tree in any public right of way to be desirable, protection procedures will be followed, as detailed in Section 3.05 of the City of Boulder *Design and Construction Standards*.

5.6. Floodplains and Water Quality

The study area is within the Boulder Creek floodplain (see Figure 21). Both 100-year and 500-year floodplains are mapped within the study area. The City of Boulder uses Canyon Boulevard as a method for controlling flood waters during high flows. Any work in a conveyance zone within public right of way or land owned or controlled by the government will comply with all necessary FEMA requirements and obtain a Floodplain Development Permit from the City Manager. In some cases, the City Manager may require a floodplain analysis by a Colorado registered professional engineer. Additional regulations for development in a floodplain are detailed in Section 9-3 of the City of Boulder *Municipal Code*.

5.7. Farmlands

Because there are no farmlands identified within the study area, this resource is not applicable for this study.

5.8. Hazardous Materials

There is a potential for hazardous materials to occur in the study area based on current and historical uses. There was one gas station identified along the corridor as a Potential Hazardous Material (see Figure 21). The use, storage, and disposal of hazardous materials associated with this facility may have the potential to impact soils and water within the study area. According to the Colorado Department of Public Health and Environment (CDPHE), this location is no longer generating hazardous waste.

5.9. Noise

The study area contains multiple noise receptors, including the band shell, the Saint Julien Hotel and Spa, and numerous downtown businesses on the west side of the corridor, multiple government buildings along the south side of Canyon Boulevard in the Central Park area, and residential and mixed-use properties along the east end of corridor. Impacts for the corridor on the activities that occur at and around the band shell have been specifically identified as an issue.

5.10. Air Quality

The criteria pollutants of concern for transportation projects in the Denver Metro region, which includes the study area, are particulate matter (PM₁₀), carbon monoxide (CO), and ground-level ozone (O₃) because these are pollutants for which the Front Range/Denver has been classified as being either a nonattainment or a maintenance area. Based on air quality monitoring data, regions are designated as having either “attainment” or “nonattainment” status for the criteria pollutants based on the National Ambient Air Quality Standard (NAAQS). Nonattainment status means that a region is not compliant with NAAQS. When a nonattainment area achieves

compliance with the NAAQS, the area is considered an air quality “attainment/maintenance” area until the standard has been maintained for 10 years and a long-term maintenance plan has been approved by the United States Environmental Protection Agency (USEPA). The Denver-metropolitan and Northern Front Range area is currently designated as attainment/maintenance for CO and PM₁₀, and nonattainment for the 8-hour O₃ standard.

If the project became identified as part of the Denver Regional Council of Government’s (DRCOG) fiscally constrained long-range plan, the project would need to demonstrate regional and local conformity.

5.10.1. Climate Change

Currently, Boulder’s Climate and Sustainability Division provides leadership to achieve goals of sustainability, resilience, and environmental quality. To supplement to existing programs, the City of Boulder is making commitments to reduce energy-related emissions by implementing strategies in target action areas, including energy, resources, and ecosystems. The goals are to:

- Reduce the amount of energy consumed by implementing energy-efficient methods
- Identify local renewable sources to improve sustainability
- Use natural resources more wisely
- Restore the health of the various ecosystems that help sustain the Boulder community and ensure climate stability

For more information, please see the draft Boulder’s Climate Commitment (Draft October 2015).

5.11. Environmental Summary

In summary, this environmental considerations section includes a preliminary environmental analysis of resources within the Canyon Boulevard study area (see Figure 22. Environmental Considerations Matrix. Of the resource subjects analyzed, historic landmarks and landmark areas, floodplains, water quality, forestry, and noise were observed to have the most potential for impacts by transportation improvement activities with the study area. The City of Boulder has regulations and permitting processes that must be pursued in the event of anticipated impacts to several of these resources. Once design options are identified for the study area, a detailed analysis can provide further information about environmental considerations.

Figure 22. Environmental Considerations Matrix

Resource	Corridor Location	
	North of Canyon Boulevard	South of Canyon Boulevard
Environmental Justice	Low-income or minority community unlikely	Low-income or minority community unlikely
Land Use	Downtown—Commercial businesses, residential, mixed use	Downtown—Park, residential, mixed use
Historic Preservation	The Chamberlain Historic District on the east end of the corridor	Landmarked area (includes Boulder Band Shell and Municipal Building); Boulder Building Services Center
Paleontological/Archaeological	Paleontological and archaeological resources unlikely	Paleontological and archaeological resources unlikely
Parks and Recreation	No parks or recreational facilities identified	Central Park (Civic Area) and Boulder Creek Greenway
Wildlife	Potential migratory bird nesting areas	Potential migratory bird nesting areas
Vegetation/Forestry	Mixed grasses and shrubs; landscaped areas	Mixed grasses and shrubs, small, and large trees; landscaped areas

Resource	Corridor Location	
	North of Canyon Boulevard	South of Canyon Boulevard
Wetlands/Waters of the US	Resource not present in the area	Potential wetlands near Boulder Creek
Floodplains	100-year and 500-year floodplains identified	100-year and 500-year floodplains identified
Water Quality	Boulder Creek	Boulder Creek
Farmlands	No Prime Farmlands of national importance identified	No Prime Farmlands of national importance identified
Hazardous Materials	No hazardous materials generators identified	Shell gas station
Noise	Residential and church receptors	Residential and Landmarked area

5.12. Environmental References

Boulder County, Colorado, 2016. "Geographical Information Systems (GIS) Downloadable Data." <http://www.bouldercounty.org/gov/data/pages/gisdldata.aspx>, website accessed January 2016.

City of Boulder, Colorado, 2015. "Draft Boulder's Climate Commitment." <https://bouldercolorado.gov/climate>

Google Maps, 2016. Canyon Boulevard, Boulder, Colorado. Retrieved from <https://www.google.com/maps/@40.0155786,-105.2761052,16.75z>

U.S. Fish & Wildlife Service, 2016. "Information for Planning and Conservation." <https://ecos.fws.gov/ipac/>, website accessed January 2016.

United States Census Bureau, 2016. "Boulder County, Colorado Quick Facts." <http://quickfacts.census.gov/qfd/states/08/08013.html>, website accessed January 2016.

Appendix A: Pedestrian Performance Measures

Subject: Canyon Boulevard Complete Streets Study, Existing Conditions Summary

Background

The Pedestrian Performance Measures (PPM) model methodology was used to score each sidewalk segment for pedestrian comfort and facility performance. This points-based-model assigns a score for certain features of the pedestrian infrastructure and, based on the total score, assigns a pedestrian level of service to the facility.

Originally developed by the University of Florida, this methodology was chosen over others, such as the Highway Capacity Manual’s (HCM) Pedestrian Level of Service model, because of its ability to evaluate the corridor on a block-by-block basis and capture elements of the pedestrian experience beyond a simple point-to-point travel evaluation. The points-based methodology of the PPM model was reviewed by the Sacramento Area Council of Governments’ study entitled, *Application of New Pedestrian Level of Service Measures*. The study compared the PPM model to the HCM’s Pedestrian Level of Service (PLOS) model and determined them to be equally useful in their ability to evaluate pedestrian facilities. Additionally, the criteria evaluated in the PPM model, summarized above, are very similar to those evaluated by many civic pedestrian planning documents, including the City of Seattle, Washington’s *Pedestrian Master Plan*, and the City of San Francisco, California’s *Better Streets Plan*. Although neither of these documents specifically utilizes the PPM scoring model, they place importance on the same aspects the model evaluates. The PPM model gives the ability to consistently measure the features and amenities that are widely accepted to be a necessary part of a vibrant pedestrian facility. The PPM is also evaluated in the *Transportation Research Record: Journal of the Transportation Research Board 2014*, Volume 1538, pp.1-9. Table 1 and Table 2 show the categories, criterion, and points available per criterion of the PPM as well as the scoring ranges.

Table 1. PPM Criteria

Category	Criterion	Points
Facility (Max. possible value = 10)	Not continuous or non-existent	0
	Continuous on one side	4
	Continuous on both sides	6
	Min. 5-foot wide & barrier free	2
	Sidewalk width > 5-feet	1
	Off-street/parallel alternative facility	1
Conflicts (Max. possible value = 4)	<22 driveways and side streets per mile	1
	Ped. Signal delay of 40 sec. or less	0.5
	Reduced turn conflict implementation	0.5
	Crossing width 60-feet or less	0.5
	Posted speed <= 35 mph	0.5
	Median present	1

Appendix A: Pedestrian Performance Measures

Category	Criterion	Points
Amenities (Max possible value = 2)	Buffer not less than 3.5-feet	1
	Benches or pedestrian scale lighting	0.5
	Shade trees	0.5
Motor Vehicle LOS (Max. possible value = 2)	E or F OR 6+ travel lanes	0
	D and <6 travel lanes	1
	A, B, or C and <6 travel lanes	2
Maintenance (Max. possible value = 2)	Major or frequent problems	-1
	Minor or infrequent problems	0
	No problems	2
TDM/Multi Modal (Max. possible value = 1)	No support	0
	Support exists	1
Maximum possible score = 21		

Table 2. PPM LOS Scoring Ranges

21-17	A
14-16.9	B
11-13.9	C
7-10.9	D
3-6.9	E
≤ 3	F

To fully capture the pedestrian experience across the corridor, two pedestrian level of service analyses were conducted. The first, using the standard PPM methodology was applied to a corridor-wide analysis. These are presented in the results summary tables. This resulted in an overall pedestrian LOS B for the corridor. A second, modified the PPM methodology to determine pedestrian conditions on each side of the street. Because of the variability in sidewalk characteristics between the north and south side of Canyon Boulevard, the PPM model was modified determine how well each side of Canyon meets the needs of pedestrians. The modification did not impact the tool’s core assumptions, and therefore it was determined that this modification would be applicable for use on this project. The individual scoring tables, included as an attachment to this Appendix, show the points each segment received for each criterion evaluated. The attachment also shows the original and modified scoring tables used for this analysis.

Modeling Assumptions, specifications, and methodology

The following are assumptions, specifications, or modifications to the PPM as it was presented in the original model by the University of Florida.

Appendix A: Pedestrian Performance Measures

PPM LOS Assumptions (on Canyon)

1. Intersection delay
 - a. Always taken as the worst intersection on either side of the segment
 - b. Taken as ½ the time from the beginning of yellow to the next green phase
2. LOS
3. Crossing Distance
 - a. Taken as the longest crossing at either intersection

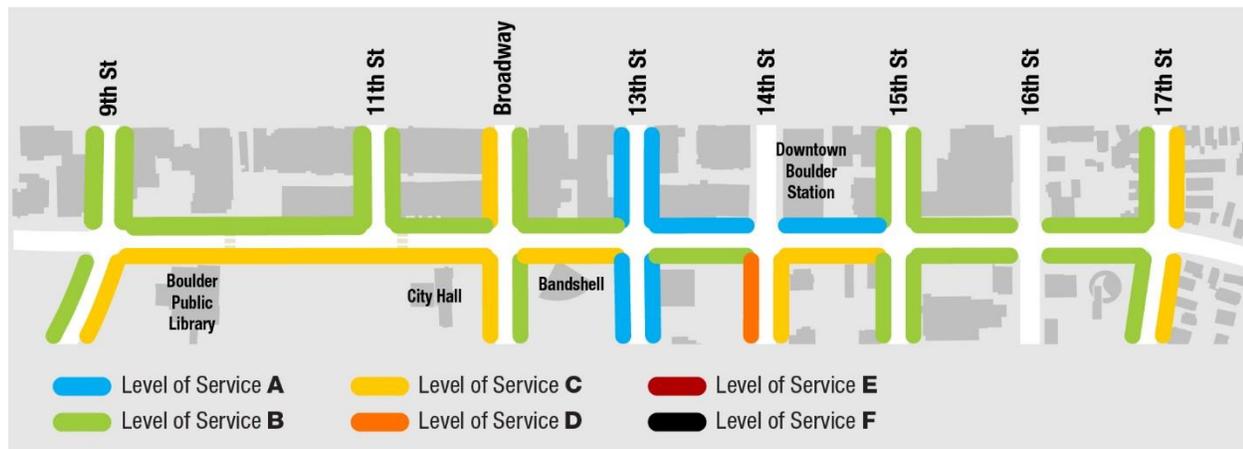
PPM LOS Assumptions for cross streets

1. Intersection delay
 - a. Taken at the intersection with Canyon
 - b. Taken as ½ the time from the beginning of yellow to the next green phase
2. LOS
 - a. Always reported at the intersection with Canyon

The original PPM was modified to create directional functionality. This was accomplished by removing the “Continuous on both sides” criterion from the Facilities category and increasing the possible points in the “Continuous” criterion from 4 to 5 points. This eliminates the only criterion that looks at both sides of the street, and re-balances the points to maintain the validity of the final LOS scoring table.

Figure 1 shows the results of the modified PPM conducted for the existing facilities along Canyon Boulevard. In general, the existing pedestrian facilities are adequate for transportation purposes, but do not always provide a comfortable experience. The best-scoring pedestrian facilities are those located around 13th Street and near the Downtown Boulder Station. These segments scored better than the others due to the increased separation from vehicle traffic and presence of human-scaled amenities. The worst performing pedestrian facility is the sidewalk west of 14th Street and south of Canyon Boulevard. This section scored poorly due to the narrow sidewalk, lack of amenities, and high volume of driveways.

Figure 1. PPM Results



Corridor wide	Pedestrian LOS Inputs	Points		Eastbound Pedestrian LOS Inputs	Points		Existing Condition	Westbound Pedestrian LOS Inputs	Points		Existing Condition
		Total	out of		Total	out of			Total	out of	
Facility (max 10)	Not continuous or non-existent		0	Not continuous or non-existent		0		Not continuous or non-existent		0	
	Continuous on one side		4	Continuous		5		Continuous		5	
	Continuous on both sides	6	6								
	Min. 5' wide and barrier free	1	2	Min. 5' wide and barrier free		2		Min. 5' wide and barrier free		2	
	Sidewalk width > 5'	0.75	1	Sidewalk width > 5'		1		Sidewalk width > 5'		1	
	Off-street/parallel alternative facility	0	1	Off-street/parallel alternative facility		1		Off-street/parallel alternative facility		1	
Conflicts (max 4)	< 22 driveways and side streets/mile	1	1	<22 driveways and side streets/mile (dpm)		1		< 22 driveways and side streets/mile		1	
	Ped. Signal delay 40 seconds or less	0.5	0.5	Ped. Signal delay 40 seconds or less		0.5		Ped. Signal delay 40 seconds or less		0.5	
	Reduced turn conflict implementation	0	0.5	Reduced turn conflict implementation		0.5		Reduced turn conflict implementation		0.5	
	Crossing width 60' or less	0.5	0.5	Crossing width 60' or less		0.5		Crossing width 60' or less		0.5	
	Posted speed <= 35mph	0.5	0.5	Posted speed <= 35mph		0.5		Posted speed <= 35mph		0.5	
	Median present	1	1	Median present		1		Median present		1	
Amenities (max 2)	Buffer not less than 3'5"	0.75	1	Buffer not less than 3'5"		1		Buffer not less than 3'5"		1	
	Benches or pedestrian scale lighting	0	0.5	Benches or pedestrian scale lighting		0.5		Benches or pedestrian scale lighting		0.5	
	Shade trees	0.25	0.5	Shade trees		0.5		Shade trees		0.5	
Motor Vehicle LOS (max 2)	E or F OR 6 or more travel lanes		0	E or F OR 6 or more travel lanes		0		E or F OR 6 or more travel lanes		0	
	D and <6 travel lanes		1	D and <6 travel lanes		1		D and <6 travel lanes		1	
	A, B, or C and <6 travel lanes	1.5	2	A, B, or C and <6 travel lanes		2		A, B, or C and <6 travel lanes		2	
Maintenance (max 2)	Major or frequent problems		-1	Major or frequent problems		-1		Major or frequent problems		-1	
	Minor or infrequent problems		0	Minor or infrequent problems		0		Minor or infrequent problems		0	
	No problems	2	2	No problems		2		No problems		2	
TDM/Multi Modal (max 1)	No support		0	No support		0		No support		0	
	Support exists	0.5	1	Support exists		1		Support exists		1	
PPM LOS		B	16.25	21		21				21	

9th Street to Broadway	Pedestrian LOS Inputs	Points		Eastbound Pedestrian LOS Inputs	Points		Existing Condition	Westbound Pedestrian LOS Inputs	Points		Existing Condition
		Total	out of		Total	out of			Total	out of	
Facility (max 10)	Not continuous or non-existent		0	Not continuous or non-existent		0		Not continuous or non-existent		0	
	Continuous on one side		4	Continuous		3	5	Continuous		5	5
	Continuous on both sides		6								
	Min. 5' wide and barrier free		2	Min. 5' wide and barrier free		1	2	Min. 5' wide and barrier free		2	2
	Sidewalk width > 5'		1	Sidewalk width > 5'		0	1	Sidewalk width > 5'		1	1
	Off-street/parallel alternative facility		1	Off-street/parallel alternative facility		1	1	Off-street/parallel alternative facility		0	1
Conflicts (max 4)	< 22 driveways and side streets/mile		1	<22 driveways and side streets/mile (dpm)		1	5 dpm	< 22 driveways and side streets/mile		1	5 dpm
	Ped. Signal delay 40 seconds or less		0.5	Ped. Signal delay 40 seconds or less		0.5	0.5	Ped. Signal delay 40 seconds or less		0.5	0.5
	Reduced turn conflict implementation		0.5	Reduced turn conflict implementation		0	0.5	Reduced turn conflict implementation		0	0.5
	Crossing width 60' or less		0.5	Crossing width 60' or less		0.5	0.5	Crossing width 60' or less		0.5	0.5
	Posted speed <= 35mph		0.5	Posted speed <= 35mph		0.5	0.5	Posted speed <= 35mph		0.5	0.5
	Median present		1	Median present		1	1	Median present		1	1
Amenities (max 2)	Buffer not less than 3'5"		1	Buffer not less than 3'5"		1	20'	Buffer not less than 3'5"		1	10'
	Benches or pedestrian scale lighting		0.5	Benches or pedestrian scale lighting		0	0.5	Benches or pedestrian scale lighting		0	0.5
	Shade trees		0.5	Shade trees		0.25	0.5	Shade trees		0.5	0.5
Motor Vehicle LOS (max 2)	E or F OR 6 or more travel lanes		0	E or F OR 6 or more travel lanes		0	LOS E	E or F OR 6 or more travel lanes		0	LOS E
	D and <6 travel lanes		1	D and <6 travel lanes		1		D and <6 travel lanes		1	
	A, B, or C and <6 travel lanes		2	A, B, or C and <6 travel lanes		2	LOS C	A, B, or C and <6 travel lanes		2	
Maintenance (max 2)	Major or frequent problems		-1	Major or frequent problems		-1		Major or frequent problems		-1	
	Minor or infrequent problems		0	Minor or infrequent problems		0		Minor or infrequent problems		0	
	No problems		2	No problems		2	2	No problems		2	2
TDM/Multi Modal (max 1)	No support		0	No support		0		No support		0	
	Support exists		1	Support exists		0.5	1	Support exists		0.5	1
PPM LOS		0	21	C	12.25	21			B	15.5	21

Broadway to 13th Street	Pedestrian LOS Inputs	Points		Eastbound Pedestrian LOS Inputs	Points		Existing Condition	Westbound Pedestrian LOS Inputs	Points		Existing Condition
		Total	out of		Total	out of			Total	out of	
Facility (max 10)	Not continuous or non-existent		0	Not continuous or non-existent		0		Not continuous or non-existent		0	
	Continuous on one side		4	Continuous	5	5		Continuous	5	5	
	Continuous on both sides		6								
	Min. 5' wide and barrier free		2	Min. 5' wide and barrier free	0	2		Min. 5' wide and barrier free	2	2	
	Sidewalk width > 5'		1	Sidewalk width > 5'	1	1		Sidewalk width > 5'	1	1	
	Off-street/parallel alternative facility		1	Off-street/parallel alternative facility	0	1		Off-street/parallel alternative facility	0	1	
Conflicts (max 4)	< 22 driveways and side streets/mile		1	< 22 driveways and side streets/mile	1	1	0 dpm	< 22 driveways and side streets/mile	1	1	0 dpm
	Ped. Signal delay 40 seconds or less		0.5	Ped. Signal delay 40 seconds or less	0.5	0.5	37.1 sec	Ped. Signal delay 40 seconds or less	0.5	0.5	32.6 sec
	Reduced turn conflict implementation		0.5	Reduced turn conflict implementation	0	0.5		Reduced turn conflict implementation	0	0.5	
	Crossing width 60' or less		0.5	Crossing width 60' or less	0.5	0.5	53'	Crossing width 60' or less	0.5	0.5	53'
	Posted speed <= 35mph		0.5	Posted speed <= 35mph	0.5	0.5	35 mph	Posted speed <= 35mph	0.5	0.5	35 mph
	Median present		1	Median present	1	1		Median present	1	1	
Amenities (max 2)	Buffer not less than 3'5"		1	Buffer not less than 3'5"	0	1	0'	Buffer not less than 3'5"	1	1	6'
	Benches or pedestrian scale lighting		0.5	Benches or pedestrian scale lighting	0	0.5		Benches or pedestrian scale lighting	0.5	0.5	
	Shade trees		0.5	Shade trees	0.5	0.5		Shade trees	0.5	0.5	
Motor Vehicle LOS (max 2)	E or F OR 6 or more travel lanes		0	E or F OR 6 or more travel lanes	0	0	LOS E	E or F OR 6 or more travel lanes	0	0	LOS E
	D and <6 travel lanes		1	D and <6 travel lanes		1		D and <6 travel lanes		1	
	A, B, or C and <6 travel lanes		2	A, B, or C and <6 travel lanes		2		A, B, or C and <6 travel lanes		2	
Maintenance (max 2)	Major or frequent problems		-1	Major or frequent problems		-1		Major or frequent problems		-1	
	Minor or infrequent problems		0	Minor or infrequent problems		0		Minor or infrequent problems		0	
	No problems		2	No problems	2	2		No problems	2	2	
TDM/Multi Modal (max 1)	No support		0	No support		0		No support		0	
	Support exists		1	Support exists		1		Support exists	0	1	
PPM LOS			21		C	12	21		B	15.5	21

13th Street to 14th Street	Pedestrian LOS Inputs	Points		Eastbound Pedestrian LOS Inputs	Points		Existing Condition	Westbound Pedestrian LOS Inputs	Points		Existing Condition
		Total	out of		Total	out of			Total	out of	
Facility (max 10)	Not continuous or non-existent		0	Not continuous or non-existent		0		Not continuous or non-existent		0	
	Continuous on one side		4	Continuous	5	5		Continuous	5	5	
	Continuous on both sides		6								
	Min. 5' wide and barrier free		2	Min. 5' wide and barrier free	2	2	5'	Min. 5' wide and barrier free	2	2	8'
	Sidewalk width > 5'		1	Sidewalk width > 5'	0	1		Sidewalk width > 5'	1	1	
	Off-street/parallel alternative facility		1	Off-street/parallel alternative facility	0	1		Off-street/parallel alternative facility	0	1	
Conflicts (max 4)	< 22 driveways and side streets/mile		1	< 22 driveways and side streets/mile	1	1	18 dpm	< 22 driveways and side streets/mile	1	1	18 drpm
	Ped. Signal delay 40 seconds or less		0.5	Ped. Signal delay 40 seconds or less	0.5	0.5	17.6 sec	Ped. Signal delay 40 seconds or less	0.5	0.5	17.6 sec
	Reduced turn conflict implementation		0.5	Reduced turn conflict implementation	0	0.5		Reduced turn conflict implementation	0	0.5	
	Crossing width 60' or less		0.5	Crossing width 60' or less	0.5	0.5	40'	Crossing width 60' or less	0.5	0.5	40'
	Posted speed <= 35mph		0.5	Posted speed <= 35mph	0.5	0.5	35 mph	Posted speed <= 35mph	0.5	0.5	35 mph
	Median present		1	Median present	1	1		Median present	1	1	
Amenities (max 2)	Buffer not less than 3'5"		1	Buffer not less than 3'5"	0.5	1	0'-15'	Buffer not less than 3'5"	1	1	9'
	Benches or pedestrian scale lighting		0.5	Benches or pedestrian scale lighting	0.5	0.5		Benches or pedestrian scale lighting	0.5	0.5	
	Shade trees		0.5	Shade trees	0.5	0.5		Shade trees	0.5	0.5	
Motor Vehicle LOS (max 2)	E or F OR 6 or more travel lanes		0	E or F OR 6 or more travel lanes		0		E or F OR 6 or more travel lanes		0	
	D and <6 travel lanes		1	D and <6 travel lanes		1		D and <6 travel lanes		1	
	A, B, or C and <6 travel lanes		2	A, B, or C and <6 travel lanes	2	2	LOS B	A, B, or C and <6 travel lanes	2	2	LOS B
Maintenance (max 2)	Major or frequent problems		-1	Major or frequent problems		-1		Major or frequent problems		-1	
	Minor or infrequent problems		0	Minor or infrequent problems		0		Minor or infrequent problems		0	
	No problems		2	No problems	2	2		No problems	2	2	
TDM/Multi Modal (max 1)	No support		0	No support	0	0		No support		0	
	Support exists		1	Support exists		1		Support exists	1	1	
PPM LOS			21		B	16	21		A	18.5	21

14th Street to 15th Street	Pedestrian LOS Inputs	Points		Eastbound Pedestrian LOS Inputs	Points		Existing Condition	Westbound Pedestrian LOS Inputs	Points		Existing Condition
		Total	out of		Total	out of			Total	out of	
Facility (max 10)	Not continuous or non-existent		0	Not continuous or non-existent		0		Not continuous or non-existent		0	
	Continuous on one side		4	Continuous	5	5		Continuous	5	5	
	Continuous on both sides		6								
	Min. 5' wide and barrier free		2	Min. 5' wide and barrier free	2	2	5'	Min. 5' wide and barrier free	2	2	5'-10'
	Sidewalk width > 5'		1	Sidewalk width > 5'	0	1		Sidewalk width > 5'	0.5	1	
	Off-street/parallel alternative facility		1	Off-street/parallel alternative facility	0	1		Off-street/parallel alternative facility	0	1	
Conflicts (max 4)	< 22 driveways and side streets/mile		1	< 22 driveways and side streets/mile	0	1	36.2 dpm	< 22 driveways and side streets/mile	0	1	37.7 dpm
	Ped. Signal delay 40 seconds or less		0.5	Ped. Signal delay 40 seconds or less	0.5	0.5	33.3 sec	Ped. Signal delay 40 seconds or less	0.5	0.5	33.3 sec
	Reduced turn conflict implementation		0.5	Reduced turn conflict implementation	0	0.5		Reduced turn conflict implementation		0.5	
	Crossing width 60' or less		0.5	Crossing width 60' or less	0.5	0.5	40'	Crossing width 60' or less	0.5	0.5	45'
	Posted speed <= 35mph		0.5	Posted speed <= 35mph	0.5	0.5	35 mph	Posted speed <= 35mph	0.5	0.5	35 mph
	Median present		1	Median present	1	1		Median present	1	1	
Amenities (max 2)	Buffer not less than 3'5"		1	Buffer not less than 3'5"	0	1	0'	Buffer not less than 3'5"	1	1	18'
	Benches or pedestrian scale lighting		0.5	Benches or pedestrian scale lighting	0	0.5		Benches or pedestrian scale lighting	0.5	0.5	
	Shade trees		0.5	Shade trees	0.2	0.5		Shade trees	0.25	0.5	
Motor Vehicle LOS (max 2)	E or F OR 6 or more travel lanes		0	E or F OR 6 or more travel lanes		0		E or F OR 6 or more travel lanes		0	
	D and <6 travel lanes		1	D and <6 travel lanes		1		D and <6 travel lanes		1	
	A, B, or C and <6 travel lanes		2	A, B, or C and <6 travel lanes	2	2	LOS B	A, B, or C and <6 travel lanes	2	2	LOS B
Maintenance (max 2)	Major or frequent problems		-1	Major or frequent problems		-1		Major or frequent problems		-1	
	Minor or infrequent problems		0	Minor or infrequent problems		0		Minor or infrequent problems		0	
	No problems		2	No problems	2	2		No problems	2	2	
TDM/Multi Modal (max 1)	No support		0	No support		0		No support		0	
	Support exists		1	Support exists	0	1		Support exists	1	1	
PPM LOS			21	C	13.7	21		A	16.75	21	

15th Street to 17th Street	Pedestrian LOS Inputs	Points		Eastbound Pedestrian LOS Inputs	Points		Existing Condition	Westbound Pedestrian LOS Inputs	Points		Existing Condition
		Total	out of		Total	out of			Total	out of	
Facility (max 10)	Not continuous or non-existent		0	Not continuous or non-existent		0		Not continuous or non-existent		0	
	Continuous on one side		4	Continuous	5	5		Continuous	5	5	
	Continuous on both sides		6								
	Min. 5' wide and barrier free		2	Min. 5' wide and barrier free	2	2	5'	Min. 5' wide and barrier free	1.5	2	4'-6'
	Sidewalk width > 5'		1	Sidewalk width > 5'	0	1		Sidewalk width > 5'	0.25	1	
	Off-street/parallel alternative facility		1	Off-street/parallel alternative facility	0	1		Off-street/parallel alternative facility	0	1	
Conflicts (max 4)	< 22 driveways and side streets/mile		1	< 22 driveways and side streets/mile	0	1	24 dpm	< 22 driveways and side streets/mile	1	1	16 dpm
	Ped. Signal delay 40 seconds or less		0.5	Ped. Signal delay 40 seconds or less	0.5	0.5	16.2 sec	Ped. Signal delay 40 seconds or less	0.5	0.5	16.2 sec
	Reduced turn conflict implementation		0.5	Reduced turn conflict implementation	0	0.5		Reduced turn conflict implementation	0	0.5	
	Crossing width 60' or less		0.5	Crossing width 60' or less	0.5	0.5	50'	Crossing width 60' or less	0.5	0.5	45'
	Posted speed <= 35mph		0.5	Posted speed <= 35mph	0.5	0.5	35 mph	Posted speed <= 35mph	0.5	0.5	35 mph
	Median present		1	Median present	1	1		Median present	1	1	
Amenities (max 2)	Buffer not less than 3'5"		1	Buffer not less than 3'5"	1	1	5'-12'	Buffer not less than 3'5"	0.5	1	0'-5'
	Benches or pedestrian scale lighting		0.5	Benches or pedestrian scale lighting	0	0.5		Benches or pedestrian scale lighting	0	0.5	
	Shade trees		0.5	Shade trees	0	0.5		Shade trees	0.5	0.5	
Motor Vehicle LOS (max 2)	E or F OR 6 or more travel lanes		0	E or F OR 6 or more travel lanes		0		E or F OR 6 or more travel lanes		0	
	D and <6 travel lanes		1	D and <6 travel lanes		1		D and <6 travel lanes		1	
	A, B, or C and <6 travel lanes		2	A, B, or C and <6 travel lanes	2	2	LOS A	A, B, or C and <6 travel lanes	2	2	LOS A
Maintenance (max 2)	Major or frequent problems		-1	Major or frequent problems		-1		Major or frequent problems		-1	
	Minor or infrequent problems		0	Minor or infrequent problems		0		Minor or infrequent problems		0	
	No problems		2	No problems	2	2		No problems	2	2	
TDM/Multi Modal (max 1)	No support		0	No support	0	0		No support	0	0	
	Support exists		1	Support exists		1		Support exists		1	
PPM LOS			21	B	14.5	21		B	15.25	21	

9th Street South of Canyon	Pedestrian LOS Inputs	Points		Northbound Pedestrian LOS Inputs	Points		Existing Condition	Southbound Pedestrian LOS Inputs	Points		Existing Condition
		Total	out of		Total	out of			Total	out of	
Facility (max 10)	Not continuous or non-existent		0	Not continuous or non-existent		0		Not continuous or non-existent		0	
	Continuous on one side		4	Continuous	5	5		Continuous	5	5	
	Continuous on both sides		6								
	Min. 5' wide and barrier free		2	Min. 5' wide and barrier free	0	2	4'	Min. 5' wide and barrier free	2	2	5'
	Sidewalk width > 5'		1	Sidewalk width > 5'	0	1		Sidewalk width > 5'	0	1	
	Off-street/parallel alternative facility		1	Off-street/parallel alternative facility	0	1		Off-street/parallel alternative facility	0	1	
Conflicts (max 4)	< 22 driveways and side streets/mile		1	<22 driveways and side streets/mile (dpm)	1	1	9 dpm	< 22 driveways and side streets/mile	1	1	0 dpm
	Ped. Signal delay 40 seconds or less		0.5	Ped. Signal delay 40 seconds or less	0.5	0.5	27.5 sec	Ped. Signal delay 40 seconds or less	0.5	0.5	27.5 sec
	Reduced turn conflict implementation		0.5	Reduced turn conflict implementation	0	0.5		Reduced turn conflict implementation	0	0.5	
	Crossing width 60' or less		0.5	Crossing width 60' or less	0	0.5	75'	Crossing width 60' or less	0	0.5	67'
	Posted speed <= 35mph		0.5	Posted speed <= 35mph	0.5	0.5	25 mph	Posted speed <= 35mph	0.5	0.5	25 mph
	Median present		1	Median present	0	1		Median present	0	1	
Amenities (max 2)	Buffer not less than 3'5"		1	Buffer not less than 3'5"	0	1	0'	Buffer not less than 3'5"	0	1	0'
	Benches or pedestrian scale lighting		0.5	Benches or pedestrian scale lighting	0	0.5		Benches or pedestrian scale lighting	0	0.5	
	Shade trees		0.5	Shade trees	0.5	0.5		Shade trees	0.5	0.5	
Motor Vehicle LOS (max 2)	E or F OR 6 or more travel lanes		0	E or F OR 6 or more travel lanes		0		E or F OR 6 or more travel lanes		0	
	D and <6 travel lanes		1	D and <6 travel lanes		1		D and <6 travel lanes		1	
	A, B, or C and <6 travel lanes		2	A, B, or C and <6 travel lanes	2	2	LOS C	A, B, or C and <6 travel lanes	2	2	LOS C
Maintenance (max 2)	Major or frequent problems		-1	Major or frequent problems		-1		Major or frequent problems		-1	
	Minor or infrequent problems		0	Minor or infrequent problems		0		Minor or infrequent problems		0	
	No problems		2	No problems	2	2		No problems	2	2	
TDM/Multi Modal (max 1)	No support		0	No support		0		No support		0	
	Support exists		1	Support exists	0	1		Support exists	1	1	
PPM LOS				C	11.5	21			B	14.5	

9th Street North of Canyon	Pedestrian LOS Inputs	Points		Northbound Pedestrian LOS Inputs	Points		Existing Condition	Southbound Pedestrian LOS Inputs	Points		Existing Condition
		Total	out of		Total	out of			Total	out of	
Facility (max 10)	Not continuous or non-existent		0	Not continuous or non-existent		0		Not continuous or non-existent		0	
	Continuous on one side		4	Continuous	5	5		Continuous	5	5	
	Continuous on both sides		6								
	Min. 5' wide and barrier free		2	Min. 5' wide and barrier free	2	2	8.5	Min. 5' wide and barrier free	2	2	6'
	Sidewalk width > 5'		1	Sidewalk width > 5'	1	1		Sidewalk width > 5'	1	1	
	Off-street/parallel alternative facility		1	Off-street/parallel alternative facility	0	1		Off-street/parallel alternative facility	0	1	
Conflicts (max 4)	< 22 driveways and side streets/mile		1	<22 driveways and side streets/mile (dpm)	1	1	0 dpm	< 22 driveways and side streets/mile	1	1	0 dpm
	Ped. Signal delay 40 seconds or less		0.5	Ped. Signal delay 40 seconds or less	0.5	0.5	27.5 sec	Ped. Signal delay 40 seconds or less	0.5	0.5	27.5 sec
	Reduced turn conflict implementation		0.5	Reduced turn conflict implementation	0	0.5		Reduced turn conflict implementation	0	0.5	
	Crossing width 60' or less		0.5	Crossing width 60' or less	0	0.5	75'	Crossing width 60' or less	0	0.5	67'
	Posted speed <= 35mph		0.5	Posted speed <= 35mph	0.5	0.5	25 mph	Posted speed <= 35mph	0.5	0.5	25 mph
	Median present		1	Median present	0	1		Median present	0	1	
Amenities (max 2)	Buffer not less than 3'5"		1	Buffer not less than 3'5"	1	1	3.5'	Buffer not less than 3'5"	1	1	5'
	Benches or pedestrian scale lighting		0.5	Benches or pedestrian scale lighting	0	0.5		Benches or pedestrian scale lighting	0	0.5	
	Shade trees		0.5	Shade trees	0.5	0.5		Shade trees	0.5	0.5	
Motor Vehicle LOS (max 2)	E or F OR 6 or more travel lanes		0	E or F OR 6 or more travel lanes		0		E or F OR 6 or more travel lanes		0	
	D and <6 travel lanes		1	D and <6 travel lanes		1		D and <6 travel lanes		1	
	A, B, or C and <6 travel lanes		2	A, B, or C and <6 travel lanes	2	2	LOS C	A, B, or C and <6 travel lanes	2	2	LOS C
Maintenance (max 2)	Major or frequent problems		-1	Major or frequent problems		-1		Major or frequent problems		-1	
	Minor or infrequent problems		0	Minor or infrequent problems		0		Minor or infrequent problems		0	
	No problems		2	No problems	2	2		No problems	2	2	
TDM/Multi Modal (max 1)	No support		0	No support		0		No support		0	
	Support exists		1	Support exists	1	1		Support exists	1	1	
PPM LOS				B	16.5	21			B	16.5	21

11th Street North of Canyon	Points		Northbound		Points		Existing Condition	Southbound		Points		Existing Condition
	Pedestrian LOS Inputs	Total	out of	Pedestrian LOS Inputs	Total	out of		Pedestrian LOS Inputs	Total	out of		
Facility (max 10)	Not continuous or non-existent		0	Not continuous or non-existent		0		Not continuous or non-existent		0		
	Continuous on one side		4	Continuous	5	5		Continuous	5	5		
	Continuous on both sides		6									
	Min. 5' wide and barrier free		2	Min. 5' wide and barrier free	2	2	10'	Min. 5' wide and barrier free	2	2	10'	
	Sidewalk width > 5'		1	Sidewalk width > 5'	1	1		Sidewalk width > 5'	1	1		
	Off-street/parallel alternative facility		1	Off-street/parallel alternative facility	0	1		Off-street/parallel alternative facility	0	1		
Conflicts (max 4)	< 22 driveways and side streets/mile		1	<22 driveways and side streets/mile (dpm)	1	1	8 dpm	< 22 driveways and side streets/mile	1	1	8 dpm	
	Ped. Signal delay 40 seconds or less		0.5	Ped. Signal delay 40 seconds or less	0.5	0.5	0 sec	Ped. Signal delay 40 seconds or less	0	0.5		
	Reduced turn conflict implementation		0.5	Reduced turn conflict implementation	0.25	0.5		Reduced turn conflict implementation	0	0.5		
	Crossing width 60' or less		0.5	Crossing width 60' or less	0.5	0.5	28'	Crossing width 60' or less	0	0.5		
	Posted speed <= 35mph		0.5	Posted speed <= 35mph	0.5	0.5	25 mph	Posted speed <= 35mph	0.5	0.5	25 mph	
	Median present		1	Median present	0	1		Median present	0	1		
Amenities (max 2)	Buffer not less than 3'5"		1	Buffer not less than 3'5"	0	1	0'	Buffer not less than 3'5"	0	1	0'	
	Benches or pedestrian scale lighting		0.5	Benches or pedestrian scale lighting	0	0.5		Benches or pedestrian scale lighting	0	0.5		
	Shade trees		0.5	Shade trees	0	0.5		Shade trees	0.5	0.5		
Motor Vehicle LOS (max 2)	E or F OR 6 or more travel lanes		0	E or F OR 6 or more travel lanes		0		E or F OR 6 or more travel lanes		0		
	D and <6 travel lanes		1	D and <6 travel lanes		1		D and <6 travel lanes		1		
	A, B, or C and <6 travel lanes		2	A, B, or C and <6 travel lanes	2	2	LOS A	A, B, or C and <6 travel lanes	2	2	LOS C	
Maintenance (max 2)	Major or frequent problems		-1	Major or frequent problems		-1		Major or frequent problems		-1		
	Minor or infrequent problems		0	Minor or infrequent problems		0		Minor or infrequent problems		0		
	No problems		2	No problems	2	2		No problems	2	2		
TDM/Multi Modal (max 1)	No support		0	No support	0	0		No support	0	0		
	Support exists		1	Support exists		1		Support exists		1		
PPM LOS				B	14.75	21			B	14		

Broadway Street South of Canyon	Points		Northbound		Points		Existing Condition	Southbound		Points		Existing Condition
	Pedestrian LOS Inputs	Total	out of	Pedestrian LOS Inputs	Total	out of		Pedestrian LOS Inputs	Total	out of		
Facility (max 10)	Not continuous or non-existent		0	Not continuous or non-existent		0		Not continuous or non-existent		0		
	Continuous on one side		4	Continuous	5	5		Continuous	5	5		
	Continuous on both sides		6									
	Min. 5' wide and barrier free		2	Min. 5' wide and barrier free	2	2	10'	Min. 5' wide and barrier free	2	2	10'	
	Sidewalk width > 5'		1	Sidewalk width > 5'	1	1		Sidewalk width > 5'	1	1		
	Off-street/parallel alternative facility		1	Off-street/parallel alternative facility	1	1		Off-street/parallel alternative facility	0	1		
Conflicts (max 4)	< 22 driveways and side streets/mile		1	<22 driveways and side streets/mile (dpm)	1	1	0 dpm	< 22 driveways and side streets/mile	1	1	0 dpm	
	Ped. Signal delay 40 seconds or less		0.5	Ped. Signal delay 40 seconds or less	0.5	0.5	35.3 sec	Ped. Signal delay 40 seconds or less	0.5	0.5	35.3 sec	
	Reduced turn conflict implementation		0.5	Reduced turn conflict implementation	0	0.5		Reduced turn conflict implementation	0	0.5		
	Crossing width 60' or less		0.5	Crossing width 60' or less	0	0.5	70'	Crossing width 60' or less	0	0.5	70'	
	Posted speed <= 35mph		0.5	Posted speed <= 35mph	0.5	0.5	30 mph	Posted speed <= 35mph	0.5	0.5	30 mph	
	Median present		1	Median present	0	1		Median present	0	1		
Amenities (max 2)	Buffer not less than 3'5"		1	Buffer not less than 3'5"	0	1	0'	Buffer not less than 3'5"	0	1	0'	
	Benches or pedestrian scale lighting		0.5	Benches or pedestrian scale lighting	0.25	0.5		Benches or pedestrian scale lighting	0.25	0.5		
	Shade trees		0.5	Shade trees	0.5	0.5		Shade trees	0.5	0.5		
Motor Vehicle LOS (max 2)	E or F OR 6 or more travel lanes		0	E or F OR 6 or more travel lanes	0	0	LOS E	E or F OR 6 or more travel lanes	0	0	LOS E	
	D and <6 travel lanes		1	D and <6 travel lanes		1		D and <6 travel lanes		1		
	A, B, or C and <6 travel lanes		2	A, B, or C and <6 travel lanes	2	2		A, B, or C and <6 travel lanes		2		
Maintenance (max 2)	Major or frequent problems		-1	Major or frequent problems		-1		Major or frequent problems		-1		
	Minor or infrequent problems		0	Minor or infrequent problems		0		Minor or infrequent problems		0		
	No problems		2	No problems	2	2		No problems	2	2		
TDM/Multi Modal (max 1)	No support		0	No support		0		No support		0		
	Support exists		1	Support exists	1	1		Support exists	1	1		
PPM LOS				B	14.75	21			C	13.75		

Broadway Street North of Canyon	Pedestrian LOS Inputs	Points		Northbound Pedestrian LOS Inputs	Points		Existing Condition	Southbound Pedestrian LOS Inputs	Points		Existing Condition	
		Total	out of		Total	out of			Total	out of		
Facility (max 10)	Not continuous or non-existent		0	Not continuous or non-existent		0		Not continuous or non-existent		0		
	Continuous on one side		4	Continuous		5		Continuous		5		
	Continuous on both sides		6									
	Min. 5' wide and barrier free		2	Min. 5' wide and barrier free		2	10' +	Min. 5' wide and barrier free		2	10' +	
	Sidewalk width > 5'		1	Sidewalk width > 5'		1		Sidewalk width > 5'		1		
	Off-street/parallel alternative facility		1	Off-street/parallel alternative facility		0	1	Off-street/parallel alternative facility		0	1	
Conflicts (max 4)	< 22 driveways and side streets/mile		1	<22 driveways and side streets/mile (dpm)		1	0 dpm	< 22 driveways and side streets/mile		1	19 dpm	
	Ped. Signal delay 40 seconds or less		0.5	Ped. Signal delay 40 seconds or less		0.5	35.3 sec	Ped. Signal delay 40 seconds or less		0.5	35.3 sec	
	Reduced turn conflict implementation		0.5	Reduced turn conflict implementation		0	0.5	Reduced turn conflict implementation		0	0.5	
	Crossing width 60' or less		0.5	Crossing width 60' or less		0	0.5	70'	Crossing width 60' or less		0	0.5
	Posted speed <= 35mph		0.5	Posted speed <= 35mph		0.5	0.5	25 mph	Posted speed <= 35mph		0.5	0.5
	Median present		1	Median present		0	1	Median present		0	1	
Amenities (max 2)	Buffer not less than 3'5"		1	Buffer not less than 3'5"		1	10'	Buffer not less than 3'5"		0	10'	
	Benches or pedestrian scale lighting		0.5	Benches or pedestrian scale lighting		0.5	0.5	Benches or pedestrian scale lighting		0	0.5	
	Shade trees		0.5	Shade trees		0.5	0.5	Shade trees		0.5	0.5	
Motor Vehicle LOS (max 2)	E or F OR 6 or more travel lanes		0	E or F OR 6 or more travel lanes		0	LOS E	E or F OR 6 or more travel lanes		0	LOS E	
	D and <6 travel lanes		1	D and <6 travel lanes			1	D and <6 travel lanes			1	
	A, B, or C and <6 travel lanes		2	A, B, or C and <6 travel lanes			2	A, B, or C and <6 travel lanes			2	
Maintenance (max 2)	Major or frequent problems		-1	Major or frequent problems			-1	Major or frequent problems			-1	
	Minor or infrequent problems		0	Minor or infrequent problems			0	Minor or infrequent problems			0	
	No problems		2	No problems		2	2	No problems		2	2	
TDM/Multi Modal (max 1)	No support		0	No support		0	0	No support		0	0	
	Support exists		1	Support exists			1	Support exists		1	1	
PPM LOS				B	14	21		C	13.5			

13th Street South of Canyon	Pedestrian LOS Inputs	Points		Northbound Pedestrian LOS Inputs	Points		Existing Condition	Southbound Pedestrian LOS Inputs	Points		Existing Condition	
		Total	out of		Total	out of			Total	out of		
Facility (max 10)	Not continuous or non-existent		0	Not continuous or non-existent		0		Not continuous or non-existent		0		
	Continuous on one side		4	Continuous		5		Continuous		5		
	Continuous on both sides		6									
	Min. 5' wide and barrier free		2	Min. 5' wide and barrier free		2	10'	Min. 5' wide and barrier free		2	8'	
	Sidewalk width > 5'		1	Sidewalk width > 5'		1		Sidewalk width > 5'		1		
	Off-street/parallel alternative facility		1	Off-street/parallel alternative facility		0	1	Off-street/parallel alternative facility		1	1	
Conflicts (max 4)	< 22 driveways and side streets/mile		1	<22 driveways and side streets/mile (dpm)		1	9 dpm	< 22 driveways and side streets/mile		1	0 dpm	
	Ped. Signal delay 40 seconds or less		0.5	Ped. Signal delay 40 seconds or less		0.5	35.7 sec	Ped. Signal delay 40 seconds or less		0.5	37.5 sec	
	Reduced turn conflict implementation		0.5	Reduced turn conflict implementation		0	0.5	Reduced turn conflict implementation		0	0.5	
	Crossing width 60' or less		0.5	Crossing width 60' or less		0	0.5	65'	Crossing width 60' or less		0	0.5
	Posted speed <= 35mph		0.5	Posted speed <= 35mph		0.5	0.5	25 mph	Posted speed <= 35mph		0.5	0.5
	Median present		1	Median present		0	1	Median present		0	1	
Amenities (max 2)	Buffer not less than 3'5"		1	Buffer not less than 3'5"		0.5	1	4'	Buffer not less than 3'5"		1	5'
	Benches or pedestrian scale lighting		0.5	Benches or pedestrian scale lighting		0.5	0.5	Benches or pedestrian scale lighting		0.5	0.5	
	Shade trees		0.5	Shade trees		0.5	0.5	Shade trees		0.5	0.5	
Motor Vehicle LOS (max 2)	E or F OR 6 or more travel lanes		0	E or F OR 6 or more travel lanes			0	E or F OR 6 or more travel lanes			0	
	D and <6 travel lanes		1	D and <6 travel lanes			1	D and <6 travel lanes			1	
	A, B, or C and <6 travel lanes		2	A, B, or C and <6 travel lanes		2	2	LOS B	A, B, or C and <6 travel lanes		2	LOS B
Maintenance (max 2)	Major or frequent problems		-1	Major or frequent problems			-1	Major or frequent problems			-1	
	Minor or infrequent problems		0	Minor or infrequent problems			0	Minor or infrequent problems			0	
	No problems		2	No problems		2	2	No problems		2	2	
TDM/Multi Modal (max 1)	No support		0	No support			0	No support			0	
	Support exists		1	Support exists		1	1	Support exists		1	1	
PPM LOS				A	16.5	21		A	18			

13th Street North of Canyon	Pedestrian LOS Inputs	Points		Northbound Pedestrian LOS Inputs	Points		Existing Condition	Southbound Pedestrian LOS Inputs	Points		Existing Condition
		Total	out of		Total	out of			Total	out of	
Facility (max 10)	Not continuous or non-existent		0	Not continuous or non-existent		0		Not continuous or non-existent		0	
	Continuous on one side		4	Continuous	5	5		Continuous	5	5	
	Continuous on both sides		6								
	Min. 5' wide and barrier free		2	Min. 5' wide and barrier free	2	2	10'+	Min. 5' wide and barrier free	2	2	10'
	Sidewalk width > 5'		1	Sidewalk width > 5'	1	1		Sidewalk width > 5'	1	1	
	Off-street/parallel alternative facility		1	Off-street/parallel alternative facility	0	1		Off-street/parallel alternative facility	0	1	
Conflicts (max 4)	< 22 driveways and side streets/mile		1	<22 driveways and side streets/mile (dpm)	1	1	0 dpm	< 22 driveways and side streets/mile	1	1	0 dpm
	Ped. Signal delay 40 seconds or less		0.5	Ped. Signal delay 40 seconds or less	0.5	0.5	37.5 sec	Ped. Signal delay 40 seconds or less	0.5	0.5	35.3 sec
	Reduced turn conflict implementation		0.5	Reduced turn conflict implementation	0	0.5		Reduced turn conflict implementation	0	0.5	
	Crossing width 60' or less		0.5	Crossing width 60' or less	0	0.5	65'	Crossing width 60' or less	0	0.5	65'
	Posted speed <= 35mph		0.5	Posted speed <= 35mph	0.5	0.5	25 mph	Posted speed <= 35mph	0.5	0.5	25 mph
	Median present		1	Median present	1	1		Median present	1	1	
Amenities (max 2)	Buffer not less than 3'5"		1	Buffer not less than 3'5"	0	1		Buffer not less than 3'5"	1	1	0'
	Benches or pedestrian scale lighting		0.5	Benches or pedestrian scale lighting	0.5	0.5		Benches or pedestrian scale lighting	0.5	0.5	
	Shade trees		0.5	Shade trees	0.5	0.5		Shade trees	0.5	0.5	
Motor Vehicle LOS (max 2)	E or F OR 6 or more travel lanes		0	E or F OR 6 or more travel lanes		0		E or F OR 6 or more travel lanes		0	
	D and <6 travel lanes		1	D and <6 travel lanes		1		D and <6 travel lanes		1	
	A, B, or C and <6 travel lanes		2	A, B, or C and <6 travel lanes	2	2	LOS B	A, B, or C and <6 travel lanes	2	2	LOS B
Maintenance (max 2)	Major or frequent problems		-1	Major or frequent problems		-1		Major or frequent problems		-1	
	Minor or infrequent problems		0	Minor or infrequent problems	0	0		Minor or infrequent problems		0	
	No problems		2	No problems	2	2		No problems	2	2	
TDM/Multi Modal (max 1)	No support		0	No support		0		No support		0	
	Support exists		1	Support exists	1	1		Support exists	1	1	
PPM LOS				A	17	21			A	18	

14th Street South of Canyon	Pedestrian LOS Inputs	Points		Northbound Pedestrian LOS Inputs	Points		Existing Condition	Southbound Pedestrian LOS Inputs	Points		Existing Condition
		Total	out of		Total	out of			Total	out of	
Facility (max 10)	Not continuous or non-existent		0	Not continuous or non-existent		0		Not continuous or non-existent		0	
	Continuous on one side		4	Continuous	5	5		Continuous	5	5	
	Continuous on both sides		6								
	Min. 5' wide and barrier free		2	Min. 5' wide and barrier free	2	2	5'	Min. 5' wide and barrier free	0	2	4'
	Sidewalk width > 5'		1	Sidewalk width > 5'	0	1		Sidewalk width > 5'	0	1	
	Off-street/parallel alternative facility		1	Off-street/parallel alternative facility	0	1		Off-street/parallel alternative facility	0	1	
Conflicts (max 4)	< 22 driveways and side streets/mile		1	<22 driveways and side streets/mile (dpm)	0	1	26 dpm	< 22 driveways and side streets/mile	0	1	44 dpm
	Ped. Signal delay 40 seconds or less		0.5	Ped. Signal delay 40 seconds or less	0.5	0.5	38.5 sec	Ped. Signal delay 40 seconds or less	0.5	0.5	38.5 sec
	Reduced turn conflict implementation		0.5	Reduced turn conflict implementation	0	0.5		Reduced turn conflict implementation	0	0.5	
	Crossing width 60' or less		0.5	Crossing width 60' or less	0	0.5	70'	Crossing width 60' or less	0	0.5	70'
	Posted speed <= 35mph		0.5	Posted speed <= 35mph	0.5	0.5	25 mph	Posted speed <= 35mph	0.5	0.5	25 mph
	Median present		1	Median present	0	1		Median present	0	1	
Amenities (max 2)	Buffer not less than 3'5"		1	Buffer not less than 3'5"	0	1	0'	Buffer not less than 3'5"	0	1	0'
	Benches or pedestrian scale lighting		0.5	Benches or pedestrian scale lighting	0	0.5		Benches or pedestrian scale lighting	0	0.5	
	Shade trees		0.5	Shade trees	0	0.5		Shade trees	0.5	0.5	
Motor Vehicle LOS (max 2)	E or F OR 6 or more travel lanes		0	E or F OR 6 or more travel lanes		0		E or F OR 6 or more travel lanes		0	
	D and <6 travel lanes		1	D and <6 travel lanes		1		D and <6 travel lanes		1	
	A, B, or C and <6 travel lanes		2	A, B, or C and <6 travel lanes	2	2	LOS B	A, B, or C and <6 travel lanes	2	2	LOS B
Maintenance (max 2)	Major or frequent problems		-1	Major or frequent problems		-1		Major or frequent problems		-1	
	Minor or infrequent problems		0	Minor or infrequent problems	0	0		Minor or infrequent problems		0	
	No problems		2	No problems	2	2		No problems	2	2	
TDM/Multi Modal (max 1)	No support		0	No support	0	0		No support	0	0	
	Support exists		1	Support exists		1		Support exists		1	
PPM LOS				C	12	21			D	10.5	

15th Street South of Canyon	Pedestrian LOS Inputs	Points		Northbound Pedestrian LOS Inputs	Points		Existing Condition	Southbound Pedestrian LOS Inputs	Points		Existing Condition
		Total	out of		Total	out of			Total	out of	
Facility (max 10)	Not continuous or non-existent		0	Not continuous or non-existent		0		Not continuous or non-existent		0	
	Continuous on one side		4	Continuous	5	5		Continuous	5	5	
	Continuous on both sides		6								
	Min. 5' wide and barrier free		2	Min. 5' wide and barrier free	2	2	10'	Min. 5' wide and barrier free	2	2	10'
	Sidewalk width > 5'		1	Sidewalk width > 5'	1	1		Sidewalk width > 5'	1	1	
	Off-street/parallel alternative facility		1	Off-street/parallel alternative facility	0	1		Off-street/parallel alternative facility	0	1	
Conflicts (max 4)	< 22 driveways and side streets/mile		1	<22 driveways and side streets/mile (dpm)	0	1	26 dpm	< 22 driveways and side streets/mile	0	1	26 dpm
	Ped. Signal delay 40 seconds or less		0.5	Ped. Signal delay 40 seconds or less	0.5	0.5	39 sec	Ped. Signal delay 40 seconds or less	0.5	0.5	39 sec
	Reduced turn conflict implementation		0.5	Reduced turn conflict implementation	0	0.5		Reduced turn conflict implementation	0	0.5	
	Crossing width 60' or less		0.5	Crossing width 60' or less	0	0.5	65'	Crossing width 60' or less	0	0.5	65'
	Posted speed <= 35mph		0.5	Posted speed <= 35mph	0.5	0.5	25 mph	Posted speed <= 35mph	0.5	0.5	25 mph
	Median present		1	Median present	0	1		Median present	0	1	
Amenities (max 2)	Buffer not less than 3'5"		1	Buffer not less than 3'5"	0	1	0'	Buffer not less than 3'5"	0	1	0'
	Benches or pedestrian scale lighting		0.5	Benches or pedestrian scale lighting	0.5	0.5		Benches or pedestrian scale lighting	0.5	0.5	
	Shade trees		0.5	Shade trees	0.5	0.5		Shade trees	0.5	0.5	
Motor Vehicle LOS (max 2)	E or F OR 6 or more travel lanes		0	E or F OR 6 or more travel lanes		0		E or F OR 6 or more travel lanes		0	
	D and <6 travel lanes		1	D and <6 travel lanes		1		D and <6 travel lanes		1	
	A, B, or C and <6 travel lanes		2	A, B, or C and <6 travel lanes	2	2	LOS B	A, B, or C and <6 travel lanes	2	2	LOS B
Maintenance (max 2)	Major or frequent problems		-1	Major or frequent problems		-1		Major or frequent problems		-1	
	Minor or infrequent problems		0	Minor or infrequent problems		0		Minor or infrequent problems		0	
	No problems		2	No problems	2	2		No problems	2	2	
TDM/Multi Modal (max 1)	No support		0	No support		0		No support	0	0	
	Support exists		1	Support exists	0	1		Support exists		1	
PPM LOS				B	14	21		B	14		

15th Street North of Canyon	Pedestrian LOS Inputs	Points		Northbound Pedestrian LOS Inputs	Points		Existing Condition	Southbound Pedestrian LOS Inputs	Points		Existing Condition
		Total	out of		Total	out of			Total	out of	
Facility (max 10)	Not continuous or non-existent		0	Not continuous or non-existent		0		Not continuous or non-existent		0	
	Continuous on one side		4	Continuous	5	5		Continuous	5	5	
	Continuous on both sides		6								
	Min. 5' wide and barrier free		2	Min. 5' wide and barrier free	2	2	5'	Min. 5' wide and barrier free	2	2	6'
	Sidewalk width > 5'		1	Sidewalk width > 5'	0	1		Sidewalk width > 5'	1	1	
	Off-street/parallel alternative facility		1	Off-street/parallel alternative facility	0	1		Off-street/parallel alternative facility	0	1	
Conflicts (max 4)	< 22 driveways and side streets/mile		1	<22 driveways and side streets/mile (dpm)	1	1	19 dpm	< 22 driveways and side streets/mile	1	1	19 dpm
	Ped. Signal delay 40 seconds or less		0.5	Ped. Signal delay 40 seconds or less	0.5	0.5	39 sec	Ped. Signal delay 40 seconds or less	0.5	0.5	39 sec
	Reduced turn conflict implementation		0.5	Reduced turn conflict implementation	0	0.5		Reduced turn conflict implementation	0	0.5	
	Crossing width 60' or less		0.5	Crossing width 60' or less	0	0.5	65'	Crossing width 60' or less	0	0.5	65'
	Posted speed <= 35mph		0.5	Posted speed <= 35mph	0.5	0.5	25 mph	Posted speed <= 35mph	0.5	0.5	25 mph
	Median present		1	Median present	0	1		Median present	0	1	
Amenities (max 2)	Buffer not less than 3'5"		1	Buffer not less than 3'5"	1	1	12'	Buffer not less than 3'5"	1	1	10'
	Benches or pedestrian scale lighting		0.5	Benches or pedestrian scale lighting	0	0.5		Benches or pedestrian scale lighting	0	0.5	
	Shade trees		0.5	Shade trees	0.5	0.5		Shade trees	0.5	0.5	
Motor Vehicle LOS (max 2)	E or F OR 6 or more travel lanes		0	E or F OR 6 or more travel lanes		0		E or F OR 6 or more travel lanes		0	
	D and <6 travel lanes		1	D and <6 travel lanes		1		D and <6 travel lanes		1	
	A, B, or C and <6 travel lanes		2	A, B, or C and <6 travel lanes	2	2	LOS B	A, B, or C and <6 travel lanes	2	2	LOS B
Maintenance (max 2)	Major or frequent problems		-1	Major or frequent problems		-1		Major or frequent problems		-1	
	Minor or infrequent problems		0	Minor or infrequent problems		0		Minor or infrequent problems		0	
	No problems		2	No problems	2	2		No problems	2	2	
TDM/Multi Modal (max 1)	No support		0	No support	0	0		No support	0	0	
	Support exists		1	Support exists		1		Support exists		1	
PPM LOS				B	14.5	21		B	15.5		

17th Street South of Canyon	Points		Northbound		Points		Existing Condition	Southbound		Points		Existing Condition
	Pedestrian LOS Inputs	Total	out of	Pedestrian LOS Inputs	Total	out of		Pedestrian LOS Inputs	Total	out of		
Facility (max 10)	Not continuous or non-existent		0	Not continuous or non-existent		0		Not continuous or non-existent		0		
	Continuous on one side		4	Continuous	5	5		Continuous	5	5		
	Continuous on both sides		6									
	Min. 5' wide and barrier free		2	Min. 5' wide and barrier free	1	2	4'-5'	Min. 5' wide and barrier free	2	2	5-6'	
	Sidewalk width > 5'		1	Sidewalk width > 5'	0	1		Sidewalk width > 5'	0.5	1		
	Off-street/parallel alternative facility		1	Off-street/parallel alternative facility	0	1		Off-street/parallel alternative facility	0	1		
Conflicts (max 4)	< 22 driveways and side streets/mile		1	<22 driveways and side streets/mile (dpm)	0	1	37 dpm	< 22 driveways and side streets/mile	1	1	18 dpm	
	Ped. Signal delay 40 seconds or less		0.5	Ped. Signal delay 40 seconds or less	0.5	0.5	37.5 sec	Ped. Signal delay 40 seconds or less	0.5	0.5	37.5 sec	
	Reduced turn conflict implementation		0.5	Reduced turn conflict implementation	0	0.5		Reduced turn conflict implementation	0	0.5		
	Crossing width 60' or less		0.5	Crossing width 60' or less	0	0.5	65'	Crossing width 60' or less	0	0.5	65'	
	Posted speed <= 35mph		0.5	Posted speed <= 35mph	0.5	0.5	25 mph	Posted speed <= 35mph	0.5	0.5	25 mph	
	Median present		1	Median present	0	1		Median present	0	1		
Amenities (max 2)	Buffer not less than 3'5"		1	Buffer not less than 3'5"	1	1	3.5'	Buffer not less than 3'5"	0	1	0'	
	Benches or pedestrian scale lighting		0.5	Benches or pedestrian scale lighting	0	0.5		Benches or pedestrian scale lighting	0	0.5		
	Shade trees		0.5	Shade trees	0.5	0.5		Shade trees	0.5	0.5		
Motor Vehicle LOS (max 2)	E or F OR 6 or more travel lanes		0	E or F OR 6 or more travel lanes		0		E or F OR 6 or more travel lanes		0		
	D and <6 travel lanes		1	D and <6 travel lanes		1		D and <6 travel lanes		1		
	A, B, or C and <6 travel lanes		2	A, B, or C and <6 travel lanes	2	2	LOS B	A, B, or C and <6 travel lanes	2	2	LOS B	
Maintenance (max 2)	Major or frequent problems		-1	Major or frequent problems		-1		Major or frequent problems		-1		
	Minor or infrequent problems		0	Minor or infrequent problems		0		Minor or infrequent problems		0		
	No problems		2	No problems	2	2		No problems	2	2		
TDM/Multi Modal (max 1)	No support		0	No support		0		No support		0		
	Support exists		1	Support exists	1	1		Support exists	1	1		
PPM LOS				C	13.5	21		B	15			

17th Street North of Canyon	Points		Northbound		Points		Existing Condition	Southbound		Points		Existing Condition
	Pedestrian LOS Inputs	Total	out of	Pedestrian LOS Inputs	Total	out of		Pedestrian LOS Inputs	Total	out of		
Facility (max 10)	Not continuous or non-existent		0	Not continuous or non-existent		0		Not continuous or non-existent		0		
	Continuous on one side		4	Continuous	5	5		Continuous	5	5		
	Continuous on both sides		6									
	Min. 5' wide and barrier free		2	Min. 5' wide and barrier free	1	2	4'-5'	Min. 5' wide and barrier free	2	2	5'	
	Sidewalk width > 5'		1	Sidewalk width > 5'	0	1		Sidewalk width > 5'	0	1		
	Off-street/parallel alternative facility		1	Off-street/parallel alternative facility	0	1		Off-street/parallel alternative facility	0	1		
Conflicts (max 4)	< 22 driveways and side streets/mile		1	<22 driveways and side streets/mile (dpm)	0	1	57 dpm	< 22 driveways and side streets/mile	1	1	19 dpm	
	Ped. Signal delay 40 seconds or less		0.5	Ped. Signal delay 40 seconds or less	0.5	0.5	37.5 sec	Ped. Signal delay 40 seconds or less	0.5	0.5	37.5 sec	
	Reduced turn conflict implementation		0.5	Reduced turn conflict implementation	0	0.5		Reduced turn conflict implementation	0	0.5		
	Crossing width 60' or less		0.5	Crossing width 60' or less	0	0.5	65'	Crossing width 60' or less	0	0.5	65'	
	Posted speed <= 35mph		0.5	Posted speed <= 35mph	0.5	0.5	25 mph	Posted speed <= 35mph	0.5	0.5	25 mph	
	Median present		1	Median present	0	1		Median present	0	1		
Amenities (max 2)	Buffer not less than 3'5"		1	Buffer not less than 3'5"	1	1	8'	Buffer not less than 3'5"	1	1	10' +	
	Benches or pedestrian scale lighting		0.5	Benches or pedestrian scale lighting	0	0.5		Benches or pedestrian scale lighting	0	0.5		
	Shade trees		0.5	Shade trees	0.5	0.5		Shade trees	0.5	0.5		
Motor Vehicle LOS (max 2)	E or F OR 6 or more travel lanes		0	E or F OR 6 or more travel lanes		0		E or F OR 6 or more travel lanes		0		
	D and <6 travel lanes		1	D and <6 travel lanes		1		D and <6 travel lanes		1		
	A, B, or C and <6 travel lanes		2	A, B, or C and <6 travel lanes	2	2	LOS B	A, B, or C and <6 travel lanes	2	2	LOS B	
Maintenance (max 2)	Major or frequent problems		-1	Major or frequent problems		-1		Major or frequent problems		-1		
	Minor or infrequent problems		0	Minor or infrequent problems		0		Minor or infrequent problems		0		
	No problems		2	No problems	2	2		No problems	2	2		
TDM/Multi Modal (max 1)	No support		0	No support		0		No support		0		
	Support exists		1	Support exists	1	1		Support exists	1	1		
PPM LOS				C	13.5	21		B	15.5			

Design Option Evaluation Criteria



Document Overview

This memo identifies the proposed evaluation criteria for the Canyon Boulevard Complete Streets Study. This document describes the analysis metric, purpose of including the metric, data source/year, and any additional details or assumptions made for each analysis topic. These analysis topics are organized by goal and objective of the study. Goals for the project include:

1. **Complete street** - Provide and/or enhance facilities for walking, bicycling, transit riding and driving, connecting people to destinations safely and conveniently
2. **Design Excellence** - Enhance visual interest, legibility, and wayfinding for visitors
3. **Preserve heritage** - Foster a greater understanding of the historic significance of the corridor and the surrounding area
4. **With nature** - Minimize negative impacts to natural systems and consider ways in which the infrastructure of the corridor can be designed to better interact with these systems
5. **Plan accordingly** - Incorporate the intentions of related plans into the options for Canyon Boulevard

These evaluation criteria will be presented to the public during a project open house on April 27, 2016, at the May 18, 2016 Joint Boards meeting and at the May 31 City Council Study Session. Public feedback will be used to confirm and refine these criteria for the use of evaluating design options for Canyon Boulevard.

Design Option Evaluation Criteria



1. Complete street

The objectives of the “Complete street” goal are to:

- Increase safety for people traveling in the corridor (1.1)
- Improve the walking and bicycling experience along the corridor and at crossings (1.2)
- Maintain Canyon Boulevard’s function as a cross-connector for vehicular through-traffic (1.3)
- Accommodate existing and future plans for transit service on the corridor and operations at the Downtown Transit Station (1.4)
- Integrate walking and bicycling with transit at the Downtown Transit Station and throughout the corridor (1.5)

These objectives are measured independently using both quantitative and qualitative metrics.

1.1. Multimodal safety evaluation

Planning Objective: Increase safety for people traveling in the corridor

Multimodal safety Evaluation

Metric	Qualitative estimation of increase or decrease in exposure to transportation conflicts
Purpose	To describe how the alternatives affect the safety for pedestrian, bicycle, transit, and auto travelers and impact the City’s <i>Vision Zero</i> goal of moving toward no crashes leading to a fatality or serious injury
Analysis Methodology	Conduct a high-level safety analysis of existing conditions along Canyon Boulevard and perform a qualitative assessment of anticipated safety impacts of the alternatives
Data Source	Historic crash patterns identified in the Existing Conditions Summary; geometric configuration and operations for design options
Additional Details	See Existing Conditions Summary; the Safe Streets Boulder report will be used for additional assessment information about existing conditions on the corridor and city-wide

Design Option Evaluation Criteria



1.2. Pedestrian and Bicycle Access and Comfort

Planning Objective: Improve the walking and bicycling experience along the corridor and at crossings

Access and comfort for pedestrians

Metric	Pedestrian Performance Measures (PPM)
Purpose	To systematically assess and compare pedestrian facilities within the study area for pedestrians of all ages and abilities
Analysis Methodology	Corridor blocks and adjacent side streets are scored based on criteria established in the PPM
Data Source	Tertiary and primary observations of existing conditions - Google Earth and Streetview (January, 2016); on-site measurements gathered during walk audit (November, 2015)
Additional Details	Tool adapted from the University of Florida PPM; see Appendix B; the study area was expanded to include adjacent sidewalk facilities of crossing streets (Canyon Boulevard corridor including approximately 40 feet on side streets north and south)

Access and comfort for cyclists

Metric	Level of Traffic Stress (LTS)
Purpose	To describe how the alternatives may affect the ease of access or perceived comfort of bicycling along and across Canyon Boulevard and adjacent facilities, expanding the safety and appeal of cycling for all ages and abilities.
Analysis Methodology	LTS analysis as developed in “Low Stress Bicycling Network Connectivity”, Mineta Transportation Institute, Report 11-19, May 2012
Data Source	Adapted from People for Bikes LTS analysis conducted in 2014; LTS analysis of design options
Additional Details	The People for Bikes analysis was adapted to show the influence of directional travel on Walnut, this method will be repeated in design option analysis; the study area was extended to include the roadway/bike network north and south of Canyon Boulevard between Boulder Creek Path and Pine Street

Design Option Evaluation Criteria



1.3. Transit integration

Planning Objective: Integrate walking and bicycling with transit at the Downtown Transit Station and throughout the corridor

Multimodal transit connectivity

Metric	Provision of bicycle and pedestrian facilities and amenities in proximity to transit service connections
Purpose	To systematically assess how transit users beginning and ending their trip in the study area will be provided a safe, secure, convenient, and comfortable transfer between modes
Analysis Methodology	Each design option will be scored by how well it provides accommodations to pedestrians and cyclists at transit stops on the corridor
Data Source	Design option configuration at existing transit stops locations

1.4. Future transit needs

Planning Objective: Accommodate existing and future plans for transit service on the corridor and operations at the Downtown Transit Station

Future transit service assessment

Metric	Average delay at intersections
Purpose	To determine how well transit can achieve headways
Analysis Methodology	Highway Capacity Manual (2010)
Data Source	City of Boulder Synchro 9 model (2015)

Future transit service needs

Metric	Bus loading and layover capacity
Purpose	To determine how well design options achieve needed space for carriage loading and layover
Analysis Methodology	Qualitative analysis to determine if design options increase or decrease space for carriage loading and storage
Data Source	RTD and information gathered during the walking audit (November, 2015)

Design Option Evaluation Criteria



1.5. Vehicular Traffic Analysis

Planning Objective: Maintain Canyon Boulevard's function as a cross-connector for vehicular through-traffic

Travel Time

Metric	Travel time delay (in seconds) for a vehicle to travel from one side of the corridor to the other
Purpose	To compare the difference between the free-flow travel time and the peak hour travel times to understand the congestion within the corridor
Analysis Methodology	Vehicle travel times are estimated from the simulation model based on a block by block vehicle delay within the corridor; estimated differences between exiting conditions and design options will be documented.
Data Source	SimTraffic 9 simulation software; Acyclica data to verify existing model
Additional Details	This will be supplemented with Acyclica data once it is available

Side Street Vehicle Delay

Metric	Side street delay (seconds/vehicle)
Purpose	To describe the impact of the alternatives on delay to vehicles at intersections along the corridor and the level of congestion that can be expected
Analysis Methodology	Synchro 9 model uses the <i>Highway Capacity Manual (2010)</i> methodology to calculate delay
Data Source	City of Boulder Synchro 9 model (2015)
Additional Details	Additional information was added to the existing Synchro model include all modes (bike, pedestrian, transit), parking, and 16 th Street traffic

Design Option Evaluation Criteria

2. Design excellence

The objectives of the “Design excellence” goal include the following:

- Increase quality of streetscaping
- Increase directional information provided to travelers
- Identify locations/space for flood and historic interpretation
- Reduce Canyon Boulevard as a barrier through urban design

These objectives are measured qualitatively.

Objective	Criteria	Metric
2.1. Quality of streetscaping	How well does the design option incorporate high quality urban design and placemaking features into the overall design concept?	Subjective assessment
2.2. Wayfinding	How well does the design option incorporate opportunities for wayfinding?	Subjective assessment
2.3. Flood and historic interpretation	How well does the design option incorporate opportunities for flood and historic interpretation?	Subjective assessment
2.4. Reduce perceived urban barrier	How well does the design diminish the perceived barrier effect of Canyon Boulevard?	Subjective assessment

3. Preserve heritage

The objectives of the “Preserve heritage” goal include the following:

- Protect and enhance historic resources through careful treatment of designated sites, ensuring work is consistent with the Historic Preservation code
- Make a careful consideration of changes near landmark buildings
- Promote a new understanding of historic significance

These objectives are measured qualitatively.

Objective	Criteria	Metric
3.1. Protection and enhancement of historic features	How well does the design option use careful treatment of designated historic sites, so as to be consistent with the Historic Preservation Code?	Subjective assessment
3.2. Design changes adjacent to historic features	How well does the design option reflect adjacent historic structures/properties?	Subjective assessment
3.3. Historic significance	How well does the design option promote historic significance of the area?	Subjective assessment

Design Option Evaluation Criteria



4. With nature

The objectives of the “With nature” goal include the following:

- Meet or exceed existing flood standards and include information about flood safety
- Use landscaping and street trees to help define the edges to Civic Area park, reduce effects of vehicular street noise to pedestrians, bicyclists and park users
- Investigate opportunities for stormwater management and water quality features
- Promote the shifting of travel preference from single occupancy vehicles to reduce greenhouse gas emissions

Objective	Criteria	Metric
4.1. Flood Standards	Does the design option meet or exceed flood standards?	Meet or Exceed
4.2. Natural features	How well does the design option incorporate landscaping to reduce the effects of street activity on park users?	Subjective assessment
4.3. Stormwater management	Does the design option create an opportunity for innovative stormwater management features?	Yes or No
4.4. Promote mode shift	How well does the design option include facilities that will promote a shift from the use of single occupancy vehicles and VMT reductions to meet climate change commitments stated in the City of Boulder Transportation Master Plan	Subjective assessment

Design Option Evaluation Criteria

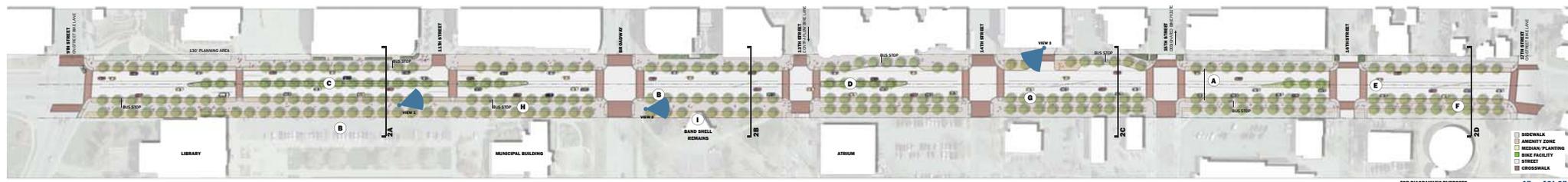


5. Plan accordingly

The objectives of the “Plan accordingly” goal include the following:

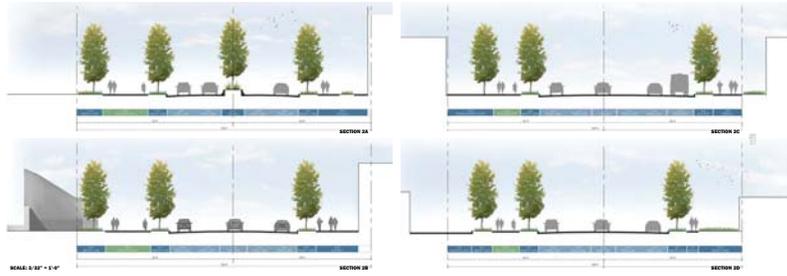
- Accommodate changes to the Civic Area with new urban design and streetscape character that is more comfortable for pedestrians, bicyclists and accessible by transit
- Accommodate all modes by planning, design and building facilities for pedestrians, bicyclists, transit riders and drivers that can support users of all ages and abilities
- Accommodate preferred multimodal improvements of East Arapahoe Plan where identified for Canyon Boulevard or at the Downtown Transit Station
- Consider preferred transit center options identified in the FasTracks Local Optimization Facilities Study and acknowledge the additional transit vehicle spaces needed as identified in the Northwest Area Mobility Study

Objective	Criteria	Metric
5.1. Civic Area Plan		
5.2. City of Boulder Transportation Master Plan		
5.3. East Arapahoe Plan	The design option does not propose any features or functions that are inconsistent with the relevant planning documents.	Yes or No
5.4. Northwest Area Mobility Study		
5.5. FasTracks Local Optimization Facilities Study		



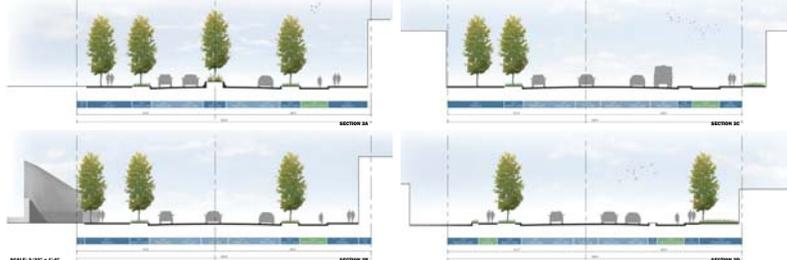
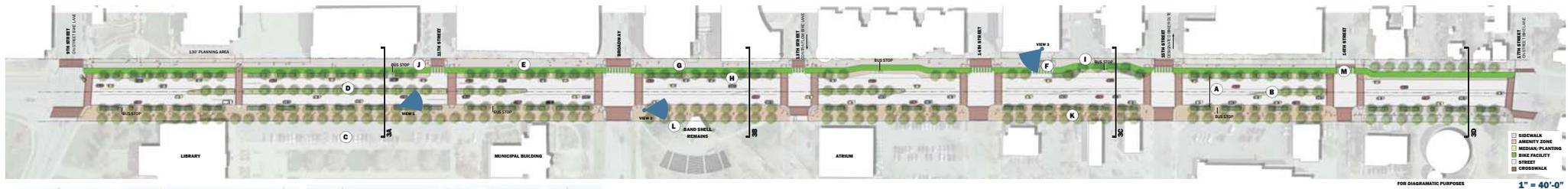
FOR DIAGRAMMATIC PURPOSES 1" = 40'-0"

- A SIDEWALK
- B AMENITY ZONE
- C MEDIAN PLANTING
- D BIKE FACILITY
- E STREET
- F CROSSWALK



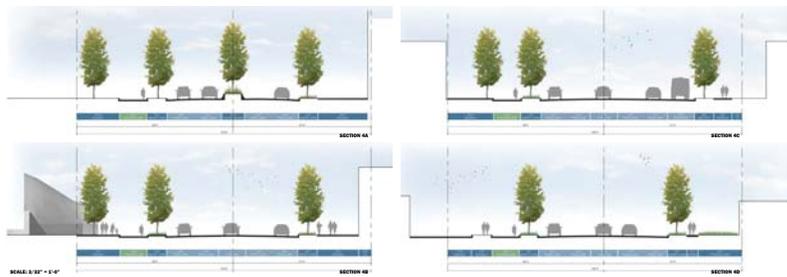
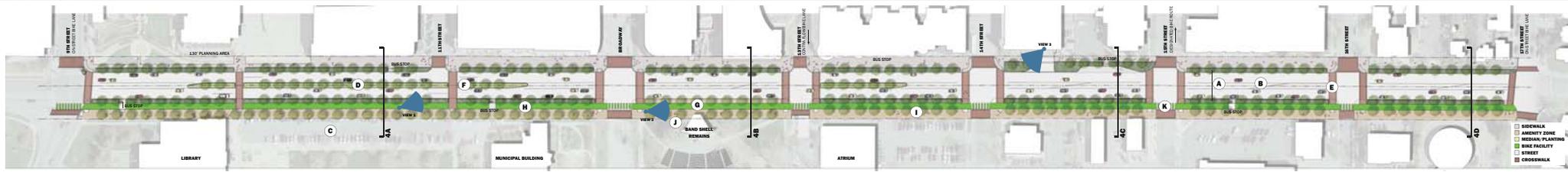
- A 58-foot wide curb to curb dimension roadway width
- B This assumes city surface parking lots at Canyon North to be removed
- C Turning access into city surface parking lots and private property lots along south side of Canyon removed
- D 12-foot wide planted median where no turn lane is present
- E No pedestrian refuge at intersections
- F 12-foot wide multi-use path on both sides of street for use by pedestrians and bicyclists and no sidewalks for pedestrian use only
- G Continuous 8-foot amenity zone (tree planting strip behind curb) on both sides of street
- H Allee condition on south side (a row of trees on both sides of the multi-use path)
- I Band Shell remains in current location

OPTION 2: MULTI-USE PATH ON NORTH AND SOUTH, AMENITY ZONE, TREE ROWS, AND INTERMITTENT PLANTED MEDIAN



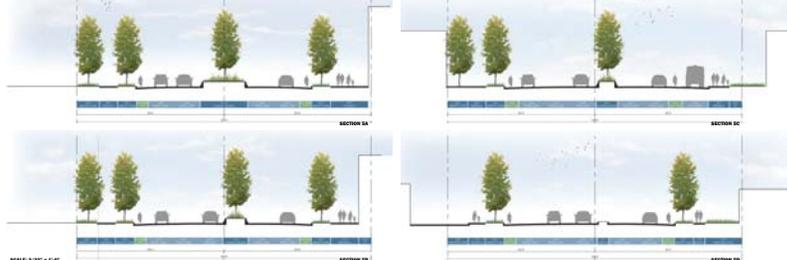
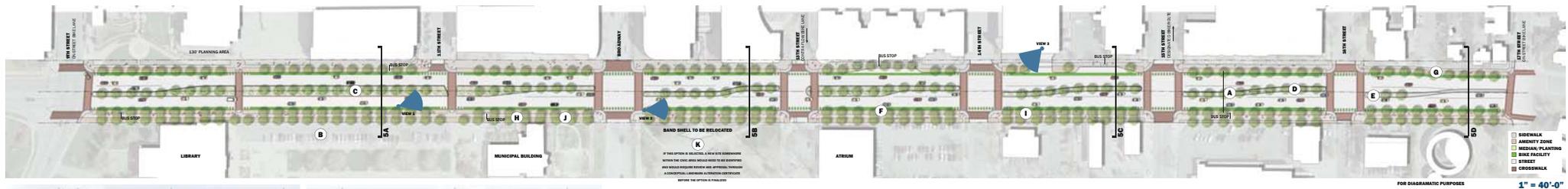
OPTION 3: NORTH SIDE 2-WAY PROTECTED BIKE LANE AND SIDEWALKS ON BOTH SIDES OF STREET, TREE ROWS, AND INTERMITTENT CENTER MEDIAN

- A 58-foot wide curb to curb roadway with 15-foot travel lanes
- B No continuous painted center median; 12-foot-wide planted median where no turn lane is necessary
- C This assumed city surface parking lots at Canyon North will be removed
- D Turning access into City surface parking lots and private property lots along south side of Canyon will be removed
- E 12-foot-wide two-way protected bike lane on north side of Canyon Boulevard
- F Two-way bicycle facility creates conflict points with vehicles at driveways and intersections, as well as at the Downtown Boulder Station
- G Protected bike lane conflicts with pedestrian environment (sidewalk width reduced)
- H Amenity zone varies in width from 8 feet to 10 feet and is not present on the north side in the 1400 block of Canyon Boulevard
- I Sidewalks of varying widths on both sides
- J Pedestrian connections across bike lane necessary at bus stop locations
- K Adequate conditions on south side (a row of trees on both sides of the pedestrian path) except for 1600 block of Canyon
- L Band Shell remains in current location with plaza treatment
- M Intersection design requires exclusive bicycle phase and may impact traffic operations



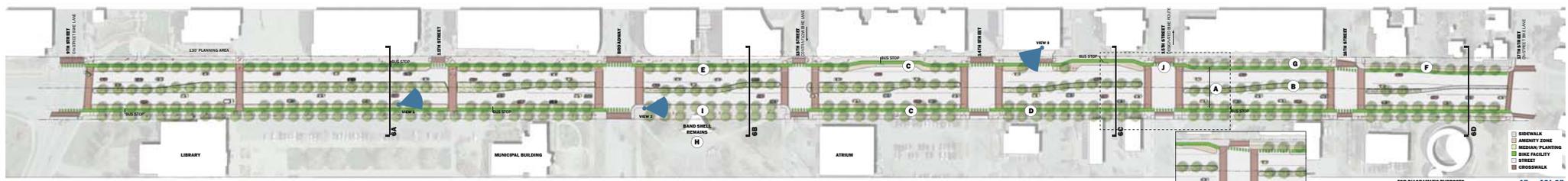
- A 58-foot-wide curb to curb roadway width with 11-foot travel lanes
- B No continuous planted center median; 12-foot-wide planted median where no turn lane is present
- C This assumes City surface parking lots at Canyon North to be removed
- D Turning/access into City surface parking lots and private property lots along south side of Canyon Boulevard will be removed
- E No pedestrian refuge at intersections
- F Pedestrian refuge at mid-block crossings
- G 12-foot-wide two-way protected bike lane on south side of Canyon Boulevard
- H Pedestrian connections across bike lane necessary at bus stop locations
- I Allee condition on south side (a row of trees on both sides of the pedestrian path) except for 2500 block of Canyon Boulevard
- J Band Shell remains in current location with shared pedestrian/cyclist plaza treatment
- K Intersection design requires exclusive bicycle phase and may impact traffic operations

OPTION 4: SOUTH SIDE 2-WAY PROTECTED BIKE LANE, SIDEWALKS ON BOTH SIDES OF STREET, TREE ROWS, AND INTERMITTENT CENTER MEDIAN

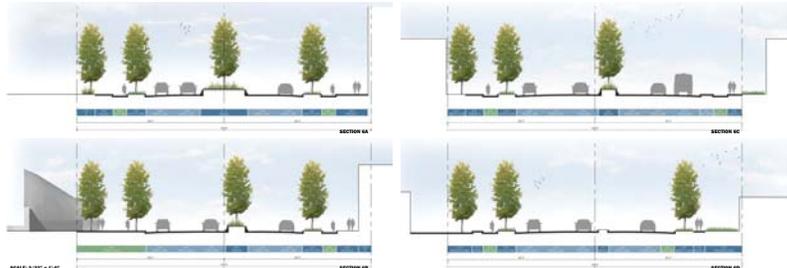


- A 78-foot curb to curb width with 11-foot travel lanes
- B This assumes city surface parking lots at Canyon North to be removed
- C Turning/access lots along south side of Canyon removed
- D Continuous planted center median (8-foot wide where turn lanes are present, 20-foot where no turn lane is present)
- E Pedestrian refuge at intersections and mid-block crossings
- F 5-foot on-street bike lane exclusive of gutter pan, on north and south side of street; no separation provided
- G 5-foot sidewalk east of 15th Street
- H 8-foot minimum sidewalks west of 15th Street
- I Continuous 8-foot amenity zone (tree planting strip) behind curb on both sides of street
- J Allee condition on south side (a row of trees on both sides of the pedestrian path)
- K Band Shell relocated

OPTION 5: ON-STREET BIKE LANES ON BOTH SIDES OF STREET, SIDEWALKS, AMENITY ZONE, TREE ROWS, CONTINUOUS PLANTED MEDIAN

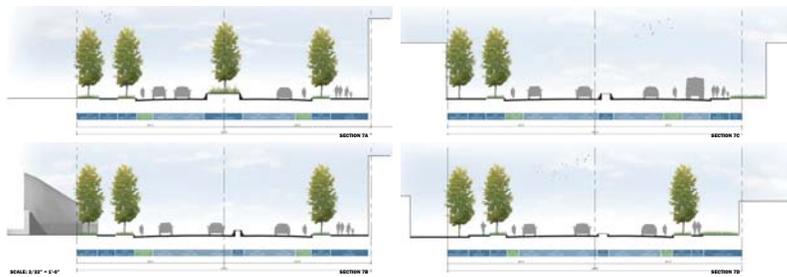
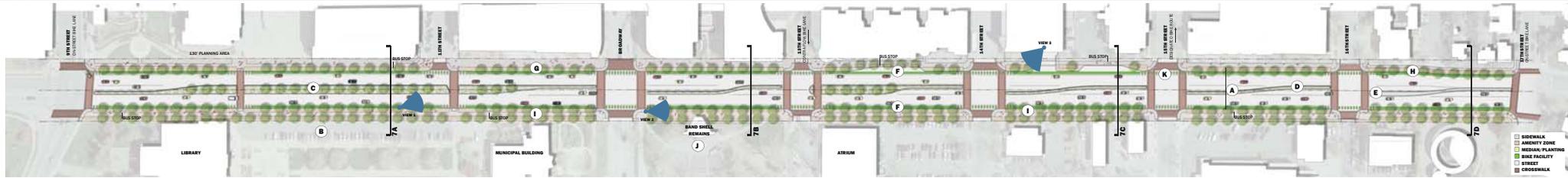


FOR DIAGRAMMATIC PURPOSES 1" = 40'-0"



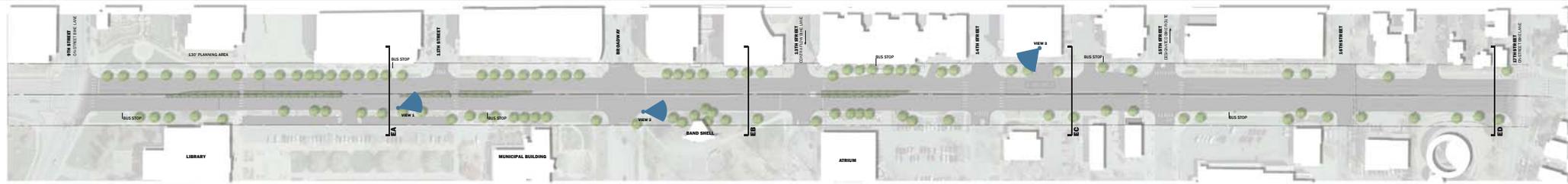
- A 68-foot curb to curb width with 11-foot travel lanes
- B Continuous planted center median (8-foot wide where turn lanes are present, 20-foot where no turn lane is present)
- C 6-foot wide protected bike lanes on both sides of Canyon Boulevard
- D Bike paths separated by 8-foot wide planted median
- E Continuous 8-foot amenity zone (tree planting strip) behind curb (both sides of street)
- F 5-foot wide sidewalk east of 16th Street and conventional bike lanes
- G Minimum 6'-7" sidewalk west of 16th Street (8-foot wide, typical)
- H Band Shell remains
- I Shared pedestrian/cyclist plaza treatment at Band Shell
- J Intersection design requires inclusive bicycle phase and may impact traffic operations

OPTION 6: SINGLE DIRECTION PROTECTED BIKE LANES ON BOTH SIDES OF STREET WITH PLANTED SEPARATION, NORTH AND SOUTH AMENITY ZONE, SIDEWALKS, TREE ROWS, PLANTED CENTER MEDIAN

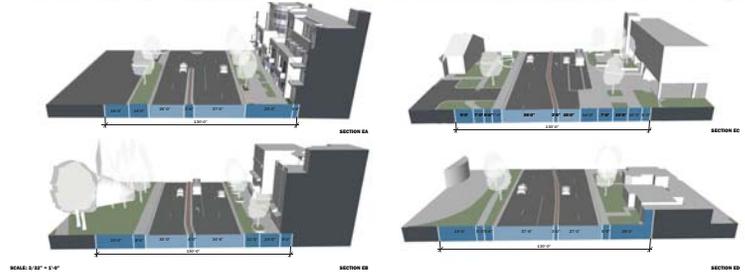


- FOR DIAGRAMMATIC PURPOSES 1" = 40'-0"
- A 78-foot curb to curb roadway width with 11-foot travel lanes
 - B This assumes City surface parking lots at Canyon North will be removed
 - C Turning access into City surface parking lots and private property lots along south side of Canyon Boulevard will be removed
 - D Intermittent planted center median (4-foot wide where turn lanes are present, 16-foot wide where no turn lane is present)
 - E Pedestrian refuge at intersections and mid-block crossings
 - F 8-foot-wide buffered bike lane (two-foot buffer; bike lane width is exclusive of gutter pan) on both sides of Canyon Boulevard
 - G Continuous 8-foot amenity zone (tree planting strip) behind curb on both sides of street
 - H 5-foot-wide sidewalk east of 16th Street
 - I Allee condition on south side (a row of trees on both sides of the pedestrian path)
 - J Band Shell remains
 - K Intersection design requires exclusive bicycle phase and may impact traffic operations

OPTION 7: BUFFERED BIKE LANE ON BOTH SIDES OF STREET, NORTH AND SOUTH AMENITY ZONE, SIDEWALKS, TREE ROWS, PLANTED CENTER MEDIAN



FOR DIAGRAMMATIC PURPOSES **1" = 40'-0"**



- 65-foot-wide curb to curb roadway width with 1.2-foot to 1.4-foot travel lanes
- Annual daily traffic on Canyon Boulevard is 11,000 to 25,000 vehicles
- 2-foot center median (for access control)
- Intermittent tree row on north side
- No continuous sidewalk on the south side; sidewalk width varies on the north side (5 feet to 14 feet)
- No existing bike lanes
- Speed limit: 35 miles per hour

EXISTING CONDITIONS

MEMORANDUM

To: Molly Winter

From: Bill Fox

Date: June 1, 2016

Subject: Summary of CAGID Area Access and Parking Projections at Buildout Using “Outlier” High Employee Density

At your request I have rerun the CAGID parking model for the buildout of downtown Boulder to test the impacts of increased employee density in the downtown office space. The results of this new model run are summarized in this memorandum, and are intended to supplement the previous findings as summarized in a Fox Tuttle Hernandez memorandum dated March 30, 2016. This current analysis uses the following inputs and assumptions:

- An “outlier” or maximum employee projection for the CAGID area provided by RRC that includes a buildout total employment estimate of 14,083 employees. Note that this estimate is 1,685 employees more (+13.6%) than previously estimated for the “midpoint” buildout employment scenario originally incorporated into the parking model and summarized in the March FTH memorandum.
- This estimate of increased employee density assumes that the amount of non-residential square footage of building space remains the same as in previous estimates. Employees are simply working in closer proximity to each other.
- A corresponding 13.6% increase in parking space equivalents (PSEs), or parking demand reduction generated by the City’s TDM model to correlate with the employment increase in the CAGID area. This increase in TDM effectiveness has been estimated proportional to the increase in downtown employment to get a quick ballpark estimate rather than rerunning the TDM model.
- All other parking supply and demand assumptions have been held constant for this buildout scenario.

The results of this new buildout scenario are summarized in the following table, with comparison to the original buildout projections:

Summary of CAGID area access and parking projections at buildout using “outlier” employment projection

June 2, 2016

Page 2

CAGID Area Buildout Parking and Access Projections:

Parking or Access Parameter	Using Original “Midpoint” Employment Projections	Using “Outlier” High Density Employment Projections
Demand Increases:		
Future demand for parking or PSEs	2,392	3,269
Existing parking spaces displaced by new development	218	218
Net increased demand for PSEs	2,610	3,487
Demand Reduction or Supply Increases:		
Parking demand reduced by TDM (pricing and ecopass)	726	825
Increased utilization of CAGID and private parking supply	207	207
Utilization of satellite parking by downtown employees	300	300
Potential construction of additional CAGID, private or joint parking	1,233	1,233
Net supply increases or demand reduction:	2,466	2,565
Remaining unmet parking demand at CAGID buildout	144	922

It can be seen that this “outlier” projection of very high employee density in the CAGID area, if realized, has the potential to cause significant increases in parking demand that is well beyond the anticipated parking supply, even when accounting for the level of TDM that has been contemplated. This suggests that a wider range and/or more aggressive TDM measures will be needed in the CAGID area if the trend for increased office employee density continues. In this context, the effect of increased TDM measures on reducing parking demand would need to more than double the level considered in the table above.

I hope this information is helpful as you plan for accommodating future access demand in the CAGID area. Please let me know if you have any questions.

BF/



MEMORANDUM

TO: Molly Winter, Executive Director, City of Boulder Economic Vitality Department

FROM: David Becher, RRC Associates

RE: CAGID “Outlier” Employment Projections

DATE: April 26, 2016

INTRODUCTION

The purpose of this memo is to present and describe high-end “outlier” projections of potential future employment within the City of Boulder’s Central Area General Improvement District (CAGID). This “outlier” analysis is an extension of a broader effort currently underway to update development, employment, and transportation and parking projections for CAGID, a process which has been undertaken every few years during the past two decades to help inform CAGID’s planning efforts.

This “outlier” analysis is intended to model employment which may occur in CAGID in the future as a result of the potential for higher employment intensity ratios (i.e. higher employment per square foot of space) than has been observed within CAGID within the past, as a result of a changing downtown tenant mix (e.g. greater focus on technology companies with high employment intensity ratios), and/or greater employment intensification among office tenants generally. An “outlier” analysis which attempts to envision what future CAGID employment could be under such employment intensification scenarios, particularly as associated with office uses, was recommended by the Downtown Management Commission as part of its review of the CAGID development projections during its meeting on April 4, 2016.

RESULTS AND DISCUSSION

“Baseline” Employment Projections

In the “baseline” employment projections (a precursor to the “outlier” projections), incremental future employment within CAGID (excluding the Civic Area Plan areas, or CAPs) was projected based on the following assumptions regarding the utilization of incremental new nonresidential space (also summarized in Table 1 to follow):

- Leasable space is equivalent to 85 percent of gross nonresidential square footage (after deducting for common areas, stairways, elevators, etc.).
- Commercial vacancy rate is 5 percent (i.e. effective full occupancy).
- First-floor tenants in new space have a range of 4.55 to 5.1 employees per 1000 sqft of leased area (corresponding to the low and high range of "employment intensity" observed in "typical" CAGID first-floor tenants [retail, restaurant, selected other sectors] in selected years over the 1994 – 2015 period).
- Upper-floor tenants in new space have a range of 2.7 to 3.6 employees per 1000 sqft of leased area (corresponding to the low and high range of "employment intensity" observed in "typical" CAGID upper-floor tenants [generally office tenants] in selected years over the 1994 – 2015 period).

A series of "low," "midpoint" and "high" baseline employment scenarios were developed corresponding to the low, high, and midpoint employment intensity measures described above, as illustrated in Table 1 below.

Table 1
CAGID (excluding CAPs): Existing and Projected Nonresidential Square Footage and Employment
Minimum, Midpoint, Maximum, and "Outlier" Scenarios

	Existing (2015)	Built 2016-35 (present to buildout)			Total incremental: 2016 - 35	Buildout (2035)	Buildout vs. Existing
		First Floor ("Nonoffice")	Upper Floors ("Office")	Hotel/Civic Pad ("Nonoffice")			
Nonresidential Square Footage:							
Gross nonresidential sqft	3,182,291	284,368	910,223	58,000	1,252,591	4,434,882	1,252,591
* 85% leasable area	85%	85%	85%	n/a	n/a	n/a	
* 95% occupancy rate	95%	95%	95%	n/a	n/a	n/a	
= Occupied (net) nonresidential sqft	2,569,700	229,627	735,005	58,000	1,022,632	3,592,332	1,022,632
Historic Employment Generation Rates:							
Jobs/1000 net sqft: historic minimum (est.)		4.45	2.70	assume 30 jobs			
Jobs/1000 net sqft: historic maximum (est.)		5.10	3.60	assume 30 jobs			
Projected Employment:							
"Baseline - Minimum" projected employment	8,956	1,022	1,984	30	3,036	11,992	3,036
"Baseline - Midpoint" projected employment	8,956	1,097	2,315	30	3,442	12,398	3,442
"Baseline - Maximum" projected employment	8,956	1,171	2,646	30	3,847	12,803	3,847
"Outlier #1" projected employment (max. +5%)	9,404	1,230	2,778	32	4,039	13,443	4,487
"Outlier #2" projected employment (max. +10%)	9,852	1,288	2,911	33	4,232	14,083	5,127
Employment per 1000 Gross Sqft Ratios:							
"Baseline - Minimum" proj. empl/gross sqft	2.81	3.60	2.18	0.52	2.42	2.70	(0.11)
"Baseline - Midpoint" proj. empl/gross sqft	2.81	3.86	2.54	0.52	2.75	2.80	(0.02)
"Baseline - Maximum" proj. empl/gross sqft	2.81	4.12	2.91	0.52	3.07	2.89	0.07
"Outlier #1" proj. empl/gross sqft (max. +5%)	2.96	4.32	3.05	0.54	3.22	3.03	0.22
"Outlier #2" proj. empl/gross sqft (max. +10%)	3.10	4.53	3.20	0.57	3.38	3.18	0.36

Source: RRC Associates; Economic Vitality and DBI Ecompass and Tenant databases.

As illustrated in Table 1 previously, between 2015 and buildout, the CAGID area is projected to add 3,036 to 3,847 jobs (midpoint estimate 3,442 jobs), depending on the employment intensity assumptions used. Total employment at buildout, reflecting the sum of current employment (8,956 jobs) and incremental future employment (3,036 – 3,847 jobs), is projected at 11,992 to 12,803 jobs.

For context, the employment intensity ratios associated with these “baseline” projections are as follows:

- The current employment intensity ratio for nonresidential users in CAGID (excluding the CAPs) is approximately 2.81 employees per 1000 square feet of gross nonresidential space (i.e. 8,956 employees divided by 3,182 thousand nonresidential gross square feet).
- Incremental new nonresidential space is projected to have employment intensity ratios of 2.42 to 3.07 employees per 1000 gross sqft (bracketing the existing ratio of 2.81 employees / 1000 gross sqft), varying depending upon the employment intensity assumptions utilized.
- At buildout, employment intensity across all nonresidential space is projected to vary between 2.70 and 2.89 employees per 1,000 gross sqft (bracketing the existing ratio of 2.81 employees / 1000 gross sqft).

Insofar as the “baseline” projections described above encompass higher employment intensity ratios than currently exist today, they provide for a degree of future employment intensification. A question is whether that degree of future employment intensification is enough; the “outlier” projections, discussed next, are intended to address the possibility that that greater intensification could occur.

“Outlier” Employment Projections

As illustrated in Table 1 previously, two “outlier” employment projections have been added as a supplement to the “baseline” projections:

- The “Outlier #1” scenario assumes that buildout employment is 5% above the “baseline maximum” employment (for total employment of 13,443 at buildout; or 640 employees greater than the “baseline maximum” scenario of 12,803 employees).
- The “Outlier #2” scenario assumes that buildout employment is 10% above the “baseline maximum” employment (for total employment of 13,443 at buildout; or 1,280 employees greater than the “baseline maximum” scenario of 12,803 employees).

The 5 percent and 10 percent increases in “outlier” employment intensity ratios (above the “baseline maximum” scenarios) have been applied to employers in both existing built space in CAGID and in future incremental new space in CAGID. The two “outlier” scenarios have been prepared to give a sense of what buildout employment could be under defined assumptions,

recognizing that any changes in future employment intensity ratios are uncertain and difficult to fully anticipate.

It should be noted that there are various ways that the 5 percent and 10 percent employment intensity increases could be realized across the spectrum of CAGID employers. For example, the 5 percent outlier scenario could be realized if any of the following employment intensification changes occurred:

- 100% of employers increase their employment intensity by 5% above the "baseline maximum" scenario;
- 50% of employers increase their employment intensity by 10%;
- 40% of employers increase their employment intensity by 12.5%;
- 33% of employers increase their employment intensity by 15%;
- 25% of employers increase their employment intensity by 20%;
- 20% of employers increase their employment intensity by 25%; etc.

Similarly, the 10 percent outlier scenario could be realized if any of the following employment intensification changes occurred:

- 100% of employers increase their employment intensity by 10% above the "baseline maximum" scenario;
- 50% of employers increase their employment intensity by 20%;
- 40% of employers increase their employment intensity by 25%;
- 33% of employers increase their employment intensity by 30%;
- 25% of employers increase their employment intensity by 40%;
- 20% of employers increase their employment intensity by 50%; etc.

Another way to intuitively grasp the meaning of the two outlier scenarios is to compare their employment intensity levels to existing employment intensity levels in CAGID, as described below:

- Under the 5% outlier scenario, employment intensity at buildout is 7.7 percent higher than the current employment intensity level (i.e. 3.03 vs. 2.81 employees/1000 gross sqft).
- Under the 10% outlier scenario, employment intensity at buildout is 12.8 percent higher than the current employment intensity level (i.e. 3.18 vs. 2.81 employees/1000 gross sqft).
- These comparisons could be further reframed by assuming that the increases in employment intensity were attributed to subsets of employers only, similar to the approach outlined previously. (For example, if these "outlier" employment intensity increases were solely attributable to 50 percent of employers, employment intensity levels at those employers would need to increase by 15.4 percent and 25.7 percent respectively relative to today's averages to realize the 5% and 10% outlier scenarios.)

An additional way of conceptualizing the meaning of the outlier scenarios is to examine the implications of assuming that all of the hypothesized employment intensity increases were to be concentrated in the tech sector, where selected high-profile examples of employment

intensification have been publicized.¹ Currently, technology companies account for a little less than 20 percent (approximately 18-17 percent) of the employment and nonresidential square footage in CAGID, per the CAGID Ecopass database. If for purposes of simplicity we were to assume that tech companies currently accounted for approximately 20 percent of both nonresidential square footage and employment in CAGID, and if CAGID's increases in future employment intensity were solely concentrated in the tech sector (and the tech sector's share of CAGID's nonresidential space held constant at 20 percent), then tech sector employment intensity would have to increase by roughly 50 percent above its "baseline maximum" level to realize the 10 percent outlier scenario, and by 25 percent to realize the 5 percent outlier scenario, using the factors described previously.² To the extent that these employment intensity increases are "large" (relative to existing levels of employment intensity within CAGID's tech companies), they indicate that the "outlier" scenarios do in fact imply a high degree of employment intensification.

It should be recognized that employment intensity is one of many variables in the employment projections model which are subject to assumptions and consequent potential for error. Several other variables could impact actual future employment levels within CAGID (as listed below), which should also be kept in mind when evaluating the employment projections.

- The amount of future incremental new space which is built in CAGID. (Redevelopment will likely get more difficult from a financial and design standpoint as the largest parcels with the most unused development capacity get redeveloped, and only smaller parcels with less unused zoned capacity remain.)
- The share of future incremental space (and redeveloped existing space) which is used for residential vs. nonresidential purposes.
- The share of future nonresidential space which is used for restaurant, retail, office, hotel, and/or other types of uses (each of which have historically had different levels of employment intensity within CAGID).
- Changes in various aspects of the market/environmental context which could impact the relative attractiveness and competitiveness of downtown in attracting employers relative to the broader region and competitive set communities: e.g. rent costs, housing affordability, accessibility of the downtown via different transportation modes, parking availability/convenience/cost, attractiveness and utility of floorspace configurations and other building characteristics, etc.

¹ For example, Twitter has leased 30,000 square feet in the Wencel Building to house its 100 employee staff (implying 3.33 employees/1000 sqft), with plans to one day employ 200 staff in the space (implying 6.67 employees/1000 sqft). Source: "Twitter plans expansion in Boulder, doubling office space and staff," Denver Post, 2/17/2016.

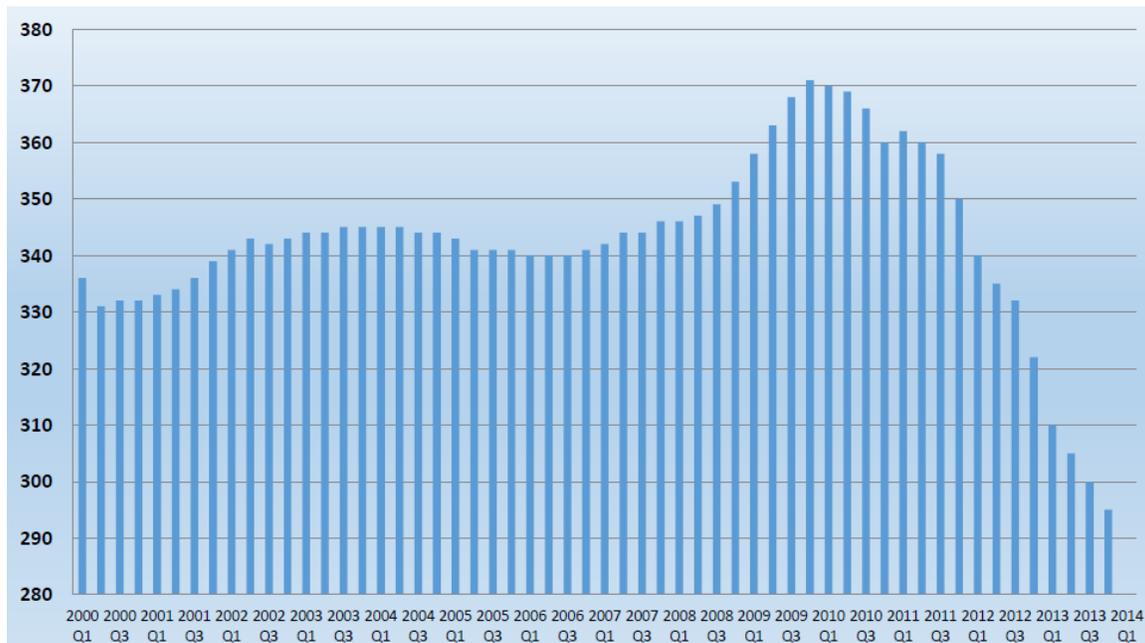
² These factors are actually oversimplifications due to different mixes of office and nonoffice square footage currently vs. projected at buildout, but provide "order of magnitude" indicators of the extent of employment intensity increases that would be needed to realize the outlier scenarios.

Brief Literature Review: Employment Intensification in Office Space

Following is a brief overview of selected data and observations regarding office employment intensity trends nationally and the factors influencing those trends, based on a brief, by no means exhaustive literature search. Articles regarding trends in the intensification of office employment are widespread in the commercial real estate media. Many of the observations noted here are based on the research of Norm Miller PhD, professor of real estate finance at the University of San Diego, who is among the more prominent and data-grounded commentators on the subject.³

- Nationally, office employment intensity has increased since the Great Recession. As illustrated in Figure 1 below, average rentable building area per worker in offices in the 54 largest U.S. markets increased from approximately 340 square feet per worker in 2006, to a peak of approximately 370 square feet per worker in 2010 during the Great Recession (due to an increase in “shadow space” of leased but unfilled space), before declining to less than 300 square feet per worker by late 2013. This level is well below the intensity levels observed at any time after 2000, suggesting that office tenants have entered a new era of employment intensification in recent years.

Figure 1
US Rentable Office Space Per Worker Trend in Square Feet
Based on Property Portfolio 54 (largest 54 markets) and CoStar data

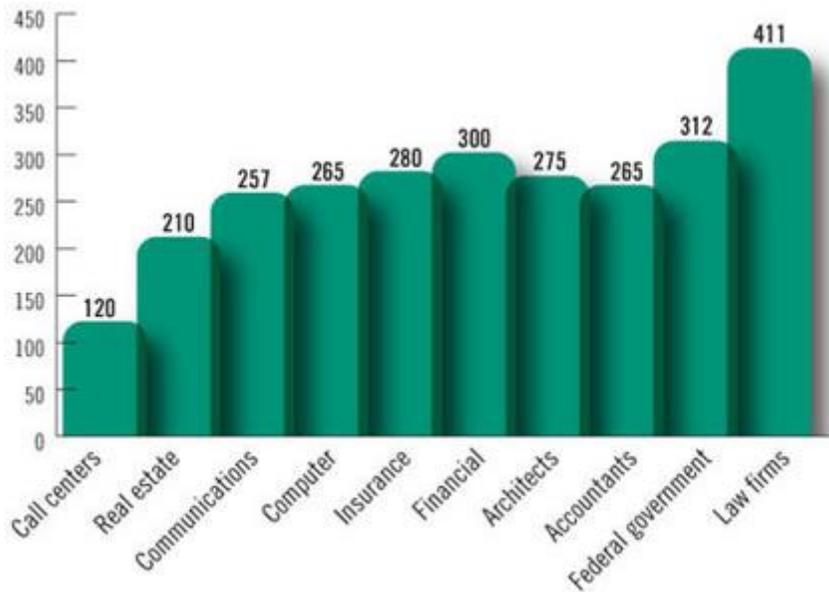


Graph taken from: “Collaborative, Productive and Innovative Workspaces: Implications for Future Office Demand.” Presentation by Norm G. Miller, PhD, February 13, 2014.

³ Relevant articles by Norm Miller include: “Workplace trends in office space: implications for future office demand”, *Journal of Corporate Real Estate*, Vol. 16 No. 3, 2014, pp. 159-181. “Downsizing and Workplace Trends in the Office Market”, *THE COUNSELORS OF REAL ESTATE*, Volume 38, Number 3, 2013.

- Office employment intensity varies by industry sector. On average nationally, average space per worker varies significantly across industries, with particularly high space per worker at law firms (averaging 411 sqft/employee in mid-2012, perhaps due to a strong culture of private space), and low space per worker at call centers (averaging 120 sqft/employee in mid-2012), as illustrated in Figure 2 below.

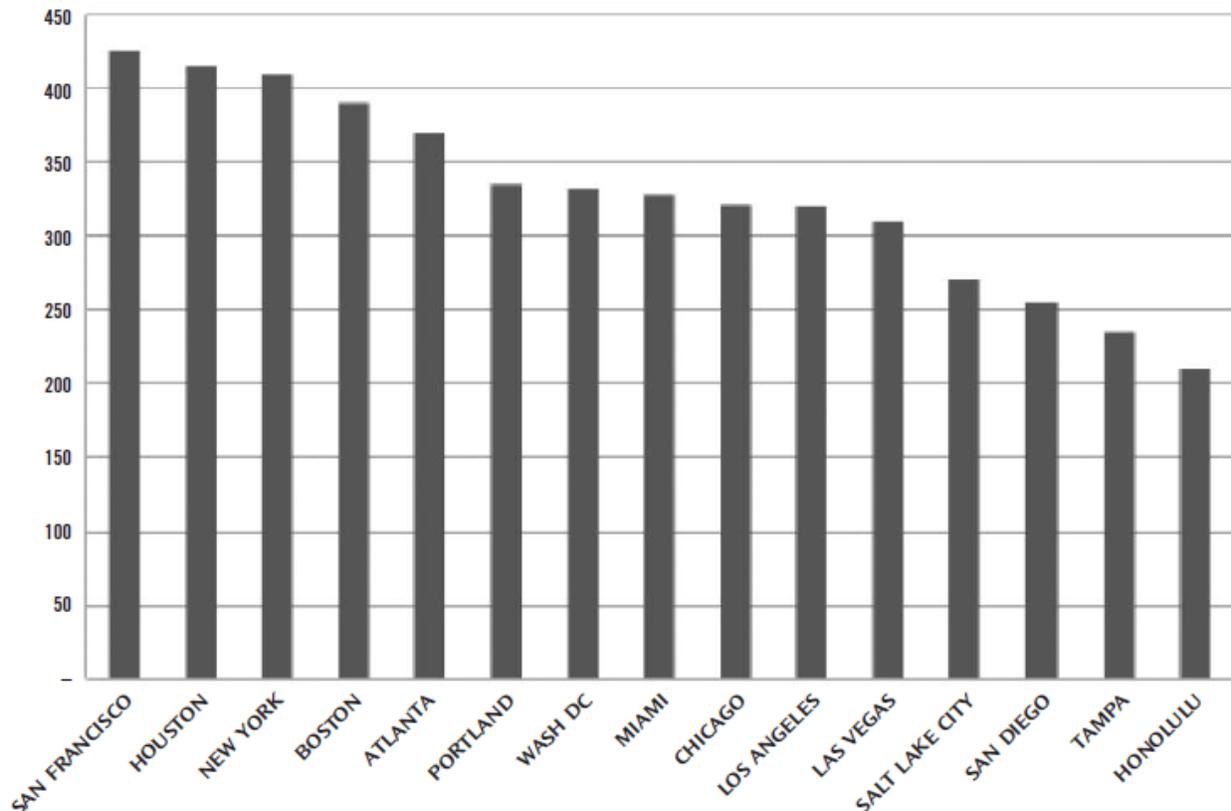
Figure 2
Office Space per Worker by U.S. Industry (median sf, mid-2012)



Graph taken from: "How Much Space Do We Need? Will shrinking footprints slow the office recovery?" By Norman G. Miller and Roger J. Brown. Commercial Investment Real Estate Magazine, May / June 2013. Underlying data source: CoStar.

- Office employment intensity varies by local market. Office markets are local, and significant variation in employment intensity ratios exist across markets, as illustrated by Figure 3 to follow. Some high-cost markets have high employment intensity ratios (e.g. supply-constrained Honolulu, as well as London and Hong Kong), while other high-cost markets have relatively low employment intensity ratios (e.g. San Francisco, New York, and Boston, perhaps in part due to the presence of high-wage employees, as well as more shadow space in New York and Boston as of the time of the survey).

Figure 3
Office Space per Worker by Major Market in 2013



Graph taken from: Norman Miller, "Downsizing and Workplace Trends in the Office Market", THE COUNSELORS OF REAL ESTATE, Volume 38, Number 3, 2013. Underlying data source: CoStar.

- In general, larger corporate firms with more space (especially footprints of 75,000+ sqft) have led the movement towards employment intensification, along with the U.S. General Services Administration (under Congressional mandate). By contrast, smaller firms tend to be more focused on survival and growth, although smaller firms are expected to follow the lead of larger firms over time towards employment intensification. (To the extent that CAGID has a preponderance of smaller space users, this may potentially imply a slower transition to employee intensification downtown.)
- Several factors have encouraged the trend towards employment intensification, including technological, economic, and cultural factors. These have included (among others):
 - Technology that has fostered an increased ability to access and share work from anywhere (e.g. with cloud-based file storage, mobile devices, conferencing capabilities, etc.), with less reliance on files and books (paperless trend).
 - Increased use of shared, standardized, substitutable work spaces and cubicles (e.g. work stations not assigned to a particular employee – "office hoteling").

- Higher space utilization rates (i.e. increased share of office work stations in use by employees at a given time, rather than left vacant).
 - Use of overflow space providers on demand, i.e. Regus, HQ, Liquid Office Space, other "third spaces" (home, coffee shops, library, etc.).
 - More tolerance/acceptance/demand for telecommuting and working anywhere (influenced by a new generation of workers).
 - Increased corporate focus on efficiencies/cost savings throughout the organization (particularly since the Great Recession), including space efficiencies.
- Some factors complicate or can slow trends towards employment intensification, e.g.:
 - Trends towards adding collaborative space and in-office amenities to foster productivity and idea sharing.
 - Management hierarchy and a number of specialized office space types (leading to "space friction", where employees at one level don't work in space reserved for employees at another level, resulting in less efficiency than if spaces were fully standardized).
 - Corporate culture that values private space and face time in the office.
 - Employee churn and time required to fill vacant positions (reducing the ability to be fully staffed at all times).
 - Uncertain growth rates or firm downsizing.
 - Difficulty of second-generation tenants to use space as efficiently as first-generation tenants.
 - Long lease terms that make it difficult to match employment and space needs through the duration of the lease.
 - Real estate costs that tend to be small relative to labor costs; importance of keeping critical employees happy.
 - Additional factors that can influence employment intensification decisions can include corporate brand, corporate culture, technological capabilities of the company, the nature of the work performed, and cost.