

Summary Report

Congress Park Safe Streets Action Plan

Prepared for

**Congress Park Neighborhood Association
Safe Streets Committee**

Prepared by
**TDA Colorado, Inc.
Denver, Colorado**

MAY 2019

INTRODUCTION

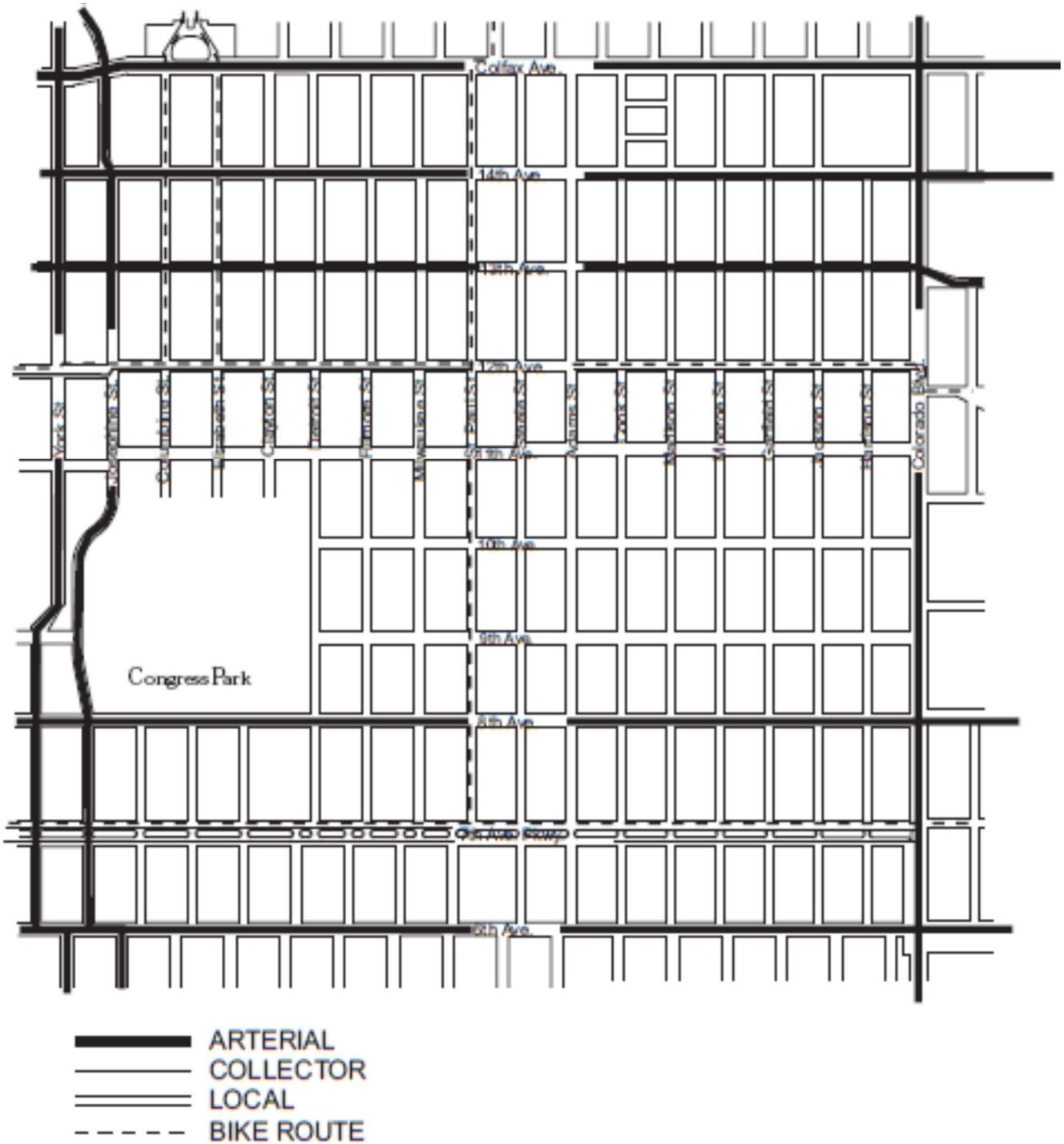
The Congress Park residential community is bordered and bisected by busy urban arterial traffic thoroughfares: Colorado Boulevard, 6th Avenue/8th Avenue one-way couplet, York Street/Josephine Street one-way couplet, 13th Avenue/14th Avenue one-way couplet, and Colfax Avenue, see Figure 1. By definition, these streets attract central Denver commuter and cross town trips. The one-way couplets have traffic signals timed to progress traffic through the area with minimal delay. Colorado Boulevard and Colfax Avenue are on the State Highway grid, carrying high volumes of regional and commercial traffic. High-density redevelopment underway along Colorado Boulevard bordering Congress Park will attract additional traffic to Congress Park streets, particularly 8th Avenue. When these arterials experience extended periods of long backups at signalized intersections, some motorists elect to divert to the local residential street grid, Steele Street, 7th Ave Parkway and elsewhere, reportedly often travelling at speeds in excess of safe speed for two-lane neighborhood streets lined with parked vehicles. High traffic volumes and long stretches of uninterrupted traffic flow create impediments to safe, comfortable pedestrian and bike circulation. Excessive speed on residential streets is in direct conflict with casual walking and biking.

In an effort to combat increasing frequency of pedestrian fatalities the City has adopted the **Vision Zero Action Plan** aimed at achieving zero deaths and serious injuries by 2030. The **WalkDenver** advocacy organization is on a mission to make Denver “the most walkable City in the United States” by 2040. With this as background, Congress Park community leaders, in concert with Denver Public Works Transportation Management staff, seek to implement **Safe Streets** traffic management and pedestrian safety measures that will enhance safety for modes: pedestrians, cyclists and motorists.

This reports summarizes efforts of the Congress Park Neighborhood Safe Streets Committee, working with Denver Public Works and Police Department staff, with traffic technical assistance from TDA Colorado, develop an action plan for implementing specific pedestrian, bike and vehicular circulation safe street measures within the community.

This report is organized by the following sections:

- Community Traffic Issues and Concerns – Issues and concerns discussed in three fall 2018 CPNA community meeting are itemized in this section.
- Community Transportation Infrastructure – The prevailing street grid, parking, public transit, and housing and commercial patterns are presented in this section.
- Traffic Volume, Speed and Diversion Counts and Observations – Using charts and tabulations, data from 3 days of hourly traffic volume and speed recording at eight locations and, observations by TDA at suspected cut-thru traffic pathways are included in this section.
- Candidate Traffic Calming and Pedestrian Safety Measures – Several measures directed at enhancing pedestrian safety and comfort are depicted in this section.
- Summary of Findings and Recommendations – This section presents key findings from this process and identifies opportunities for early implementation of preferred safety measures.
- Next Steps – This section describes the City’s planning and public involvement process leading to design and implementation in the context of the Neighborhood Planning Initiative.



Map Source: Congress Park Neighborhood Plan, October 1995

Figure 1

Congress Park Street Map

COMMUNITY TRAFFIC ISSUES AND CONCERNS

Compilation of comments from neighbors and Denver Public Works staff attending CPNA Community Meetings on Tuesday, 10/16, 11/20 & 12/18/18:

Traffic Speed

- 6th & 8th Avenues are mini speedways
- 6th & 8th progression speed seems higher than 30 mph posted speed
- Two-lane 8th Ave seems extra wide, promotes high speeds
- Speeding on 13th & 14th
- Long stretches along 6th between traffic signals
- Study on 7th Ave shows 40% speeding at Vine
- Madison seems extra wide
- Suggest posted speed be lowered to 20 or 25 mph throughout neighborhood

Traffic Safety

- Limited sight triangles at Stop approaches to 13th and 14th are hazardous, e.g. Cook St, Northbound Steele left turn to 8th Ave
- Residents of the 1300 block have limited sight lines at **both ends** of their alley due to proximity of parked cars. Joining or crossing heavy, fast moving traffic on 13th or 14th is challenging.
- Mid-block “gap” signals on 6th & 8th w/o crosswalks give pedestrians false sense of security
- Steele s/o Colfax experiences high volume during PM peak traffic times
- 8th Ave traffic volume and speed present an imposing pedestrian barrier for the neighborhood during most of the day. Don’t do anything that attracts more traffic to 8th Avenue
- 7th Avenue Bike Lanes and Parking Lanes are oversized. Motorists treat these lanes as an extended right turn lane. Additional lane use signing and bicycle pavement markings are needed to avoid misuse.

Neighborhood Traffic Intrusion

- Traffic backup on NB Colo. Blvd from 6th Ave signal often extends to 3rd Ave. This results in diversion to WB 7th Ave. Motorists unimpeded for 4 blocks to Monroe STOP sign. Pick up 8th via Garfield, Jackson.
- Steele St, midway between Josephine and Colorado Blvd, is a major N/S cut thru street, presumably as an alternative to Colorado Blvd.

Pedestrian/Bike Safety

- Width, volume and speed on 6th (3 lanes) & 8th (2 lanes) form effective barrier to comfortable pedestrian/bike crossings
- Few signalized intersections on 6th/8th & 13th/14th for protected crossing locations.
- Lack of painted crosswalks throughout the neighborhood
- Few safe places to cross the arterial roadways

- Youths cross along 8th Avenue to access Congress Park at various locations between Detroit and Columbine Streets.
- No Hand/Man pedestrian signals at the 8th and 12th Avenue intersections of York and Josephine.

Alternative Modes

- Planned Bus Rapid Transit on Colfax could eliminate westbound left-turn lanes, cause diversion from Colfax to 13th
- BRT Stations are planned at Josephine, Steele and Colorado Blvd. *(May not be current plan)*
- Per DPW study: **Garfield Street** will be the principal link in the **City Park to Cherry Creek Trail Neighborhood Bikeway Plan**. Initial work (outside of CP) to begin in 2019.
- Bike lanes on 12th terminate on west end at Clayton. Need continuity to Downtown for commuters.

City Traffic Calming Activity

- City recently installed a demonstration **Traffic Circle** at 7th & Ash (Hale neighborhood)
- Southbound Ash approaching eastbound 6th Avenue has a **Neck Down** to preclude left turns to from 6th to northbound Ash Street (Hale/Hilltop neighborhoods).
- Series of neighborhood **Traffic Circles** installed along W. 35th Ave in West Highlands. Goal: prioritize safe bike travel.

Congress Park Neighborhood Safer Streets Community Survey August 2018

A **survey of residents** was conducted in August that asked several questions regarding traffic and pedestrian safety in the community. The responses from 372 residents are listed below:

Q: *For me walking, and biking safety in Congress Park is:*

- *A high priority 82.5%*
- *A moderate concern 15.5%*
- *A low priority 2.2%*

Q. *In Congress Park I'm mostly concerned about (check all that apply)*

- *Traffic speed 80.0%*
- *Traffic volume 49.5%*
- *Failure to observe stop signs/ traffic signals 71.6%*
- *Pedestrian crossing safety 70.5%*
- *Biking safety 59.5%*
- *Distracted drivers 64%*
- *Poor lines of sight 62.5%*
- *Other issues 14.5%*

Q. *How would you characterize your personal support for a traffic safety project on 8th Avenue in Congress Park?*

- *Highly supportive 71%*
- *Moderately supportive 12.8%, Somewhat supportive, 4.9% or not supportive 2.2%*

COMMUNITY TRANSPORTATION INFRASTRUCTURE

The Congress Park street network generally conforms to the central Denver street grid: 16 blocks to the mile east-west and 8 blocks to the mile north-south with north-south alleys serving alley-loaded garages. This results in only occasional “suburban style” driveway cuts interrupting tree-lined residential streets. Sidewalks are detached from the street travelway except where fronting neighborhood commercial uses. The community is largely residential with commercial uses along Colfax Avenue and Colorado Boulevard and two nodes along 12th Avenue. Commercial uses line the south side of 6th Avenue (Cherry Creek North neighborhood) between York and St. Paul streets. Single-family homes prevail south of 13th Avenue. Between 13th Avenue and Colfax and north of Congress Park there is a mix of single-family, duplex and high-rise apartments. These higher density dwellings yield higher on-street parking utilization in this sector of the community when compared to the single-family neighborhoods to the south.

Daily Traffic Volumes

Weekday traffic volume and speed data were recorded at eight locations in Congress Park in December, 2018 for this study. In addition to the four east-west one-way arterials: 6th, 8th, 13th and 14th Avenues, counts were recorded at four selected “local” streets: Fillmore, Steele, Garfield and westbound 7th Avenue Parkway, see Table 1.

Count Station	Travel Direction	Count Location	Tues	Wed	Thurs	3-day Average	Average Weekday	Posted speed	85th Percentile speed
			vehicles per day				miles per hour		
1	One Way EB	E 6 th Avenue. east of Cook St.	15,992	16,643	16,974	16,536	16,500	30	29
2	Westbound	E 7 th Ave. east of Garfield St.	2,949	3,038	3,117	3,035	3,000	25	28
3	One Way WB	E 8 th Ave. west of Milwaukee St.	15,850	16,183	16,918	16,317	16,300	30	29
4	Northbound	Steele St. north of 8 th Ave.	483	466	548	499	1,000	25	23
	Southbound	Steele St. north of 8 th Ave.	480	485	475	480			24
5	Northbound	Garfield St. north of 7 th Ave. Pkwy	795	862	936	864	1,100	25	24
	Southbound	Garfield St. north of 7 th Ave. Pkwy	222	168	186	192			23
6	One Way WB	E 13 th Ave. west of St. Paul St.	11,257	11,411	11,609	11,426	11,400	30	29
7	One Way EB	E 14 th Ave. east of Milwaukee St.	13,054	12,602	12,668	12,775	12,800	30	29
8	Northbound	Fillmore St. south of 12 th Ave.	340	378	378	365	800	25	24
	Southbound	Fillmore St. south of 12 th Ave.	414	433	440	429			24

Note: Counts recorded 12/11 through 12/13/18 by All Traffic Data Services

EB = Eastbound, etc.

Shaded area represents typical Congress Park residential street traffic volumes

28 Indicates speed in excess of Posted Speed

Data were collected on the four local streets to help identify the degree possible cut-thru motorists as raised by CPNA neighbors in the community meetings.

The 6th and 8th Avenue one-way arterial couplet exhibit the highest daily volumes, 16,500 and 16,300 vehicles per day passing through the community. The other east-west one-way couplet, 13th and 14th Avenues have somewhat lower volumes, 11,400 and 12,800 vehicles per day. Fillmore, selected to represent a “typical” residential street, carried 800 vehicles a day. The two other north-south streets, Steele and Garfield, identified as possible cut-thru traffic routes, each carry somewhat higher volumes, 1,000 and 1,100 respectively. Westbound 7th Avenue, a collector separated from eastbound 7th by a generous parkway median, considered an “8th Avenue” diversion from northbound Colorado Boulevard for motorists destined west, carries a substantially higher volume than the two-way local streets, 3,000 vehicles a day. Each of the possible cut-thru routes are more fully evaluated below following discussion of the four arterial routes.

6th Avenue is an arterial with three eastbound lanes and a parking lane along the south curb line. Posted speed is 30 mph. The photo depicts a mid-block “gap” traffic signal between St. Paul and Steele Street. Fully signalized intersections are York, Josephine, Elizabeth Streets and Colorado Blvd. There is no cross walk striping at this signal.



8th Avenue is an arterial with two westbound lanes and parking lanes on each side. A gap signal has a striped crosswalk **just east** of the Garfield intersection. Other gap signals are located **mid-block** east of Steele and east of Clayton Street. Signalized intersections are York, Josephine and Colorado Blvd. On-street parking use along 8th Avenue is minimal.



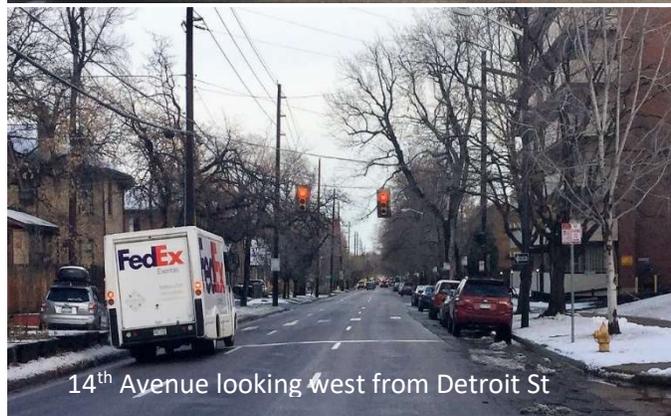
12th Avenue is a two-lane, two-way collector street with bike lanes between Madison and Clayton Streets. Signalized intersections are York, Josephine and Colorado Blvd. Crosswalks are striped at Colo. Blvd, Madison, Steele, Fillmore and Elizabeth Streets. York and Josephine intersections are signalized. Right turn-in and out only at Colorado Blvd.



13th Avenue is a **two-lane** westbound arterial with parking along the north side. **Mid-block** gap signals are west of Detroit and west of Adams Street. Intersections with York, Josephine, Garfield and Colorado Boulevard are signalized. On-street parking is well utilized.



14th Avenue is a **three-lane** eastbound arterial with parking along the south side. Street parking through this higher density residential corridor is well utilized. There are **mid-block** gap traffic signals east of Detroit and east of Adams Street. York, Josephine, Garfield and Colorado Blvd. have full signalization.



Hourly Traffic Volumes

As shown in Figure 2, 3-lane **6th Avenue** and 2-lane **8th Avenue** exhibit similar peaking characteristics: distinct AM and PM peaks with hourly volume dropping off markedly after 10 AM and building steadily after 3 PM. The PM peak period for both one-way arterials is broader than the shaper morning peak period. One-way inbound (toward Downtown) 8th Avenue exhibits comparable AM and PM peak period volumes whereas 6th Avenue (outbound from Downtown) carries a distinctly *higher volume* through the PM peak when compared to the AM period.

Co Figure 2

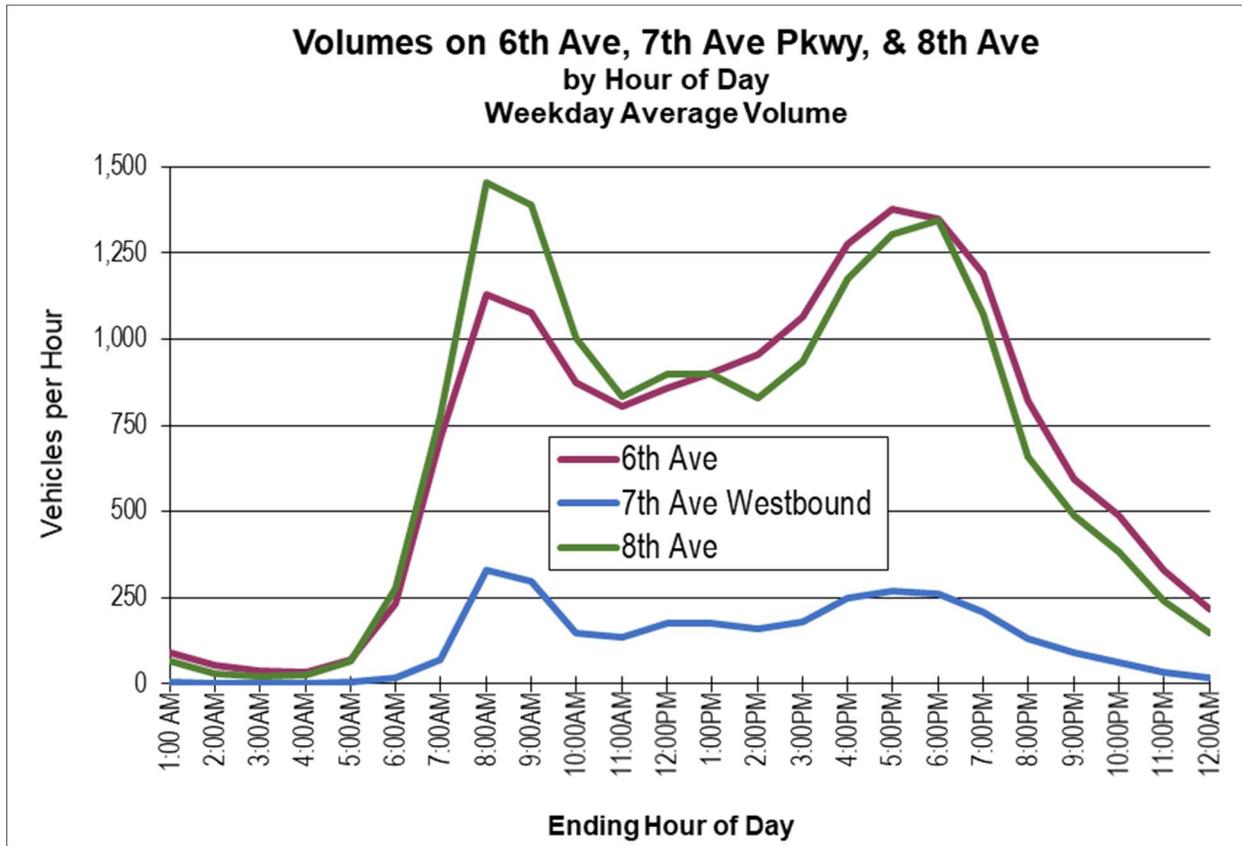


Figure 2
Weekday Hourly Volumes
6th, Westbound 7th and 8th Avenues

Unlike the arterials, westbound 7th Avenue carries volumes in the order of 150 vehicles per hour throughout most of the daytime hours between 300 plus vehicles in the AM peak and 250 plus vehicles in the PM peak hour. Further discussion of westbound 7th Avenue volume follows in the **Cut-thru Traffic** section of this report.

Peak Hour Traffic Volumes

Hourly traffic volumes are commonly used to evaluate traffic *operation* with respect to roadway *capacity*. Directional peak hour traffic volume recorded at each of the eight count locations is shown in Table 2. The highest hourly volume recorded over the morning and afternoon two-hour peak period is highlighted for each roadway. The highest hourly volume, 1,455 vehicles, was recorded on 2-lane 8th Avenue during the 7 to 8:00 AM peak hour. This was followed by 3-lane 6th and 14th Avenues at 1,380 and 1,310 vehicles per hour, respectively during the afternoon peak period.

Peak volume on westbound 7th Avenue was 330 vehicles during the 7 to 8:00 AM peak hour.

Table 2
Average Weekday Peak Hour Volumes by Count Location

Congress Park 2018

Count Station	# of Lanes	Direction of Travel	Count Location	7 -8:00 AM	8-9:00 AM	4-5:00 PM	5-6:00 PM
				vehicles per hour			
1	3	One Way EB	E 6 th Avenue. east of Cook St.	1,130	1,075	1,380	1,350
2	1	Westbound	WB 7 th Ave. Pkwy. east of Garfield St.	330	300	270	260
3	2	One Way WB	8 th Ave. west of Milwaukee St.	1,455	1,390	1,300	1,350
4	1	Northbound	Steele St. north of 8 th Ave.	25	20	65	70
	1	Southbound	Steele St. north of 8 th Ave.	50	45	45	60
5	1	Northbound	Garfield St. north of 7 th Ave. Pkwy.	70	80	95	110
	1	Southbound	Garfield St. north of 7 th Ave. Pkwy.	15	20	25	15
6	2	One Way WB	E 13 th Ave. west of St. Paul St.	1,030	995	905	935
7	3	One Way EB	E 14 th Ave. east of Milwaukee St.	925	765	1,225	1,310
8	1	Northbound	Fillmore St. south of 12 th Ave.	30	40	35	35
	1	Southbound	Fillmore St. south of 12 th Ave.	40	65	35	55

Note: Counts recorded 12/11 through 12/13/18 by All Traffic Data Services

EB = Eastbound, etc.

Shaded area represents highest hourly volume for the count location, by direction

85th Percentile Speeds

85th percentile speed is the common yardstick for setting posted speed for public roadways. By definition it means 85% of motorists are traveling at or below this threshold. With the exception of school zones, Congress Park arterial streets are posted at 30 mph and local neighborhood streets at 25 mph. As depicted in Table 1, over the three days of data recording the four arterial streets exhibited 85th percentile speeds of 29 mph, just below the 30 mph posting. A Denver Police Department speed study at 8th Avenue near Detroit Street in November and December 2018 yielded an average 85th percentile speed of 33 mph. The three local streets also had values just below the 25 mph posting. Westbound 7th Avenue was the exception with an 85th percentile speed of 28 mph, 3 mph over the posted speed. A similar 85th percentile speed was recorded by the Denver Police Department in the 2000 block of westbound 7th Avenue over six days of sampling during April 2018.

Cut-thru Traffic Assessment

One of the key Safe Streets issues raised in the neighborhood meetings was a sense of non-resident motorists using particular residential streets for passing through Congress Park. Specific cut-thru traffic streets cited were:

- Westbound 7th Avenue Parkway
- Garfield Street, and
- Steele Street

On this basis we commissioned weekday directional traffic counts on these three streets. To establish a baseline to measure the degree of possible cut-through traffic it was decided to collect hourly traffic volumes on a neighborhood street that reflects neighborhood based trips. The 1100 block of **Fillmore Street** was selected to represent a “typical” Congress Park neighborhood street¹. Figures 3A and 3B chart hourly volumes on Steele and Garfield Streets, respectively, superimposed on Fillmore Street hourly directional volumes. By comparing volume differences between a typical Congress Park residential street and a street suspected of carrying cut-thru motorists the following distinctions are evident.

Steele Street Volume Comparison

- Southbound volume on Steele through the morning peak period and midday and PM peak is not unlike a typical community residential street volume.
- Northbound volume through the morning peak period and midday up to about 4:00 PM is not unlike a typical community residential street hourly volume.
- Northbound Steele volume begins to exceed typical volume starting at 4:00 PM lasting through 8:00 PM, peaking at about 35 more vehicles in the 5:00 to 6:00 hour.
- Daily volume (see Table 1) on Steele is about 23% higher than a typical neighborhood street.

Garfield Street Volume Comparison

- Southbound volume on Garfield is *lower* through most of the day than typical community residential street hourly volumes, particularly in the morning hours
- Northbound volume starting in the early morning is about twice the volume of a typical Congress Park street through the morning peak period and midday up to about 4:00 PM. From 4:00 to 8:00 PM volume is considerably higher, peaking between 5:00 and 6:00 at almost *70 more vehicles* travelling north on Garfield than a typical neighborhood could expect at that time of day.

¹ Fillmore volumes could be somewhat higher than other neighborhood street as the Sewall Child Development Center in the 900 block of Fillmore St attracts some external trips. The traffic counts were recorded 2 blocks north of the Center.

Figure 3A
 Hourly Traffic Volume Comparison, Steele v. Fillmore Streets

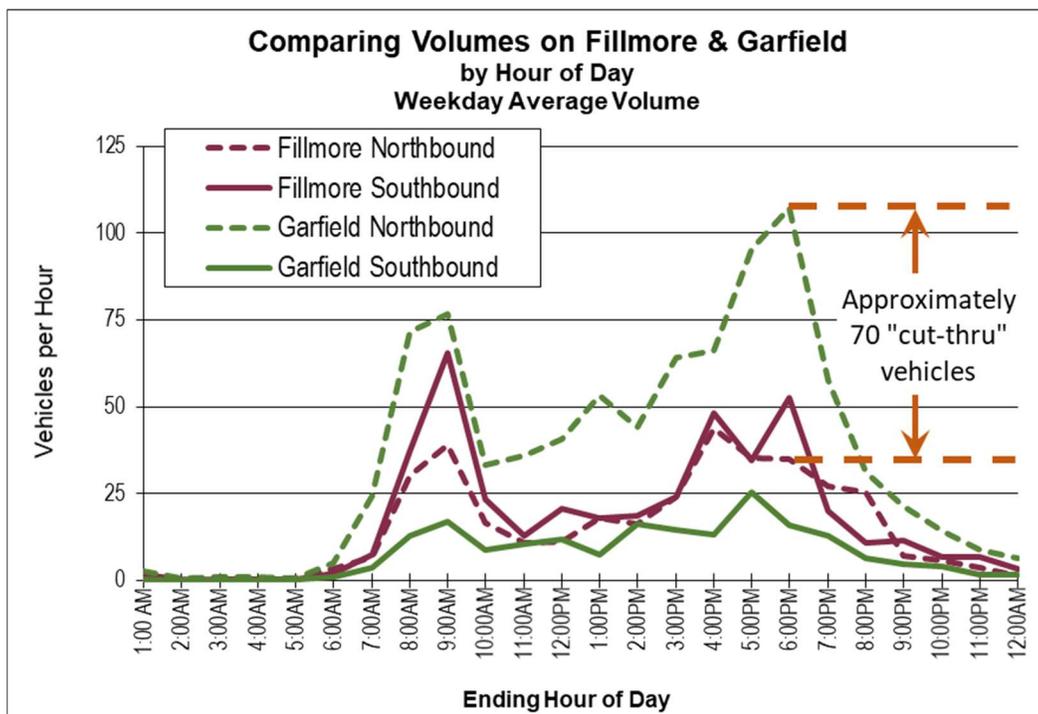
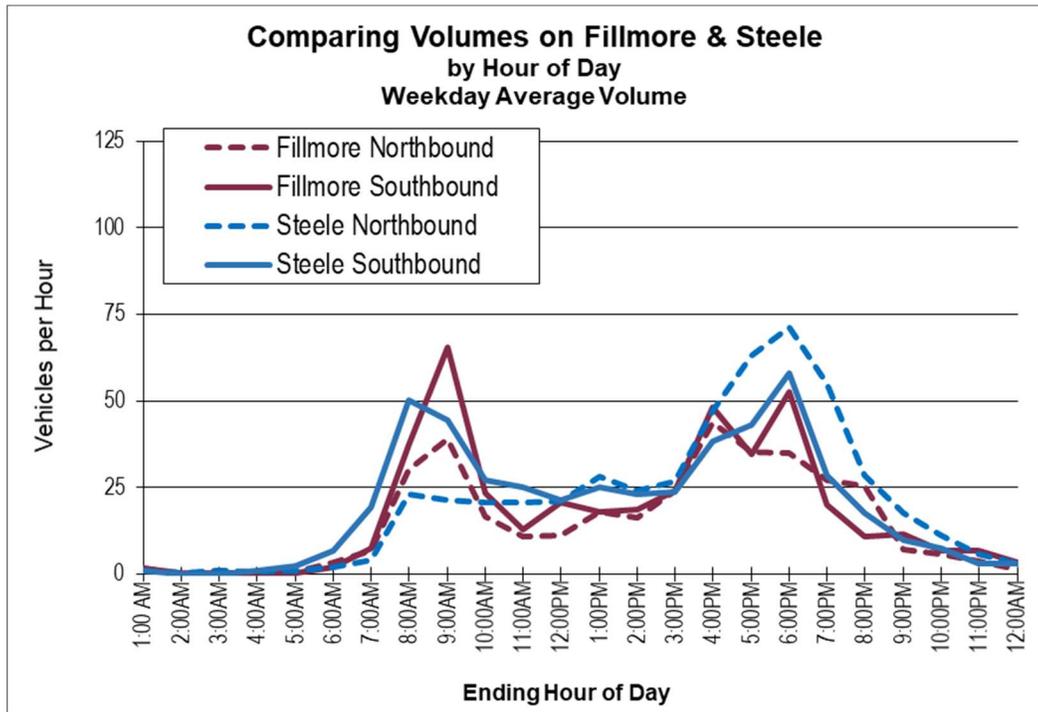
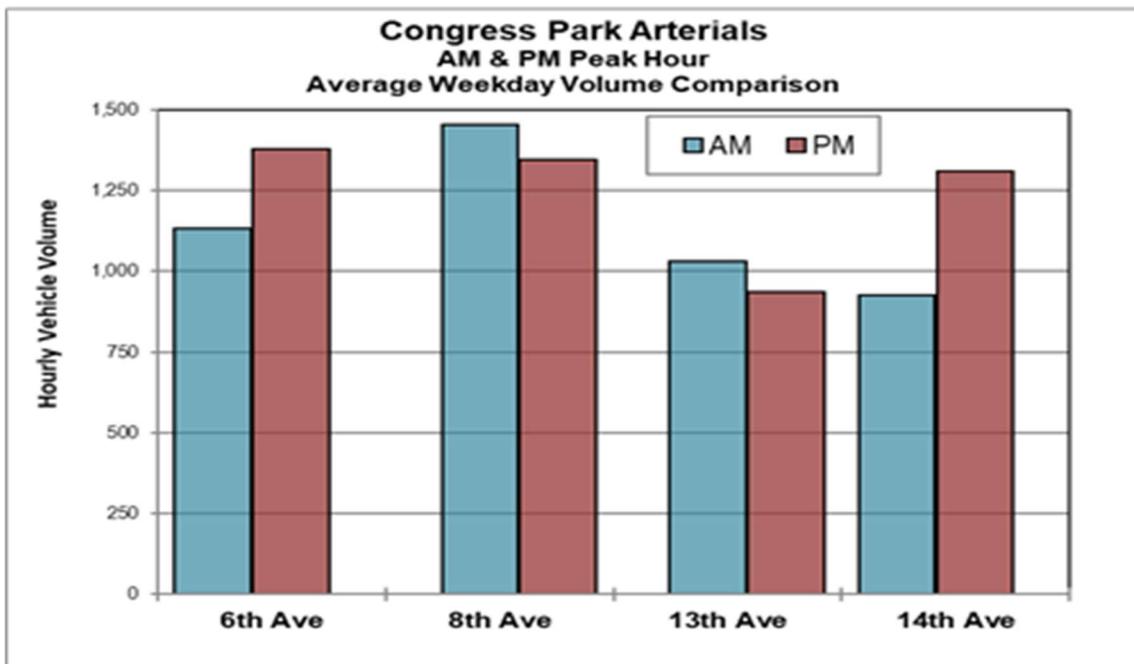
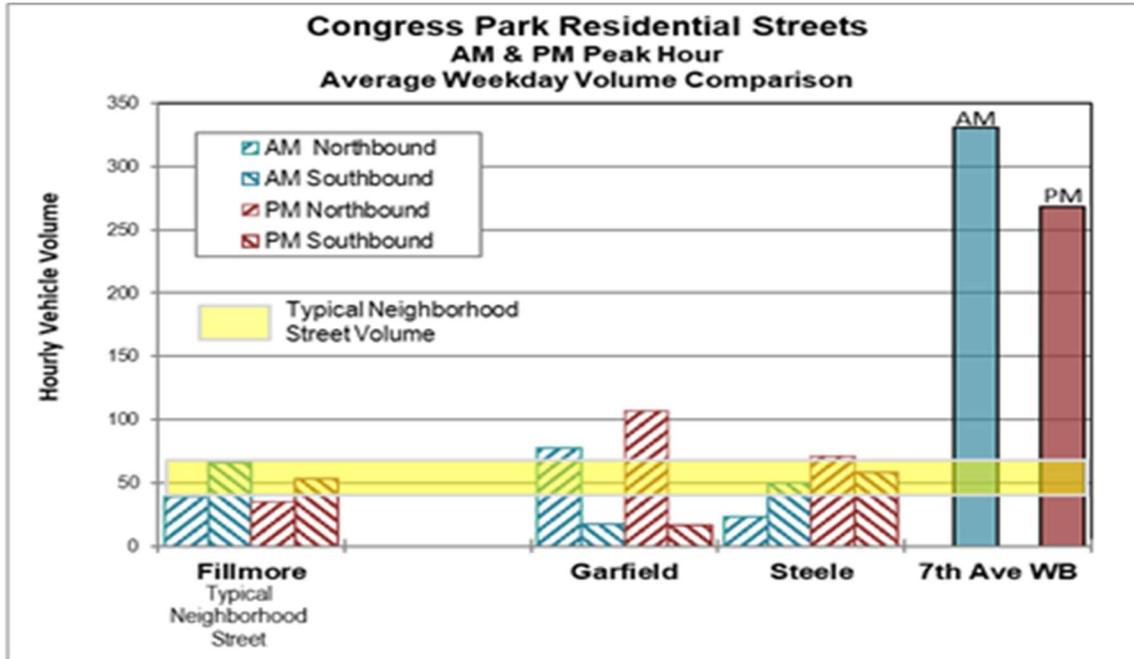


Figure 3B
 Hourly Traffic Volume Comparison, Garfield v. Steele Streets
 Congress Park



Figures 4A & B
 AM & PM Weekday Peak Hour Traffic Volumes
 Select Congress Park Residential, Collector Streets & Arterials

Pedestrian Safety

A **common** concern expressed by residents during the committee meetings was the absence of controlled pedestrian crossings at the high volume east-west arterials; 8th Avenue in particular is considered a formidable challenge for pedestrians. There are no conventional signalized intersections in the one mile stretch between Josephine Street and Colorado Blvd. There are three intermediate mid-block “gap” signals along 8th that briefly interrupt traffic on 60-second cycles. 6th Avenue has one mid-point gap signal (between St Paul and Steele Streets) in an almost one mile stretch. 13th and 14th Streets each have two mid-block signals in the eight-tenths mile length of arterial road between conventional signals at Josephine and Garfield Streets. Looming on the horizon is additional traffic that will be attracted by the large-scale multi-use 9th & Colorado commercial/residential project currently under construction in the Hale neighborhood.

TRAFFIC CALMING REMEDIES

The Safe Streets Committee efforts of the past five months have identified:

- Measurable patterns of cut-through traffic on at least three neighborhood streets: Garfield and Steele and westbound. 7th Avenue.
- Pedestrian comfort and safety issues prevailing when crossing the four high-volume, multi-lane east-west arterials that course through the community
- On average, over 15% of vehicles traveling on the east-west arterials exceed the 30 mph posted speed. Ten percent of motorists on westbound 7th Avenue are travelling more than 31 mph, well above the 25 mph posted speed

Candidate Traffic Calming Streets

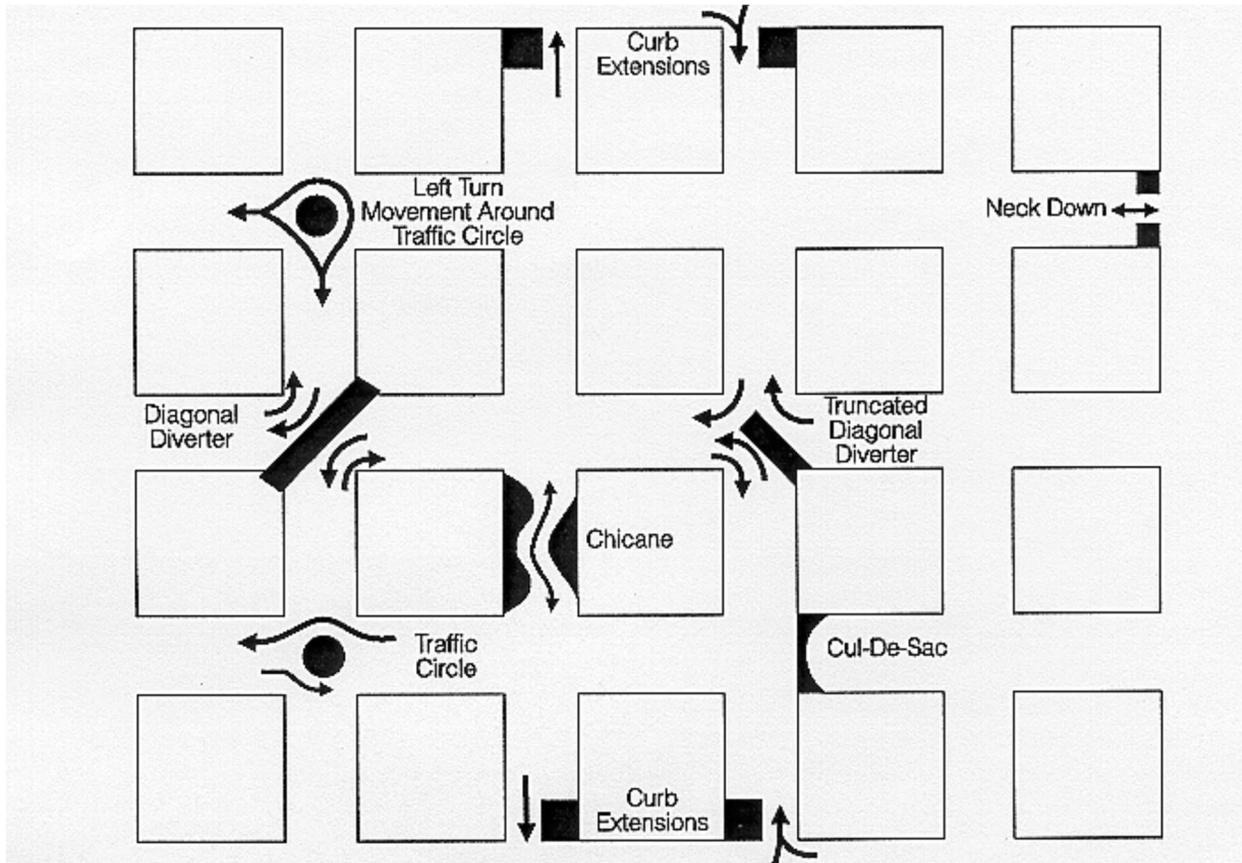
Garfield and Steele and westbound. 7th Avenue are experiencing varying levels of cut-thru traffic. In most instances it is believed these motorists are responding to delays experienced on Colorado Boulevard between 3rd Avenue and Colfax Avenue through the course of the day. Westbound 7th Avenue in particular is a diversion route motorists on northbound Colorado destined west via 8th or 13th Avenues. This diversion is aided by signal timing along Colorado that offers a large gap in opposing southbound traffic for unprotected (no left-turn arrow) northbound left turns to 7th to avoid left turn delays downstream at either 8th or 13th Avenues. It is quite possible that many of these 7th Avenue “diverted” motorists eventually filter back to 8th or 13th to continue their trip. In the process, of course, they are **cutting through on local residential streets. Garfield and Steele** are attractive through routes because gap signals along 8th Avenue are just upstream of both the Garfield and Steele intersections. This proximity provides regular periods of protected crossing or turning onto 8th Avenue during each signal’s red phase. Garfield also has full signalization at 13th, 14th and Colfax Avenue intersections.

The city plans to signalize the offset 6th & Garfield intersection in the future as part of *Neighborhood Bikeway Plan* for connecting City Park and the Cherry Creek bike trail. Steele Street has a similar “protected” gap signal condition at the 13th Avenue intersection. Steele Street has stop-sign control at the tee-intersection at Colfax.

The *Neighborhood Bikeway Plan* for connecting City Park and the Cherry Creek bike trail via **Garfield Street** will emphasize bike use of Garfield Street through Congress Park. This should effectively slow vehicular traffic and help discourage cut through traffic on Garfield Street. Hence, *Steele Street would appear to be a strong candidate for deploying traffic calming measures to discourage cut-through traffic.*

Steele Street Cut-through Traffic Remedies

The common means of discouraging traffic from cutting through residential neighborhoods is to 1). Force diversion from the established path, 2). Add delay to the route or 3). A combination of both. Figure 5 depicts a palette of traffic calming measures to select from to use singularly or in combination to deter cut-through motorists from using Steele Street.



Source: FHWA

Figure 5
Neighborhood Traffic Calming Measures

To be effective in discouraging through traffic use of Steele Street several traffic calming measures from the list above can be deployed after generating consensus from residents, particularly those within a block of Steele Street and from Denver Public Works staff. The City has installed forms of the measures shown in Figure 5 (except perhaps a chicane) in various neighborhoods around town. Photos displayed in Figure 6 depict some of these city measures.

Traffic Circles – Created by installing a low circular island in the center of intersecting neighborhood streets, this traffic calming measure forces all motorists to proceed in counter-clockwise fashion at 10 mph or less, speeds compatible for interacting with pedestrians and cyclists in the vicinity. In the case of two-way stop control, motorists given the right-of-way must slow down while continuing through the intersection. A demonstration traffic circle with two-way stop control has been installed at the 7th and Ash intersection in the Hale neighborhood, see Figure 6A.

Diagonal Diverters – Either full or truncated diverters are a positive means of diverting **all traffic** from continuing straight through a neighborhood intersection. The truncated version offers more neighborhood recirculation. In both cases bollard placement allows pedestrians and bikes to pass through. As shown in Figure 6B a gap between bollards at the High Street/Wesley Avenue diverter facilitates emergency vehicle pass through.

Chicanes – By constructing alternating mid-block curb bump-outs motorists are forced to slow down to negotiate the resulting serpentine path. A considerable amount of on-street parking would be removed to achieve this alignment. We are not familiar with any chicane traffic calming in Denver neighborhoods.

Cul-de-sac – One end of a street is closed to vehicle traffic by installing bollards, mounded or potted landscaping or a combination of both. Bikes and pedestrians have a pathway through the obstacles. Several mid-block street closures use bollards in the University neighborhood to direct campus traffic to the perimeter of the neighborhood. A half cul-de-sac provides turn around for vehicles on one side of the closure while alley access offers an outlet on the other side of the closure, see Figure 6D.

Curb Extension Neck Downs – Single-sided curb extensions can effect one-way entry or exit to or from an otherwise two-way street. 6th and Ash is an example of this treatment. In lieu of physical reconstruction of the northwest corner plastic posts are positioned to preclude left turns from eastbound 6th to northbound Ash Street while permitting southbound Ash motorists to turn onto or cross eastbound 6th Avenue, Figure 6C photos. Figure 6D photos shows curb extensions that were created on South Broadway, south of I-25, as part of a streetscape redevelopment plan for the corridor. It should be noted that both extensions cited are elongated to accommodate RTD on-line bus stops.

Consensus Building and Implementation

Before installing any traffic calming measures jurisdictions often require 60% or more of neighbors with a one block radius to sign off on the respective treatments. Extensive neighborhood resident and Denver Public Works staff participation will be needed to come up with a traffic calming plan leading to implementation. The measures cited above can be installed with signing, striping and surface mounted traffic control devices by City forces. This low-budget approach could be implemented relatively quickly and, should unintended consequences arise, be readily dismantled or modified as needed. The Next Steps section of this report describes the City's process that leads to specific project implementation.

A Steele Street Traffic Calming Scenario

In the interest of kicking off a discussion, to discourage cut-through traffic on Steele Street the following trial scenario is offered:

- Restrict turns at the Colfax tee-intersection to right-in, right-out, left-in only. (This could happen as part of the Colfax BRT project, particularly if a median bus station is planned)
- Install traffic circles at 9th and/or 10th Avenues to reduce traffic speed through the intersections. The Steele approaches would have Stop sign control.
- Install a curb extension neck down along the east side of Steele north of 8th Avenue to effect a **one-way southbound approach** to the 8th Avenue intersection (not unlike the existing 6th & Ash example). This will limit the northbound approach to left turns only onto 8th Avenue.
- A similar curb extension neck down could be installed along **Garfield Street** at the 8th Avenue intersection for the same reason: force potential northbound cut-through motorist to turn left onto 8th Avenue rather than proceed on local residential streets. This measure would complement the Garfield *Neighborhood Bikeway Plan* effort to emphasize Garfield Avenue as a safe, inviting inter-neighborhood cyclist route.

Colorado Boulevard/7th Avenue Intersection Modifications

A portal for cut-through motorists, as previously discussed, is northbound Colorado Boulevard motorists turning left onto 7th Avenue to avoid left-turn delay downstream at the 8th Avenue intersection. Some on the committee would support **closing the left turn pocket at 7th Avenue** and posting No Left Turn signs. This closure, of course, also impact residents along 7th Avenue Parkway that would have to reroute through the community. This option should be presented to the Seventh Avenue Neighborhood Association to see if there is general support for eliminating the left turn as a means of reducing cut-through traffic. Alternatively, Denver Traffic Engineering could look at *altering the offset timing between the 7th and 8th Avenue traffic signals* to reduce the generous window of time left turning motorists have before the opposing southbound platoon arrives from 8th Avenue.

Taken collectively, these or a similar package of measures would discourage cut-through motorists from departing from the arterial network in the first place.

Figure 6A
7th Avenue & Ash Street
Traffic Circle
Hale Neighborhood



Figure 6B
High Street & Wesley Ave
Traffic Diverter
University Neighborhood



Figure 6C
Northbound Ash St & EB 6th Ave
"Curb Extension"
Hilltop Neighborhood



Figure 6c
Street Closures
University Neighborhood



Figure 6D
South Broadway
Curb Extensions
Platte Park & Overland Neighborhoods



PEDESTRIAN SAFETY MEASURES

Throughout the course of the Safe Street Committee neighborhood meetings the scarcity of safe locations for crossing busy arterial streets was often raised. The longest stretch between protected (signalized) crossings with crosswalks and Hand/Man pedestrian signals is along 8th Avenue. The **distance** between traffic signals and crosswalks at Josephine Street and at Colorado Boulevard is **almost one-mile**. An idea that gained traction was to select a midway street to emphasize as a **north-south pedestrian enhanced corridor** that would have pedestrian signals and crosswalks at arterial crossings, particularly 8th Avenue.

Steele Street is the midway point between Josephine and Colorado Boulevard. If Steele were to be adopted as the preferred north/south enhanced pedestrian corridor through Congress Park (and perhaps joined by Cherry Creek North residents to achieve a Colfax to 1st Avenue Safe Street pedestrian way), there could be a concerted effort to install safe pedestrian crossing measures at the arterial crossings: 14th, 13th, 8th, and 6th Avenues.

If the Steele Street traffic calming measures were implemented as described above from Colfax on to 6th Avenue, Steele Street would experience typical neighborhood traffic volumes and speeds: more conducive to pedestrian and bike activity than the current condition.

Protected Crossing Opportunities - A protected crossing of 8th Avenue at Steele could be achieved by relocating the gap signal a hundred feet or so from the current mid-block alley location west of Adams Street to a location just east of Steele Street, not unlike the existing 8th Avenue gap signal and Stop bar placement just east of Garfield Street. As with Garfield, the east leg of the Steele intersection would have a painted cross walk as well as Hand/Man pedestrian signal heads. Pedestrians and cyclists would no doubt migrate some distance to this 8th Avenue protected crossing location.

Curb Extensions at Arterial Intersections – Curb extensions at each of the Steele Street arterial crossings would enhance pedestrian safety by reducing the exposed crossing distance. This would make pedestrian crossing of these busy 2- and 3-lane one-way roadways safer and less intimidating. The Safe Streets Committee is working on a plan to do a “Pop Up” curb extensions demonstration at one or more arterial corners as a precursor to future reconstruction.

14th Avenue Lane Reduction – Review of peak hour traffic volumes (Table 2) would suggest that 3-lane 14th Avenue east of Josephine Street could operate acceptably as a two-lane arterial through Congress Park. Volume is highest during the PM peak period, 1,310 vehicles between 5-6:00 PM. This is **comparable to the volume 2-lane 8th Avenue** carries during the same period, and considerably less than 8th carries during its peak period: 1,455 vehicles between the 7-8:00 AM hour. The existing 3-lane condition would be restored in advance of the signalized 14th and Garfield signalized intersection. The resulting parking lane added to the north side of the street would be well utilized in this higher density sector of Congress Park. This lane reduction would make 14th a less intimidating crossing for pedestrians.

Document 8th Avenue Pedestrian Crossing Demand bordering Congress Park – The City’s *Uncontrolled Pedestrian Crossing Guidelines* set criteria for installing crosswalks, traffic signal devices and signage at locations serving high-priority destinations. Parks are one the attractions cited in the criteria.

Documenting 8th Avenue pedestrian crossing volumes across from Congress Park over the summer recreation season could determine if new pedestrian safety measures are warranted.

Convert 8th Avenue to two-way operation between Colorado Boulevard and York Street – The CP Safe Streets Committee believes converting 8th Ave to two-way traffic operation would slow down traffic and improve intra-neighborhood circulation. Two-way operation would permit safe-haven 8th Avenue median opportunities at select enhanced pedestrian crossing locations per the City's *Uncontrolled Pedestrian Crossing Guidelines*.

FINDINGS & RECOMMENDATIONS

This report identifies specific traffic calming measures to reduce quantified levels of cut-through traffic on several candidate Congress Park neighborhood streets: **Steele, Garfield and westbound 7th Avenue**. Several measures should be part of a package to be effective in deterring cut-through motorists. The measures identified, either permanent or as surface-mounted “demonstrations” have been deployed elsewhere in the city. Curb extension Pop Ups are being pursued by the CPNA Safe Streets Committee as an intro to more substantive traffic calming/pedestrian safety enhancements.

There is a clear need **to provide safe pedestrian crossing locations** within long stretches between signalized intersections of the four east-west arterials that course through Congress Park. 8th Avenue in particular carries a high volume of traffic and has no protected or striped crosswalks between Garfield Street and Josephine. Replicating the existing **8th and Garfield gap signal and corner crosswalk at 8th just east of Steele** would provide a much needed mid-Community protected crossing for pedestrians and cyclists. This would entail shifting the existing gap signal that’s **now midblock** east of Adams Street 150 feet or so to the west, near the Steele intersection. This new gap signal installation would include an 8th Avenue crosswalk at the east leg of the intersection and pedestrian Hand/Man signals. Other existing midblock gap signals along the arterials should be considered **for minor relocation** to achieve similar arterial protected pedestrian crossing locations.

Garfield Street is scheduled to become an enhanced bike/pedestrian link in the City’s *City Park to Cherry Creek Trail Neighborhood Bikeway Plan*. **Steele Street**, the other local street that carries a documented level of cut-through traffic is a candidate for traffic calming measures to discourage motorists from leaving the arterial grid to course through the community. Suggested measures are identified in this report.

Further traffic operation analyses could reveal if **14th Avenue could transition from 3 lanes to 2 lanes** (to match two-lane 13th Avenue) through Congress Park. A new parking lane along the north side of the street that would be gained by the lane reduction would be an asset to this higher density residential sector of the community. With this change 14th Avenue would be a less intimidating barrier for pedestrians.

Limited sight lines at alley intersections was an issue with a number of residents. Residents of the 1300 blocks are particularly effected since they experience cars parking along 13th and 14th one-way arterials close to their alley **at both ends** of the alley. Nosing out partially into the travel lane to see approaching vehicles can be hazardous to both motorists. Public Works staff should consider locating No Parking signs further from the alley as needed to provide adequate inter-visibility sight lines between approaching arterial vehicles and vehicles entering from the alley.

Permanent “YOUR SPEED” solar powered radar sign installations should be considered at westbound 7th Avenue and 8th Avenue locations where residents’ perceptions and Denver Police Department speed studies have identified 85th percentile speeds consistently exceeding posted speeds.

CPNA should organize an Action Committee charged with implementing those traffic calming and pedestrian safety measures that gain community acceptance as a result of this Action Plan. The committee should include representatives from the Seventh Avenue Neighborhood Association and Denver Public Works staff. This technical report will be a resource for pursuing “data driven” solutions.

NEXT STEPS

Denver Public Works staff participant (Ashlee Grace) has suggested the following course of action for CPNA and SANA through the planning and public involvement process leading to selected projects funding and implementation:

- Community Prioritization - The city is open to considering all of the recommendations in this report. Community prioritization via the appropriate planning efforts, mobility projects and working with your elected City Council representative (Councilman Wayne New) will lead to more likely implementation of major street operation changes (e.g., lane reductions, median closures, gap signal relocations). All recommendations *will require in-depth analysis and design* prior to implementation.
- Neighborhood Planning Initiative - This planning initiative is an important way to advocate for specific projects and neighborhood concerns. The City strongly recommends that the community use this process to make clear their prioritized mobility and safety concerns/ideas. The intent of the City planning effort is to identify and prioritize improvements for the East Central Area neighborhoods, including Congress Park.
- Timing – Immediate. The **Neighborhood Planning Initiative** anticipates wrapping up the public involvement process **summer 2019**. More information about upcoming NPI meetings, contact information and a link to online engagement opportunities can be found at: https://www.denvergov.org/content/denvergov/en/community-planning-and-development/planning-and-design/Neighborhood_Planning_Initiative/Planning-Areas/East_Central_Area_Plan.html

Other City Sponsored Projects in the Congress Park area:

- Colfax BRT - The Colfax BRT project will not only impact Colfax directly but the immediately adjacent area, including 13th and 14th Avenues. As such, the City strongly recommends that ideas/concerns for improvements in northern Congress Park are voiced as part of this design process. (The 14th Avenue 3-to-2 lane reduction idea must be considered as part of this project that is looking holistically at the E/W arterial network in this area).
- Timing - Public involvement for the Colfax BRT design will be ongoing for the next 12-18 months. More information about how to get involved with the BRT project can be found here: <https://www.denvergov.org/content/denvergov/en/denver-department-of-public-works/projects/current/colfax-corridor-connections.html>
- Garfield Neighborhood Bikeway - The Garfield Neighborhood Bikeway project, which is already under design, will not only provide a safe N/S connection for cyclists but will also seek to improve pedestrian crossings at key intersections (meeting the intent of this recommendation). The section of the bikeway that runs through Congress Park (phase 2) is currently under design and public involvement is anticipated to begin summer 2019.

Specific safety concerns: if there are specific intersections or locations of concern, such as sight line obstructions at intersections, residents are always encouraged to submit concerns via the City's 311 system by dialing 3-1-1 or entering concerns at Pocketgov.org