Lincoln Avenue

Road Diet Trial

Data Collection Report

June 1, 2015

Department of Transportation

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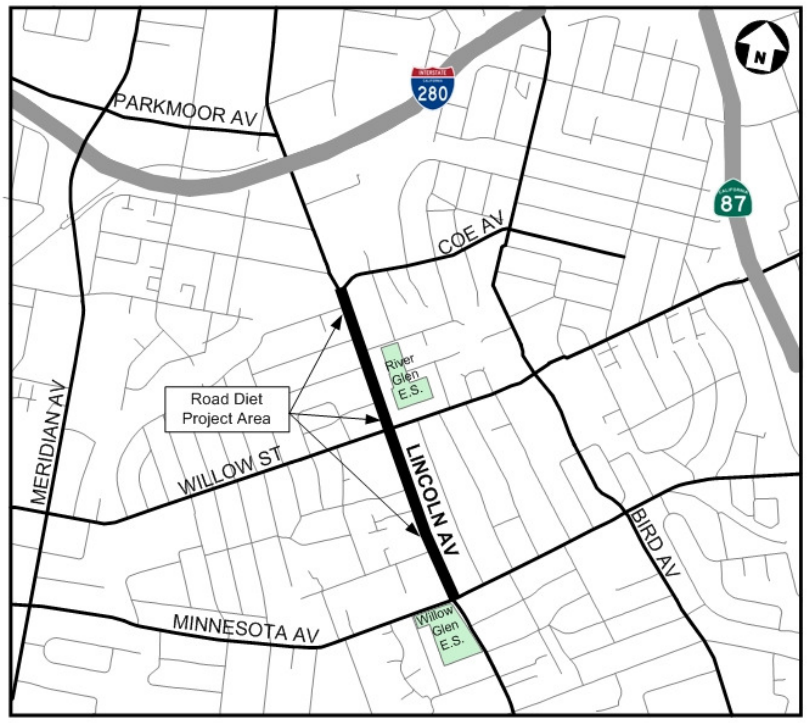
I. INTRODUCTION

Lincoln Avenue is an arterial street running north-south through the Willow Glen Community, between Park Avenue and Almaden Expressway. The Lincoln Avenue Road Diet Trial focused on the business district section between Coe Avenue and Minnesota Avenue (see Figure 1). Prior to the Road Diet Trial, this section of Lincoln Avenue had a posted speed of 25 mph, four vehicle travel lanes (two in each direction), on-street parking, and carried almost 16,000 vehicles per day.

Figure 1 – Project Area Location Map



The concept of modifying Lincoln Avenue through the business district has been informally discussed by numerous stakeholders for many years. The concepts covered a variety of elements such as zoning, sidewalks, parking, landscaping, and the roadway configuration.

In the fall of 2014, members of the Willow Glen Business Association and the Willow Glen Neighborhood Association formed the Road Diet Working Group (RDWG) to explore the possibility of implementing a Road Diet on Lincoln Avenue. In an effort to understand the technical feasibility of implementing a Road Diet, the RDWG requested the participation of the City of San José's Department of Transportation (DOT) in a series of their meetings. As part of the technical feasibility review, it was noted that DOT would be performing scheduled pavement maintenance on Lincoln Avenue during the 2015 construction season. The scheduled pavement maintenance provided a unique opportunity to perform a Road Diet Trial beforehand to test a new roadway configuration and thoroughly evaluate its impacts and benefits without the potential risks and cost of making a permanent roadway modification. As part of the upcoming pavement maintenance project, new bicycle facilities (bike lanes/sharrows) will be installed on Lincoln Avenue between Park Avenue and Coe Avenue.

As a result of these discussions, Councilmember Oliverio requested that DOT design and implement a temporary Road Diet Trial in 2015 prior to scheduled pavement maintenance. The RDWG supported the Road Diet Trial concept. The temporary Road Diet Trial would allow DOT to collect, analyze, and compare extensive "Before" data that captured pre-existing conditions and "After" data to evaluate post-conditions. On February 12, 2015, the RDWG, Councilmember Oliverio, and DOT conducted a community meeting at Willow Glen Elementary School to explain the Road Diet Trial concept and process, and to receive community feedback. The meeting was attended by hundreds of people, and comments were received from numerous attendees.

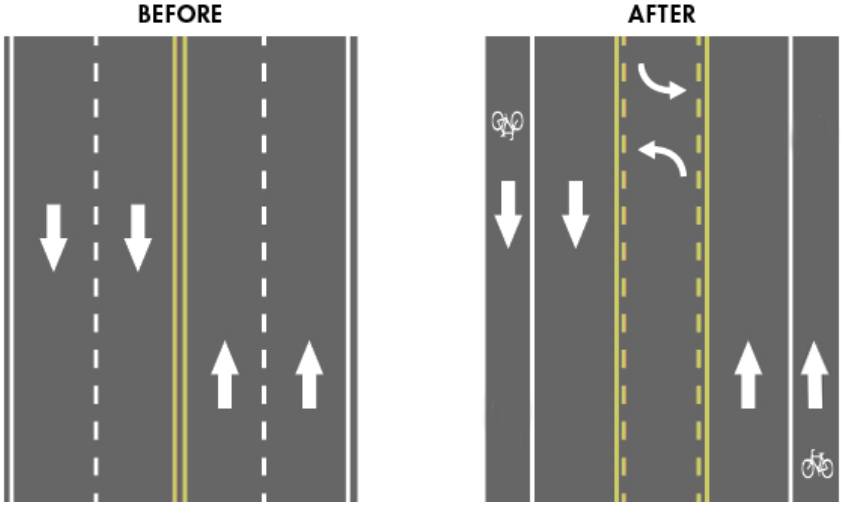
To implement the Road Diet Trial, DOT finalized the temporary design for installation at the end of February 2015. DOT collected extensive "Before" data on February 3 – 5, 2015. On February 26, 2015, DOT installed the new temporary roadway configuration. The "After" data was collected on April 7 – 9, 2015.

What is a Road Diet and Why Would a Road Diet be Considered?

A Road Diet involves reducing the number of vehicle travel lanes and using that space for other purposes. The Federal Highway Administration (FHWA) describes a road diet as "removing travel lanes from a roadway and utilizing the space for other uses and travel modes." The typical purpose or goals of a Road Diet include improving safety for all roadway users, reducing vehicular speeding, and better accommodating people walking or bicycling. The FHWA indicates "strong research support for achieving safety benefits through converting four-lane undivided streets to three-lane cross sections [with two-way-left-turn-lanes]." The City of San José implemented numerous road diets, including on San Fernando Street, Hedding Street, Almaden Boulevard, and 3rd, 4th, 10th and 11th Streets.

The Road Diet Trial on Lincoln Avenue is commonly referred to as a "4-to-3 Road Diet" because it reduces travel lanes from two in each direction (4 lanes) to one in each direction, and adds a two-way-left-turn lane (3 lanes) and marked bike lanes. All on-street parking was preserved as part of the Road Diet Trial. A sample Before/After roadway is shown in Figure 2.

Figure 2 – Road Diet: 4-to-3 Lane Conversion with Bike Lanes



II. DATA COLLECTION METHODOLOGY & RESULTS

To evaluate the changes and possible impacts in and around the Lincoln Avenue Road Diet project area, DOT conducted an extensive Before and After data collection process. There were four types of data collected, including:

A. Traffic Volume and Speed
B. Travel Times along Lincoln Avenue Corridor
C. Intersection Level of Service
D. Bicycle and Pedestrian Volume

The data collection process followed standard and accepted methodologies and practices commonly used by public agencies across the nation. In some cases, traffic data collection efforts exceeded what public agencies normally collect. This section summarizes the data collection methodologies and results for each type of data collection.

A. Traffic Volume and Speed

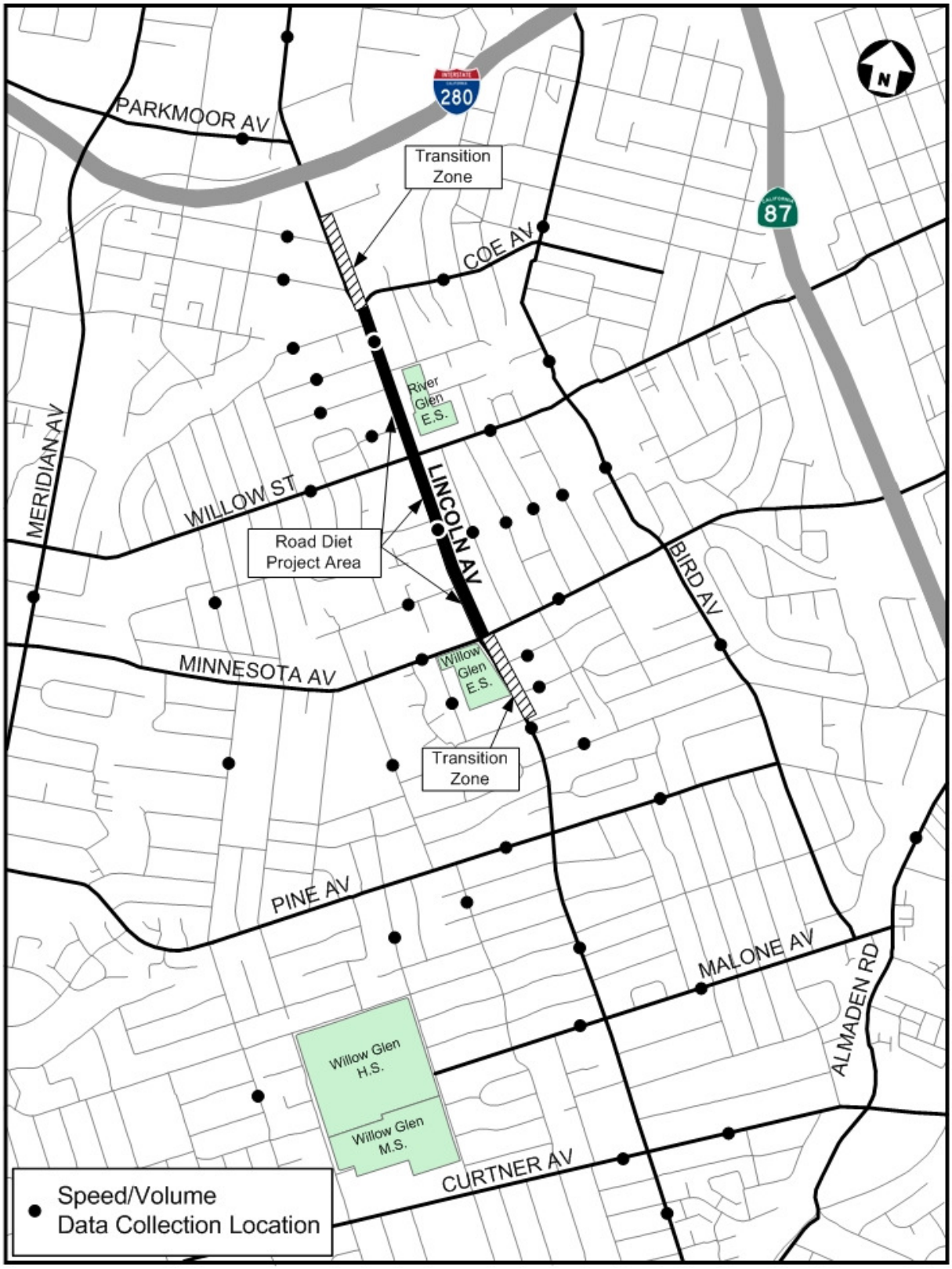
Traffic volume and speed data was collected at numerous locations along Lincoln Avenue, as well as on numerous local and major roadways surrounding the Road Diet project area for two continuous three day, 72-hour periods. Data was collected before and after the Road Diet Trial was implemented at 45 locations. Data collection occurred midweek, Tuesday through Thursday, during dry weather, with equipment placed at midpoints along roadway segments. The "Before" data was collected between February 3 – 5, 2015, and the "After" data was collected between April 7 – 9, 2015. Data collection equipment was placed in the same location for Before and After data collection periods. During each collection period, every effort was made to collect data at all 45 locations on the same three days. Volume and speed data collection locations are illustrated in Figure 3 on the next page.

Traffic Volume and Speed Summary

After implementation of the Road Diet Trial, traffic volumes declined about 500 – 2,000 vehicles per day within the Lincoln Avenue business district corridor (between Coe and Minnesota). Surrounding neighborhood and major streets did not experience significant increases in daily traffic volumes. Those vehicles no longer traveling on the Lincoln Avenue corridor may be using roadways outside of the area monitored as part of this project, such as Almaden Expressway, Leigh Avenue, Bascom Avenue, Highway 87 and Monterey Road. Local drivers may also be choosing non-vehicle modes of transportation to access Lincoln Avenue, including walking, bicycling, and using transit.

Most streets did not see a notable increase in speeds, with almost all maintaining speeds that are considered normal for their posted speed limits. There has been a more significant increase in speeds on five streets, and these are detailed in the following sections.

Figure 3 – Volume and Speed Data Collection Location Map



Lincoln Avenue Corridor

The volume and speed data collection along Lincoln Avenue is summarized in the table below:

Lincoln Avenue Volume & Speed Summary

	Street (posted speed limit)		Volume (ADT)	Volume Change		85th %* (mph)	10+ mph over speed limit	
				Vehicles	%		Vehicles	%
	LINCOLN s/o CURTNER (35 MPH)	BEFORE	13,261	-587	-4%	40.9	521	3.9%
		AFTER	12,674			41.2	561	4.4%
	LINCOLN s/o CLARK (35 MPH)	BEFORE	16,319	-1,015	-6%	38.3	223	1.4%
		AFTER	15,304			38.5	212	1.4%
	LINCOLN s/o NEVADA (35 MPH)	BEFORE	14,818	-613	-4%	38.0	174	1.2%
		AFTER	14,205			37.8	167	1.2%
Road Diet Segment	LINCOLN s/o MEREDITH (25 MPH)	BEFORE	15,889	-2,138	-13%	27.7	147	0.9%
		AFTER	13,751			26.8	88	0.6%
Road Diet Segment	LINCOLN s/o GLEN EYRIE (25 MPH)	BEFORE	15,555	-490	-3%	33.6	1,608	10.3%
		AFTER	15,065			32.1	828	5.5%
	LINCOLN n/o PARKMOOR (35 MPH)	BEFORE	10,382	-1,009	-10%	38.5	161	1.6%
		AFTER	9,373			39.6	264	2.8%

** 85th % is the speed at which 85% of all vehicles travel at or below.*

For the six collection locations in the Lincoln Avenue corridor, from north of Almaden Expressway to south of San Carlos Street, data showed the following results:

- Volumes were lower on all sections of Lincoln Avenue:
  - Down 10% in the San Carlos to Coe segment
  - Down 4 – 6% in the Minnesota to Curtner segment
  - Within the Road Diet portion of Lincoln Avenue (Coe to Minnesota)
    - Down 13% in the Willow to Minnesota segment
    - Down 3% in the Coe to Willow segment

- A high majority of vehicles present before the Road Diet remained on Lincoln Avenue:
  - Within the core Business District (Coe to Minnesota): 14,000 – 15,000 vehicles per day (vs. almost 16,000 before the Road Diet Trial)

- Volumes on similar 2-lane business district main streets:
  - Los Gatos' Santa Cruz Avenue: about 15,000 vehicles per day
  - Palo Alto's University Avenue: about 17,000 vehicles per day

- Speeds along Lincoln Avenue were generally unchanged along the segments to the south of the Road Diet Trial. Speeds north of the Road Diet Trial were slightly higher, but still typical for a 35 mph roadway.

- Within the Road Diet portion of Lincoln Avenue (Coe to Minnesota), overall speeds were lower, and there was a notable decrease in the number of motorists traveling at 10+ mph over the posted speed limit.

Neighborhood (Local) Streets

Volume and speed traffic data was collected on 23 local streets surrounding Lincoln Avenue, with the following results:

- 12 of the neighborhood streets (52%) experienced minor volume changes when compared to conditions before the Road Diet Trial, with differences up/down of less than 50 vehicles per day. These variations are within expected daily variations for local streets.

- Eight streets saw more significant volume changes, all with decreases between 100 – 600 vehicles per day: Brace, California, Hicks (Curtner to Pine), Iris, Lester, Newport (south of Minnesota), Pedro and Willow Glen Way.

- Speeds within the neighborhood streets were generally similar before and after the Road Diet Trial, with no streets having a significant increase in motorists traveling at 10+ mph over the posted speed limit.

- One street, Hicks Avenue (Curtner to Pine), had an increase in overall speeds such that it now exceeds the speed threshold established in the City's Traffic Calming Policy (85th percentile of 33 mph or more on a 25 mph street), increasing from 32.9 to 33.6 mph.

The neighborhood street volume and speed data collection is summarized in Appendix Table 1.

Major Streets

Volume and speed traffic data was collected on all major roadways surrounding the Road Diet Trial project area. These streets included Almaden Road, Bird Avenue (4 locations), Coe Avenue, Meridian Avenue, Parkmoor Avenue; and at locations both west and east of Lincoln Avenue: Curtner Avenue, Minnesota Avenue, Pine Avenue, and Willow Street.

For these major streets, data showed the following results:

- Daily volumes were similar to volumes before the Road Diet Trial.

- There were increases in motorists traveling at 10+ mph over the posted speed limit on several of the major streets, with the largest increases on:

    - Bird Avenue (Minnesota to Willow) – increased from 635 to 1,166 per day
    - Bird Avenue (Willow to Coe) – increased from 357 to 736 per day

- Meridian Avenue (Willow to Minnesota) – increased from 446 to 1,099 per day
- Pine Avenue (Lincoln to Bird) – increased from 106 to 253 per day

- Although speeds did increase on the several major streets, the 85th percentiles are still within normal ranges for each street's posted speed limit, with the exception of Meridian (85th 40.3 mph in a 35 zone) and Curtner [east of Lincoln] (41.8 mph in a 35 zone).

The major street volume and speed data collection is summarized in Appendix Table 2.

B. Travel Times in the Lincoln Avenue Corridor

Travel time runs were conducted along the entire length of Lincoln Avenue, between Curtner Avenue and San Carlos Street, in both directions on midweek days for two hours during the AM commute, midday, and PM commute periods. There were six runs per period, conducted every 20 minutes, for multiple days both before and after the Road Diet Trial was implemented. The "Before" data was collected between February 3 – 5, 2015, and the "After" data was collected between April 7 – 9, 2015. Times were recorded as vehicles entered each signalized intersection to determine the average travel times along each segment. The peak hour, based on the largest delays, was determined for each 2-hour period. A summary of the 2-hour and peak hour travel times are located in Appendix Tables 3 and 4, respectively.

Travel Time Summary

Overall, travel times for the length of the corridor were about the same during the morning, 1 – 3 minutes lower in the midday, and 2 – 3 minutes higher in the evening periods. Most notably, there were consistently longer delays during all of the monitored periods approaching the Lincoln/Willow intersection from both directions after the Road Diet Trial was implemented. Feedback has been received from various sources regarding operational concerns at the signals at Lincoln/Willow and Lincoln/Minnesota, and the midblock crosswalk located south of Willow. DOT is actively evaluating each location for possible adjustments and improvements.

AM Commute (7:00 – 9:00 AM)

- **Northbound**

  NB AM travel time for the length of the corridor, between Curtner and San Carlos, was slightly higher after implementation of the Road Diet Trial, increasing 27 seconds (+5%), from 8 minutes 40 seconds to 9 minutes 7 seconds on average. A more notable increase in travel time occurred between Pine and Willow, increasing just over a minute from 3 minutes 22 seconds to 4 minutes 23 seconds.

  In the NB AM peak period (roughly 7:45 to 9 AM), the changes in times were similar to those during the 2-hour period. The overall average travel time for the entire length of the corridor increased 36 seconds (+7%), from 9 minutes 7 seconds to 9 minutes 43 seconds. The largest increase in delay was in the Minnesota to Willow segment, with a nearly 1 minute increase, but there were small decreases in other segments.

- **Southbound**

  SB AM travel times for the length of the corridor, between San Carlos and Curtner, were essentially unchanged, but there was a small increase in travel time between Coe and Willow and a similar sized decrease between Minnesota and Pine.

  In the SB AM peak period (7:15 to 8:30 AM), travel times remained unchanged by maintaining a 9 minute 18 second average. There was an increase of about 40 seconds between Coe and Willow, but there was also a decrease of nearly 1 minute between Willow and Minnesota.

Midday (11:00 AM – 1:00 PM)

- **Northbound**

  NB midday travel time for the length of the corridor, between Curtner and San Carlos, improved in the NB direction. The average time decreased over 2 minutes (-21%), from 10 minutes 51 seconds to 8 minutes 35 seconds. There were fewer delays between Curtner and Minnesota and between Willow and San Carlos. There was an increased travel time of about 20 seconds between Minnesota and Willow.

  For the NB peak midday period (around 11:45 AM to 1:00 PM), average times decreased 2 minutes 44 seconds, (-24%), from 11 minutes 23 seconds to 8 minutes 39 seconds. The most notable travel time reduction was in the Pine to Minnesota segment, with times averaging 1 minute 21 seconds, down from 3 minutes 39 seconds (-63%). It was also about 22 seconds quicker in the Willow to Coe segment. Travel times did increase, however, in the Minnesota to Willow segment, with an increase of 32 seconds (+18%), now taking an average of 3 ½ minutes compared to previously taking just under 3 minutes.

- **Southbound**

  SB midday travel time for the length of the corridor, between San Carlos and Curtner, improved roughly 1 minute (-10%), taking an average of 8 minutes 29 seconds compared to 9 minutes 28 seconds before. Times were improved between Willow and Pine, but there was a slight increase in travel time between Coe and Willow.

  For the SB peak midday period (around 11:45 AM to 1:00 PM), average travel times were down 1 minute 21 seconds (-14%), from 9 minutes 46 seconds to 8 minutes 25 seconds. The biggest travel time improvement was in the Willow to Minnesota segment, with over a one minute decrease (-34%) to 2 minutes 16 seconds vs. the original 3 minutes 26 seconds. There was a small decrease in travel time in the Minnesota to Pine segment and a small increase in the Coe to Willow segment.

PM Commute (4:00 – 6:00 PM)

- **Northbound**

  NB PM travel time for the length of the corridor, between Curtner and San Carlos, was nearly 2 minutes longer (+16%). There were increases from Curtner to Willow, highlighted by a nearly 2 minute increase in the travel time between Minnesota and Willow. Times were slightly improved north of Willow.

  For the NB PM peak period (5:15 to 6:00 PM), travel times increased nearly 2 minutes (+17%), from 10 minutes 34 seconds to 12 minutes 20 seconds. There was an increase in travel times along all 3 segments between Curtner and Willow (all up over 50%), with the highest delay being a 1 ½ minute additional travel time between Minnesota and Willow (+58%). There was a 1 minute improvement between Willow and Coe (-57%).

- **Southbound**

  SB PM travel time for the length of the corridor, between San Carlos and Curtner, was over 2 minutes longer (+24%). There was a nearly 1 minute increase in the travel time between Willow and Minnesota (+59%) and nearly 2 minute added delay between Parkmoor and Coe (+117%).

  For the SB PM peak period (4:45 to 6:00 PM), travel times increased about 3 minutes (+29%), from 10 minutes 16 seconds to 13 minutes 14 seconds. There was more delay between Parkmoor and Coe, Willow and Minnesota, and Pine and Curtner. The most notable increased delay was in the Parkmoor to Coe segment, where it took over 2 minutes longer on average (+118%). SB queues for the Lincoln/Willow intersection, which previously extended from Willow to near Coe, now extend north of Coe during the entire PM period.

C. Intersection Level of Service

Intersection Level of Service (LOS) was calculated at seven signalized intersections on Lincoln Avenue using turning movement counts during the AM and PM peak hours. The "Before" data was collected between February 3 – 5, 2015, and the "After" data was collected between April 7 – 9, 2015. The "Before" and "After" traffic counts were collected on Tuesdays through Thursdays, and were collected consistent with standard industry practices.

What is LOS?

LOS is defined in terms of the average total vehicle delay of all vehicle movements thorough an intersection, using a scale of A through F. LOS criteria are stated in terms of average delay per vehicle during a specific time period (for example, during the PM peak hour). Vehicle delay is a complex measure based on many variables, including signal phasing (i.e., progression of movements through the intersection), signal cycle length, and traffic volumes with respect to intersection capacity. LOS criteria for signalized intersections, as described in the City of San José's Traffic Impact Analysis Handbook, are shown in the table on the following page:

Level of Service Criteria for Signalized Intersections

Level of Service	Avg. Control Delay (sec/veh)	General Description
A	Up to 10	Very low delay, favorable progression and/or short cycle lengths
B	10.1 – 20	Low delay, good progression and/or short cycle lengths
C	20.1 – 35	Average delays, fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.
D	35.1 – 55	Longer delays due to several factors, like higher % of capacity, long cycle lengths, unfavorable progression. Many vehicles stop each cycle.
E	55.1 – 80	High delays with poor progression, long cycle lengths, high % of capacity, frequent individual cycle failures.
F	Over 80	Unacceptable delays to most drivers due to oversaturation, poor progression, very long cycle lengths.

LOS calculations for the seven signalized intersections along Lincoln Avenue are summarized in Appendix Table 5, with key findings highlighted below:

- There are no identified LOS impacts under the California Environmental Quality Act (CEQA).

- None of the measured intersections had a significant impact to their LOS, which is defined under City Council Policy 5-3: Transportation Level of Service, as changing from LOS D or better to LOS E or F.

D. Bicycle and Pedestrian Volumes

Bicyclists and pedestrians were counted as they passed through the four signalized intersections within the Road Diet Trial project area. Counts were conducted during the Peak AM (7:00 AM – 9:00 AM) and Peak PM (4:00 PM – 6:00 PM) time frames. The "Before" data was collected on February 3, 2015 and "After" traffic counts were collected on April 9, 2015. There were slight increases in bicycle volumes and notable pedestrian volume increases at the Lincoln/Willow and Lincoln/Minnesota intersections during the peak periods. Results are summarized in Appendix Table 6.

Collision Data

Because the annual number of reported collisions on this corridor is relatively low (32 crashes in the 24 months prior to the Road Diet Trial installation), the three-month Road Diet Trial period does not provide enough data for meaningful analysis and comparison. If the Road Diet is made

permanent, DOT will analyze detailed Before & After Collision Data once the project has been in place for at least one full year.

III. NEXT STEPS

The RDWG will host a Public Meeting on June 18, 2015, where DOT will present the methodologies and summarize this report, and there will be an opportunity for the public to provide comments.

Lincoln Avenue Road Diet Trial Public Meeting
Thursday June 18, 2015 at 6:30 PM
Willow Glen High School Cafeteria
2001 Cottle Avenue, San Jose

Lincoln Avenue

Road Diet Trial

Data Collection Report

APPENDIX

Table 1 – Neighborhood (Local) Streets Volume & Speed Summary

Street (25 mph, unless noted)		Volume (ADT)	Volume Change		85th % (mph)	10+ mph over speed limit	
			Vehicles	%		Vehicles	%
BLEWETT s/o Willow	BEFORE	1,144	26	2%	25.1	4	0.3%
	AFTER	1,170			25.1	2	0.1%
BRACE e/o Coolidge	BEFORE	1,812	-383	-21%	25.3	3	0.2%
	AFTER	1,429			26.1	4	0.3%
CALIFORNIA e/o Lincoln	BEFORE	1,101	-432	-39%	25.3	4	0.4%
	AFTER	670			25.5	1	0.1%
CAMINO RAMON s/o Willow	BEFORE	3,461	42	1%	31.8	140	4.0%
	AFTER	3,503			31.1	88	2.5%
COTTLE s/o Pine	BEFORE	3,831	14	0%	31.5	171	4.5%
	AFTER	3,845			32.4	217	5.6%
CURTIS s/o Willow	BEFORE	659	-33	-5%	22.6	1	0.2%
	AFTER	626			23.0	1	0.2%
EL ABRA w/o Lincoln	BEFORE	402	27	7%	25.5	2	0.4%
	AFTER	428			24.4	1	0.1%
GARFIELD w/o Lincoln	BEFORE	561	25	4%	26.6	4	0.6%
	AFTER	585			26.6	2	0.3%
GLEN EYRIE w/o Lincoln	BEFORE	1,784	69	4%	26.8	13	0.7%
	AFTER	1,853			26.4	11	0.6%
HICKS s/o Cherry Valley	BEFORE	4,932	26	1%	33.1	398	8.1%
	AFTER	4,958			33.1	369	7.4%
HICKS s/o Callecita	BEFORE	5,429	-580	-11%	32.9	325	6.0%
	AFTER	4,850			33.6	374	7.7%
IRIS s/o Minnesota (20 MPH)	BEFORE	736	-302	-41%	23.0	7	1.0%
	AFTER	434			23.3	3	0.6%
KOTENBURG s/o Willow	BEFORE	618	29	5%	28.2	5	0.8%
	AFTER	647			27.7	4	0.6%
LESTER w/o Lincoln	BEFORE	640	-116	-18%	24.2	2	0.2%
	AFTER	524			24.6	3	0.5%
MALONE w/o Lincoln	BEFORE	2,557	10	0%	26.4	14	0.5%
	AFTER	2,567			26.2	10	0.4%
MALONE e/o Harmil	BEFORE	4,295	-173	-4%	34.7	82	1.9%
	AFTER	4,122			35.3	112	2.7%
MICHIGAN e/o Lincoln	BEFORE	309	31	10%	24.2	1	0.3%
	AFTER	340			24.6	1	0.1%
NEWPORT s/o Fairview	BEFORE	1,617	47	3%	26.8	8	0.5%
	AFTER	1,664			27.7	12	0.7%
NEWPORT s/o Minnesota	BEFORE	3,145	-368	-12%	31.8	156	5.0%
	AFTER	2,777			32.4	170	6.1%
PAULA w/o Lincoln	BEFORE	1,402	4	0%	30.0	33	2.3%
	AFTER	1,406			30.6	46	3.2%
PEDRO w/o Lincoln	BEFORE	3,227	-198	-6%	30.4	96	3.0%
	AFTER	3,029			31.5	142	4.7%
SETTLE s/o Willow	BEFORE	523	-80	-15%	25.7	3	0.6%
	AFTER	444			25.1	3	0.6%
WILLOW GLEN w/o Hill	BEFORE	968	-125	-13%	28.2	9	0.9%
	AFTER	843			26.8	6	0.7%

Table 2 – Major Streets Volume & Speed Summary

Street (posted speed limit)		Volume (ADT)	Volume Change		85th % (mph)	10+ mph over speed limit	
			Vehicles	%		Vehicles	%
ALMADEN RD n/o Malone (35 MPH)	BEFORE	6,344	-3	0%	38.9	110	1.7%
	AFTER	6,341			39.8	165	2.6%
BIRD s/o Willow Glen Way (35 MPH)	BEFORE	11,995	103	1%	37.4	100	0.8%
	AFTER	12,098			36.9	61	0.5%
BIRD s/o Willow (25 MPH)	BEFORE	10,307	-45	0%	32.7	635	6.2%
	AFTER	10,263			34.2	1,166	11.4%
BIRD n/o Willow (25 MPH)	BEFORE	12,019	436	4%	31.1	357	3.0%
	AFTER	12,455			32.4	736	5.9%
BIRD n/o Coe (35 MPH)	BEFORE	16,022	-53	0%	38.0	222	1.4%
	AFTER	15,969			38.9	316	2.0%
COE e/o Riverside (30 MPH)	BEFORE	5,782	-278	-5%	33.3	58	1.0%
	AFTER	5,504			35.3	156	2.8%
CURTNER e/o Lincoln (35 MPH)	BEFORE	16,846	-582	-3%	41.2	767	4.6%
	AFTER	16,264			41.8	947	5.8%
CURTNER w/o Lincoln (35 MPH)	BEFORE	17,794	-481	-3%	38.5	286	1.6%
	AFTER	17,314			39.8	459	2.7%
MERIDIAN s/o Minnesota (35 MPH)	BEFORE	33,421	-515	-2%	38.0	446	1.3%
	AFTER	32,907			40.3	1,099	3.3%
MINNESOTA w/o Lincoln (30 MPH)	BEFORE	11,156	3	0%	36.5	528	4.7%
	AFTER	11,158			37.1	653	5.9%
MINNESOTA e/o Lincoln (30 MPH)	BEFORE	10,772	-131	-1%	32.7	89	0.8%
	AFTER	10,641			34.4	229	2.2%
PARKMOOR w/o Lincoln (30 MPH)	BEFORE	7,855	-516	-7%	34.2	150	1.9%
	AFTER	7,340			33.3	88	1.2%
PINE e/o Lincoln (25 MPH)	BEFORE	4,620	-118	-3%	30.4	106	2.3%
	AFTER	4,502			32.4	253	5.6%
PINE w/o Lincoln (30 MPH)	BEFORE	7,763	-602	-8%	32.0	40	0.5%
	AFTER	7,161			32.2	42	0.6%
WILLOW w/o Lincoln (30 MPH)	BEFORE	8,778	-497	-6%	34.2	123	1.4%
	AFTER	8,281			35.6	256	3.1%
WILLOW e/o Lincoln (30 MPH)	BEFORE	12,103	-862	-7%	32.2	93	0.8%
	AFTER	11,241			33.1	140	1.2%

Table 3 – Lincoln Avenue Travel Time 2-Hour Summary

(in minutes)		Curtner - San Carlos		Curtner - Pine		Pine - Minnesota		Minnesota - Willow		Willow - Coe		Coe - Parkmoor		Parkmoor - San Carlos	
		NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
AM (7 - 9)	Before	8.67	8.87	2.04	1.31	1.98	1.88	1.38	1.66	0.82	1.35	0.78	1.05	1.69	1.62
	After	9.11	8.83	1.75	1.22	2.42	1.14	1.96	1.88	0.73	1.82	0.68	1.01	1.57	1.77
	Change	5%	0%	-14%	-7%	22%	-40%	42%	13%	-10%	35%	-12%	-4%	-7%	9%
Midday (11 - 1)	Before	10.85	9.47	1.62	1.08	2.99	1.26	2.98	3.23	1.07	1.15	0.84	0.95	1.35	1.80
	After	8.58	8.49	1.32	1.16	0.81	0.94	3.32	2.38	0.65	1.34	0.76	0.95	1.22	1.72
	Change	-21%	-10%	-19%	7%	-73%	-25%	11%	-26%	-39%	17%	-9%	0%	-10%	-5%
PM (4:30-6:30)	Before	10.40	9.59	1.51	1.86	1.67	1.16	2.28	1.49	1.67	1.97	0.99	1.44	2.29	1.67
	After	12.05	11.84	2.28	1.48	1.92	0.98	4.42	2.36	0.73	2.03	0.91	3.13	1.85	1.86
	Change	16%	24%	52%	-20%	15%	-16%	93%	59%	-57%	3%	-7%	117%	-19%	11%
								Road Diet Segment							

Table 4 – Lincoln Avenue Travel Time Peak Hour Summary

(in minutes)		Curtner - San Carlos		Curtner - Pine		Pine - Minnesota		Minnesota - Willow		Willow - Coe		Coe - Parkmoor		Parkmoor - San Carlos	
		NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
AM	Before	9.11	9.30	2.05	1.39	2.35	2.01	1.39	1.66	0.84	1.44	0.77	1.10	1.71	1.68
	After	9.71	9.30	1.78	1.25	2.73	1.11	2.21	1.96	0.73	2.08	0.69	1.07	1.56	1.83
	Change	7%	0%	-13%	-10%	16%	-45%	59%	18%	-13%	44%	-10%	-3%	-9%	9%
Midday	Before	11.39	9.76	1.57	1.06	3.65	1.31	2.97	3.44	1.03	1.15	0.82	1.00	1.34	1.80
	After	8.65	8.42	1.31	1.18	1.35	1.02	3.51	2.27	0.67	1.43	0.73	0.92	1.08	1.61
	Change	-24%	-14%	-16%	12%	-63%	-23%	18%	-34%	-35%	24%	-11%	8%	-20%	-11%
PM	Before	10.57	10.27	1.54	1.86	1.50	1.12	2.50	1.48	1.71	2.42	1.05	1.70	2.28	1.68
	After	12.34	13.23	2.40	1.44	2.26	1.09	3.94	2.58	0.73	2.53	1.03	3.72	1.98	1.88
	Change	17%	29%	55%	-22%	51%	-3%	58%	73%	-57%	5%	-2%	118%	-13%	12%
								Road Diet Segment							

Table 5 – Lincoln Avenue Intersection Level of Service Summary

Intersection	Peak Hour	Time Frame	Avg. Delay (sec.)	LOS
Lincoln/ Curtner	AM	Before	38.0	D
		After	35.0	D
	PM	Before	34.2	C
		After	33.2	C
Lincoln/ Malone	AM	Before	12.8	B
		After	12.3	B
	PM	Before	9.5	A
		After	9.3	A
Lincoln/ Pine	AM	Before	31.5	C
		After	31.1	C
	PM	Before	44.1	D
		After	41.9	D
Lincoln/ Minnesota	AM	Before	38.5	D
		After	41.4	D
	PM	Before	45.5	D
		After	46.6	D
Lincoln/ Financial Square	AM	Before	2.2	A
		After	2.5	A
	PM	Before	5.0	A
		After	5.8	A
Lincoln/ Willow	AM	Before	51.2	D
		After	54.4	D
	PM	Before	54.0	D
		After	53.7	D
Lincoln/ Coe	AM	Before	19.1	B
		After	17.6	B
	PM	Before	17.6	B
		After	16.7	B

Table 6 – Bicyclist & Pedestrian Counts – AM & PM Peak Periods

		Before	After	Change
Lincoln/ Minnesota	Bicyclists	20	20	0
	Pedestrians	778	983	+ 205
	Total	798	1003	+ 205
Lincoln/ Financial Square	Bicyclists	23	36	+ 13
	Pedestrians	603	612	+ 9
	Total	626	648	+ 22
Lincoln/ Willow	Bicyclists	74	93	+ 19
	Pedestrians	441	550	+ 109
	Total	515	643	+ 128
Lincoln/ Coe	Bicyclists	63	72	+ 9
	Pedestrians	328	301	- 27
	Total	391	373	- 18