

Preface

from the Surgeon General

E-cigarette use among U.S. youth and young adults is now a major public health concern. E-cigarette use has increased considerably in recent years, growing an astounding 900% among high school students from 2011 to 2015. These products are now the most commonly used form of tobacco among youth in the United States, surpassing conventional tobacco products, including cigarettes, cigars, chewing tobacco, and hookahs. Most e-cigarettes contain nicotine, which can cause addiction and can harm the developing adolescent brain.

Compared with older adults, the brain of youth and young adults is more vulnerable to the negative consequences of nicotine exposure. The effects include addiction, priming for use of other addictive substances, reduced impulse control, deficits in attention and cognition, and mood disorders. Furthermore, fetal exposure to nicotine during pregnancy can result in multiple adverse consequences, including sudden infant death syndrome, altered corpus callosum, auditory processing deficits, effects on behaviors and obesity, and deficits in attention and cognition. Ingestion of e-cigarette liquids containing nicotine can also cause acute toxicity and possibly death if the contents of refill cartridges or bottles containing nicotine are consumed.

This report highlights what we know and do not know about e-cigarettes. Gaps in scientific evidence do exist, and this report is being issued while these products and their patterns of use continue to change quickly. For example, the health effects and potentially harmful doses of heated and aerosolized constituents of e-cigarette liquids—including solvents, flavorants, and toxicants—are not completely understood. However, although e-cigarettes generally emit fewer toxicants than combustible tobacco products, we know that aerosol from e-cigarettes is not harmless.

Although we continue to learn more about e-cigarettes with each passing day, we currently know enough to take action to protect our nation's young people from being harmed by these products. Previous reports of the Surgeon General have established that nearly all habitual tobacco use begins during youth and young adulthood. To prevent and reduce the use of e-cigarettes by youth and young adults, we must work together as a society. We must implement proven prevention and education strategies. Health care providers, parents, teachers, and other caregivers should advise youth about the dangers of nicotine and discourage tobacco use in any form, including e-cigarettes. They can set a positive example by being tobacco-free and encouraging those who already use these products to quit. Free help is available at 1-800-QUIT-NOW or <http://www.smokefree.gov>. Preventing tobacco use in any form among youth and young adults is critical to ending the tobacco epidemic in the United States.

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U.S. Surgeon General

Overview

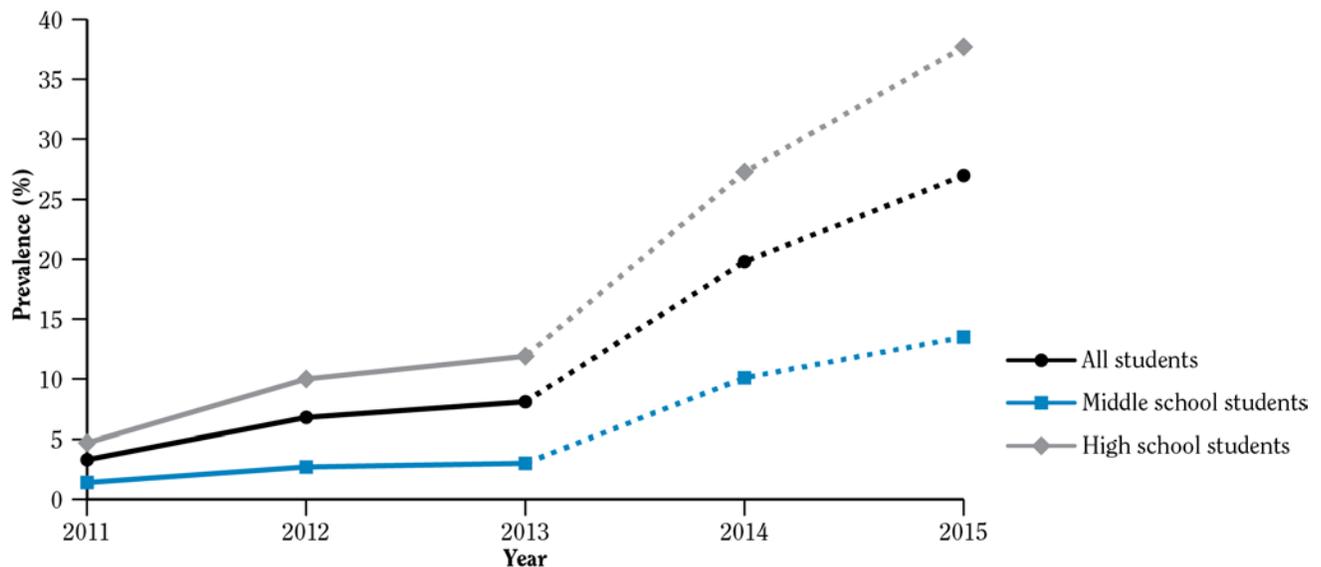
Although conventional cigarette smoking has declined markedly over the past several decades among youth and young adults in the United States (U.S. Department of Health and Human Services [USDHHS] 2012), there have been substantial increases in the use of emerging tobacco products among these populations in recent years (Centers for Disease Control and Prevention [CDC] 2015, 2016). Among these increases there has been a dramatic rise in electronic cigarette (e-cigarette) use among youth and young adults (Figures 1, 2, and 3). It is crucial that the progress made in reducing conventional cigarette smoking among youth and young adults not be compromised by the initiation and use of e-cigarettes. This Surgeon General's report focuses on the history, epidemiology, and health effects of e-cigarette use among youth and young adults; the companies involved with marketing and promoting these products; and existing and proposed public health policies regarding the use of these products by youth and young adults.

E-cigarettes include a diverse group of devices that allow users to inhale an aerosol, which typically contains nicotine, flavorings, and other additives. E-cigarettes are tobacco products and are regulated as such under the

Federal Food, Drug, and Cosmetic Act, as amended by the *Family Smoking Prevention and Tobacco Control Act of 2009*. E-cigarettes vary widely in design and appearance, but generally operate in a similar manner and are composed of similar components (Figure 4). A key challenge for surveillance of the products and understanding their patterns of use is the diverse and nonstandard nomenclature for the devices (Alexander et al. 2016). These devices are referred to, by the companies themselves, and by consumers, as “e-cigarettes,” “e-cigs,” “cigalikes,” “e-hookahs,” “mods,” “vape pens,” “vapes,” and “tank systems.” This report employs the term “e-cigarette” to represent all of the diverse products in this rapidly diversifying product category.

This report focuses on research conducted among youth and young adults because of the implications of e-cigarette use in these populations, particularly the potential for future public health problems. Understanding e-cigarette use among young people is critical because previous research suggests that about 9 in 10 adult smokers first try conventional cigarettes during adolescence (USDHHS 2012). Similarly, youth e-cigarette experimentation and use could also extend into adulthood; ongoing

Figure 1 Trends in ever e-cigarette use^a among U.S. middle and high school students; National Youth Tobacco Survey (NYTS) 2011–2015

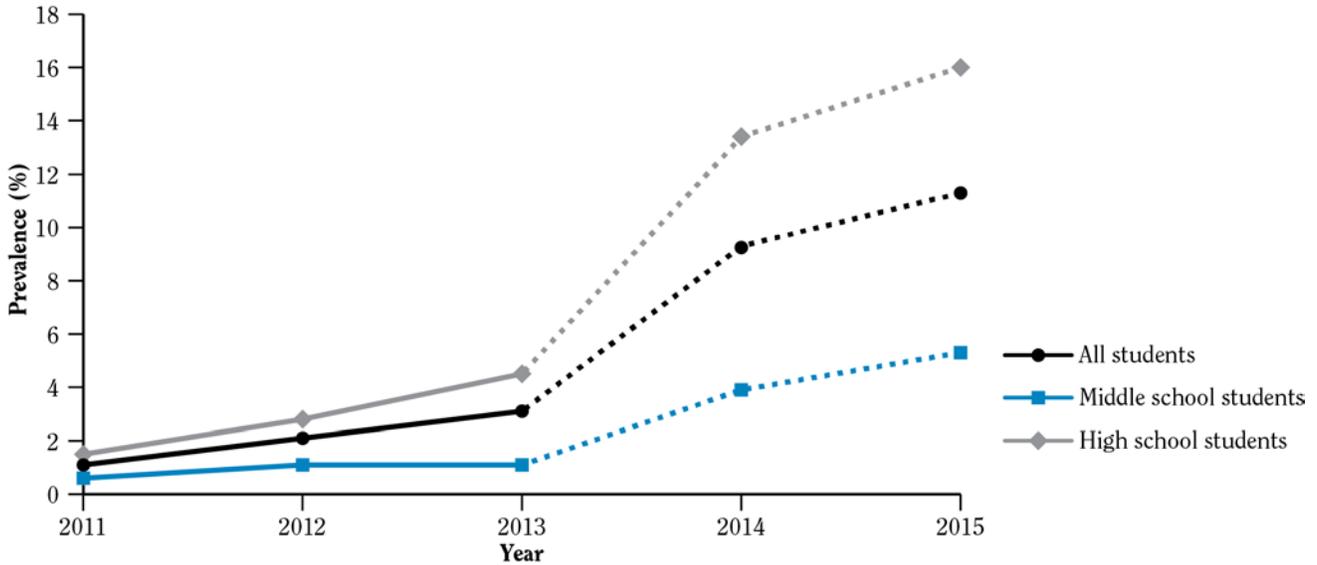


Source: Centers for Disease Control and Prevention 2013, 2014; unpublished data (data: NYTS 2015).

Note: In 2014, modifications were made to the e-cigarette measure to enhance its accuracy, which may limit the comparability of this estimate to those collected in previous years. The dotted lines from 2013 to 2015 represent these differences.

^aIncludes those who responded “yes” to the following question: “Have you ever used an electronic cigarette or e-cigarette, even once or twice?”

Figure 2 Trends in past-30-day e-cigarette use^a among U.S. middle and high school students; National Youth Tobacco Survey (NYTS) 2011–2015

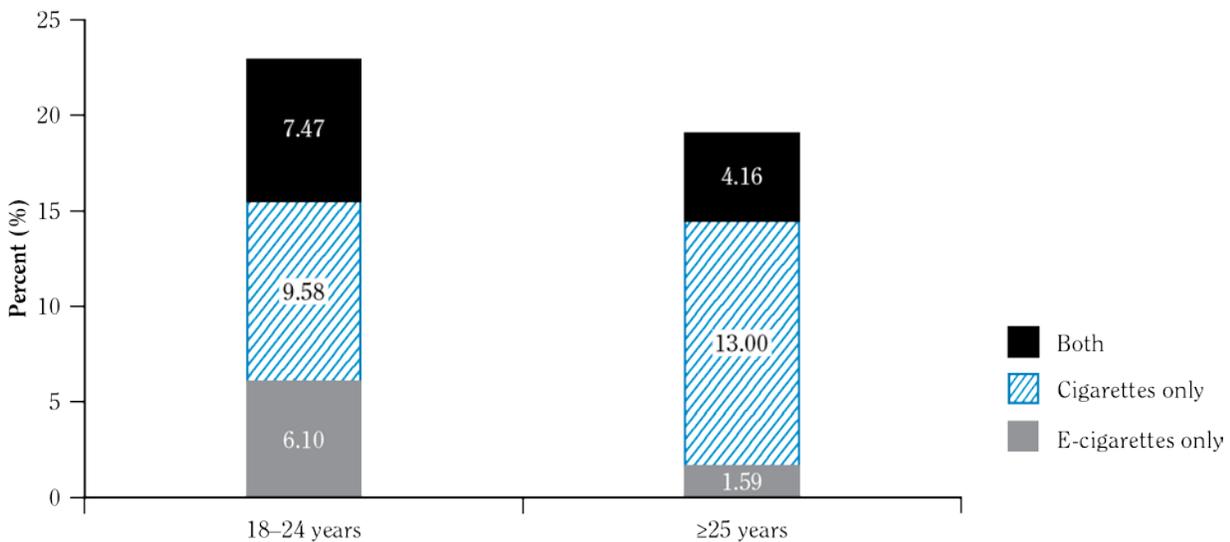


Source: Centers for Disease Control and Prevention 2013, 2014; unpublished data (data: NYTS 2015).

Note: In 2014, modifications were made to the e-cigarette measure to enhance its accuracy, which may limit the comparability of this estimate to those collected in previous years. The dotted lines from 2013 to 2015 represent these differences.

^aIncludes those who selected “1 or more” for the following question: “During the last 30 days, on how many days did you use electronic cigarettes or e-cigarettes?”

Figure 3 Percentage of young adults who currently use e-cigarettes^a and conventional cigarettes; National Adult Tobacco Survey (NATS) 2013–2014



Source: Centers for Disease Control and Prevention, unpublished data (data: NATS 2013–2014).

^aCurrent e-cigarette use was defined as those who reported they had heard of e-cigarettes and had tried e-cigarettes, and reported using e-cigarettes every day, some days, or rarely at the time of the interview.

Figure 4 Diversity of e-cigarette products



Source: Photo by Mandie Mills, CDC.

research should examine the long-term trajectories of e-cigarette use that begins in youth. The first Surgeon General's report on the health consequences of smoking was published in 1964; of the subsequent reports, those published in 1994 and 2012 focused solely on youth and young adults (USDHHS 1994, 2012). Most recently, the 2012 report documented the evidence regarding tobacco use among youth and young adults, concluding that declines in conventional cigarette smoking had slowed and that decreases in the use of smokeless tobacco had stalled. That report also found that the tobacco industry's advertising and promotional activities are causal to the onset of smoking in youth and young adults and the continuation of such use as adults (USDHHS 2012). However, that report was prepared before e-cigarettes were as widely promoted and used in the United States as they are now. Therefore, this 2016 report documents the scientific literature on these new products within the context of youth

and young adults. This report also looks to the future by examining the potential impact of e-cigarette use among youth and young adults, while also summarizing the research on current use, health consequences, and marketing as it applies to youth and young adults.

Evidence for this report was gathered from scientific research that included one or more of three age groups. These age groups included young adolescents (11–13 years of age), adolescents (14–17 years of age), and young adults (18–24 years of age). Some studies refer to the younger groups more generally as *youth*. Despite important issues related to e-cigarette use in the general adult populations, clinical and otherwise (e.g., their potential for use in quitting conventional smoking), that literature is generally not included in this report unless it also discusses youth and young adults (Farsalinos and Polosa 2014; Franck et al. 2014; Grana et al. 2014a).

Organization of the Report

Chapter 1 (“Introduction, Conclusions, and Historical Background Relative to E-Cigarettes”) presents a brief introduction to the report and includes its major conclusions, followed by the conclusions of each chapter, the historical background of e-cigarettes, descriptions of the products, a review of the marketing and promotional activities of e-cigarette companies, and the current status of regulations from the U.S. Food and Drug Administration (FDA). Chapter 2 (“Patterns of E-Cigarette Use Among U.S. Youth and Young Adults”) describes the epidemiology of e-cigarette use, including current (i.e., past 30 day) use; ever use; co-occurrence of using e-cigarettes with other tobacco products, like cigarettes; and psychosocial factors associated with using e-cigarettes. This chapter relies on data from the most recent nationally representative studies available at the time this report was prepared. Chapter 3 (“Health Effects of E-Cigarette Use Among U.S. Youth and Young Adults”) documents potential adverse health effects caused by direct exposure to aerosolized nicotine, flavorants, chemicals, and other particulates of e-cigarettes, secondhand environmental exposure to e-cigarette aerosol, and exposure to the surface-deposited aerosol contaminants. Literature regarding harmful consequences of close contact with malfunctioning e-cigarette devices and ingestion of the nicotine-containing liquids are also explored. Chapter 4 (“Activities of the E-Cigarette

Companies”) describes e-cigarette companies’ influences on e-cigarette use and considers manufacturing and price; the impact of price on sales and use; the rapid changes in the industry, particularly the e-cigarette companies; and the marketing and promotion of e-cigarettes. Chapter 5 (“E-Cigarette Policy and Practice Implications”) discusses the implications for policy and practice at the national, state, and local levels. The report ends with a Call to Action to stakeholders—including policymakers, public health practitioners and clinicians, researchers, and the public—to work to prevent harms from e-cigarette use and secondhand aerosol exposure among youth and young adults.

Because of the recency of research related to e-cigarettes (particularly in contrast with decades of research on conventional cigarette smoking) and since this report focuses on a vulnerable population for tobacco use (youth and young adults), the “precautionary principle” is employed to guide actions to address e-cigarette use among youth and young adults. This principle supports intervention to avoid possible health risks when the potential risks remain uncertain and have been, as yet, partially undefined (Bialous and Sarma 2014; Saitta et al. 2014; Hagopian et al. 2015).

The following is a brief summary of the report’s Major Conclusions, each chapter, and their subsequent chapter conclusions.

Major Conclusions

1. E-cigarettes are a rapidly emerging and diversified product class. These devices typically deliver nicotine, flavorings, and other additives to users via an inhaled aerosol. These devices are referred to by a variety of names, including “e-cigs,” “e-hookahs,” “mods,” “vape pens,” “vapes,” and “tank systems.”
2. E-cigarette use among youth and young adults has become a public health concern. In 2014, current use of e-cigarettes by young adults 18–24 years of age surpassed that of adults 25 years of age and older.
3. E-cigarettes are now the most commonly used tobacco product among youth, surpassing conventional cigarettes in 2014. E-cigarette use is strongly associated with the use of other tobacco products among youth and young adults, including combustible tobacco products.
4. The use of products containing nicotine poses dangers to youth, pregnant women, and fetuses. The use of products containing nicotine in any form among youth, including in e-cigarettes, is unsafe.
5. E-cigarette aerosol is not harmless. It can contain harmful and potentially harmful constituents, including nicotine. Nicotine exposure during adolescence can cause addiction and can harm the developing adolescent brain.
6. E-cigarettes are marketed by promoting flavors and using a wide variety of media channels and approaches that have been used in the past for marketing conventional tobacco products to youth and young adults.

- Action can be taken at the national, state, local, tribal, and territorial levels to address e-cigarette use among youth and young adults. Actions could include incorporating e-cigarettes into smokefree policies,

preventing access to e-cigarettes by youth, price and tax policies, retail licensure, regulation of e-cigarette marketing likely to attract youth, and educational initiatives targeting youth and young adults.

Chapter 1. Introduction, Conclusions, and Historical Background Relative to E-Cigarettes

Chapter 1 presents the major conclusions of this Surgeon General's report and the conclusions of each chapter. E-cigarettes are presented within their historical context, with an overview of the components of these devices and the types of products. In May 2016, FDA published its final rule deeming e-cigarettes, among other products, to be subject to regulation under the *Federal Food, Drug, and Cosmetic Act*, as amended by the *Family Smoking Prevention and Tobacco Control Act* (*Federal Register* 2016). Chapter 1 outlines the current status of federal regulation of e-cigarettes, particularly as they relate to youth and young adults. The need to protect this population from initiating or continuing the use of tobacco products forms a strong basis for the need to regulate e-cigarettes at the local, state, and national levels, both now and in the future.

Conclusions

- E-cigarettes are devices that typically deliver nicotine, flavorings, and other additives to users via an inhaled aerosol. These devices are referred to by a variety of names, including "e-cigs," "e-hookahs," "mods," "vape pens," "vapes," and "tank systems."
- E-cigarettes represent an evolution in a long history of tobacco products in the United States, including conventional cigarettes.
- In May 2016, the Food and Drug Administration issued the deeming rule, exercising its regulatory authority over e-cigarettes as a tobacco product.

Chapter 2. Patterns of E-Cigarette Use Among U.S. Youth and Young Adults

Among youth and young adults, rates of ever and past-30-day use of e-cigarettes have increased since the earliest e-cigarette surveillance efforts in 2011. According to the National Youth Tobacco Survey (NYTS), both ever use and past-30-day use of e-cigarettes have increased greatly among youth from 2011 to 2015 (Figures 1 and 2) (CDC 2013; Ambrose et al. 2014; Lippert 2015). Among young adults (18–24 years of age), the prevalence of ever use more than doubled from 2013 to 2014 (Figure 3; National Adult Tobacco Survey [NATS], 2013–2014, unpublished data). Figures 5 and 6 compare the prevalence of ever and current e-cigarette use among middle school students, high school students, young adults (18–24 years of age), and adults (≥25 years of age). Data for 2015 were not available for young adults and adults at the time this report was prepared; however, these trends are alarming and warrant continued surveillance.

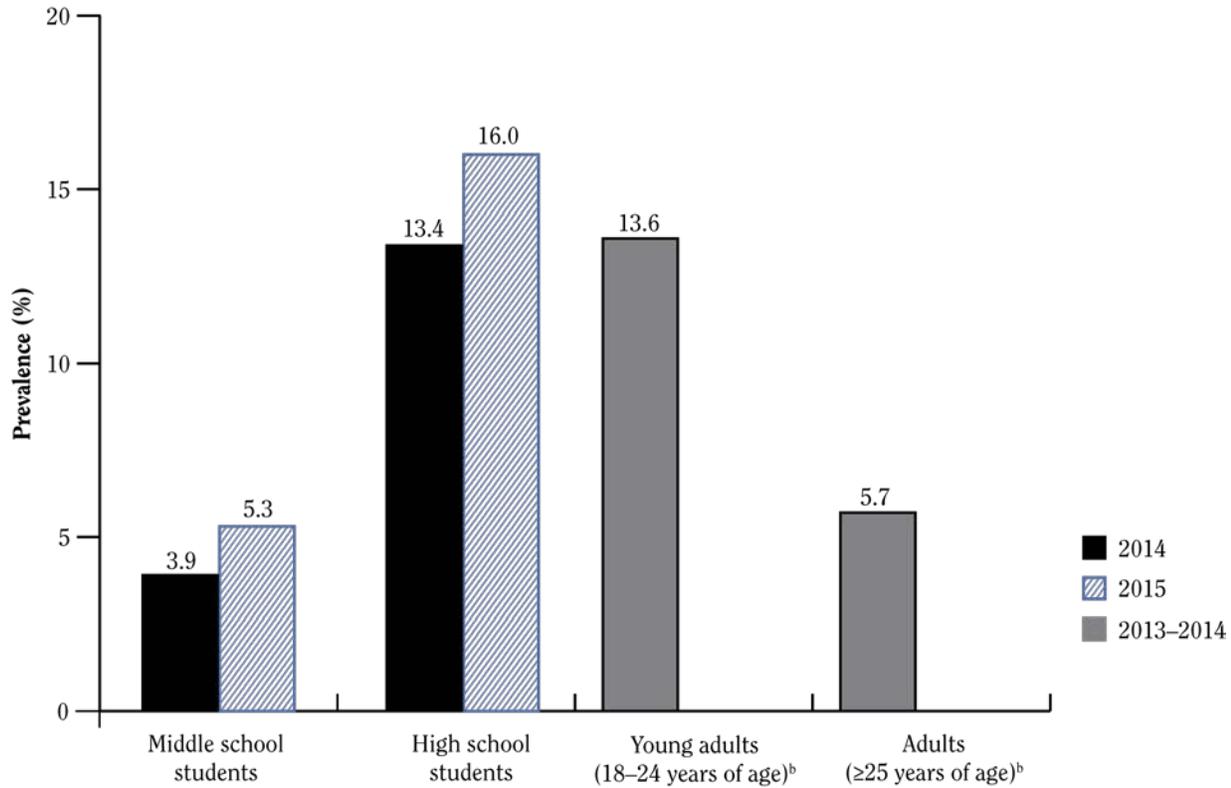
Among youth, e-cigarette use increases with age and is highest among Hispanics and Whites (Tables 2.1a,

2.1b).¹ Among young adults, e-cigarette use is higher among males than females and lowest among Blacks and those with a college education (Table 2.4a). Continued research is necessary to monitor patterns of e-cigarette use across population groups by gender, age, race/ethnicity, and education, as well as sociodemographic characteristics for which disparities in tobacco use have previously been noted, including geography (e.g., subnational data at the state or local levels), sexual orientation and gender identity (e.g., lesbian, gay, bisexual, and transgender), disability/limitation, and socioeconomic status (e.g., household income, poverty status) (CDC 2014; Johnson et al. 2016).

According to data from the Monitoring the Future (MTF) study, in 2015, among youth, past-30-day exclusive use of e-cigarettes (6.7%, 10.4%, and 10.4% in 8th, 10th, and 12th grades, respectively) is more common than exclusive use of conventional cigarettes (1.4%, 2.2%, and 5.3% in those grades) or dual use of e-cigarettes and

¹All tables that are cross-referenced in this Executive Summary can be found in the full report

Figure 5 Percentage of middle school students, high school students, young adults (18–24 years of age), and adults (≥25 years of age) who currently^a use e-cigarettes



Source: Centers for Disease Control and Prevention, unpublished data (NYTS 2014, 2015; data: NATS 2013–2014).

^aFor middle school and high school students (NYTS 2014, 2015), current use included those who reported using e-cigarettes on 1 or more days in the past 30 days. For young adults and adults (NATS 2013–2014), current use included those who reported they had heard of, tried, and used e-cigarettes every day, some days, or rarely at the time of the interview.

^b2013–2014 NATS data for young adults and adults were the latest data available when this Surgeon General's report was prepared.

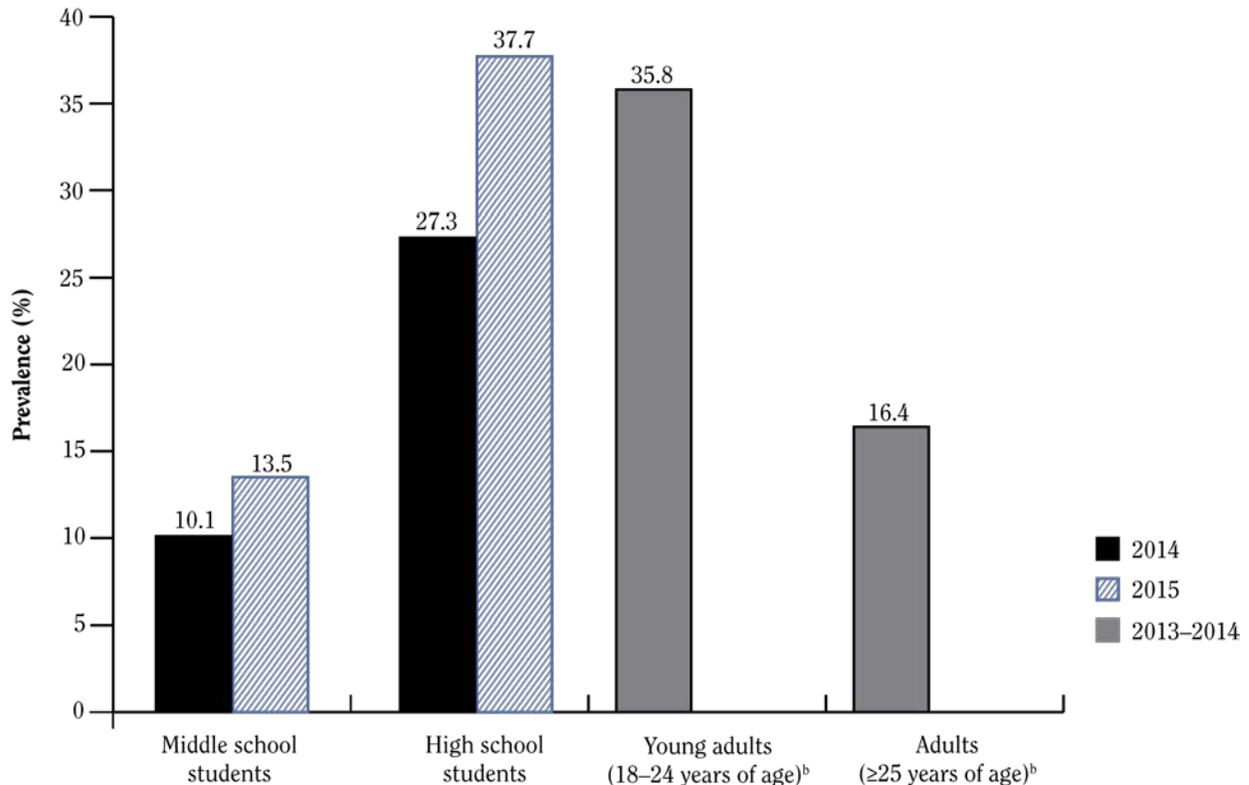
conventional cigarettes (2.4%, 3.5%, and 5.8%) (Figure 7). However, among young adults 18–24 years of age, exclusive use of conventional cigarettes surpasses exclusive use of e-cigarettes and dual use of both products, according to data from the NATS (Figure 3; Table 2.8b). In 2013–2014, 9.6% of young adults were exclusive past-30-day conventional cigarette smokers, compared to 6.1% who were exclusive past-30-day e-cigarette users, and 7.5% who were past-30-day dual users.

Five longitudinal studies to date (Leventhal et al. 2015; Primack et al. 2015; Wills et al. 2016; Barrington-Trimis et al. 2016; Unger et al. 2016) suggest that e-cigarette use is related to the onset of other tobacco product use among youth and young adults, including cigarette smoking and other combustible tobacco product use (e.g., cigar and hookah use). However, these studies are limited in their ability to distinguish experimental

conventional cigarette smokers from regular conventional cigarette smokers at follow-up. Therefore, more studies are needed to elucidate the nature of any true causal relationship between e-cigarette and combustible tobacco product use. Additionally, investigation of whether e-cigarette use is related to other types of substance use (e.g., marijuana, alcohol) might help distinguish the extent to which e-cigarette use may precede or follow other forms of substance use in the context of the common liability/vulnerability model (Vanyukov et al. 2012).

The most commonly cited reasons that youth and young adults report using e-cigarettes include curiosity (Schmidt et al. 2014; Biener and Hargraves 2015; Biener et al. 2015; Kong et al. 2015; McDonald and Ling 2015; Suris et al. 2015; Sutfin et al. 2015), flavorings/taste (Ambrose et al. 2015; University of Michigan 2015), use as a less harmful/less toxic alternative to conventional cigarettes

Figure 6 Percentage of middle school students, high school students, young adults (18–24 years of age), and adults (≥25 years of age) who have ever^a used e-cigarettes



Source: Centers for Disease Control and Prevention, unpublished data (NYTS 2014, 2015; data: NATS 2013–2014).

^aFor middle school and high school students (NYTS 2014, 2015), ever use included those who reported using an e-cigarette, even once or twice. For young adults and adults (NATS 2013–2014), ever use included those who reported they had heard of and tried e-cigarettes.

^b2013–2014 NATS data for young adults and adults were the latest data available when this Surgeon General's report was prepared.

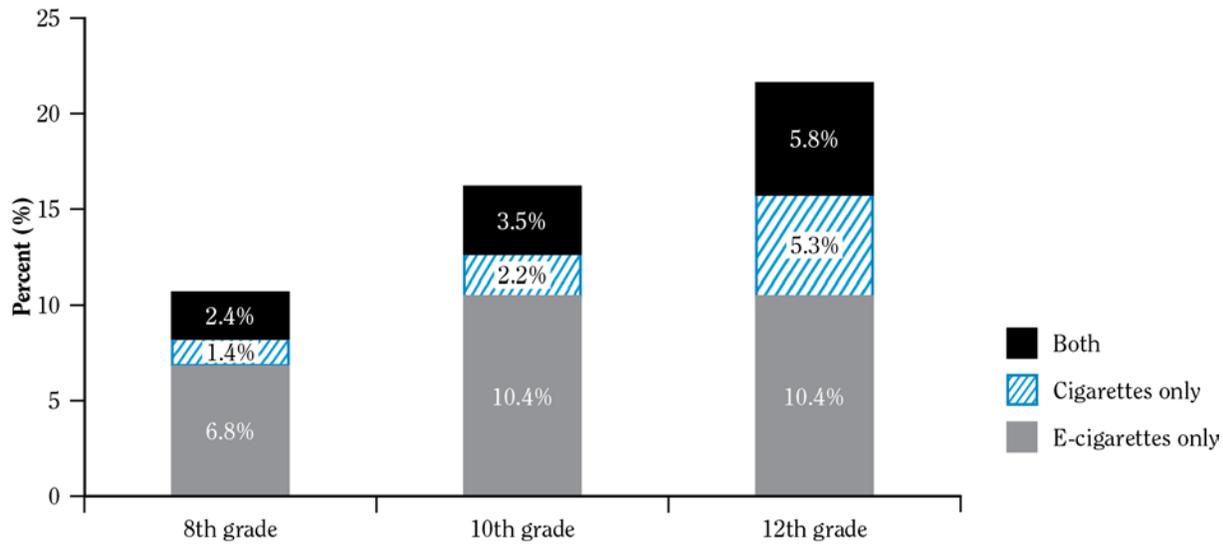
(Peters et al. 2013; Tucker et al. 2014; Ambrose et al. 2015; Kong et al. 2015; McDonald and Ling 2015; Sutfin et al. 2015), and avoidance of indoor smoking restrictions or disturbing people with secondhand smoke from conventional cigarettes (Tucker et al. 2014; Ambrose et al. 2015; Kong et al. 2015; McDonald and Ling 2015; Suris et al. 2015; Sutfin et al. 2015). Using e-cigarettes as an aid to conventional cigarette smoking reduction/cessation (Li et al. 2013; Schmidt et al. 2014; Tucker et al. 2014) does not appear to be a primary reason for use among youth and young adults. Youth and young adult smokers cite lack of satisfaction (Kong et al. 2015), poor taste (Pepper et al. 2014; Kong et al. 2015), and cost (Pepper et al. 2014; Kong et al. 2015) as reasons for discontinuing e-cigarette use. Additional research is needed to examine how reasons for use, including the appeal of flavored e-cigarettes, are

causally related to the onset and progression of e-cigarette use among youth and young adults.

Conclusions

1. Among middle and high school students, both ever and past-30-day e-cigarette use have more than tripled since 2011. Among young adults 18–24 years of age, ever e-cigarette use more than doubled from 2013 to 2014 following a period of relative stability from 2011 to 2013.
2. The most recent data available show that the prevalence of past-30-day use of e-cigarettes was similar among high school students (16% in 2015, 13.4% in 2014) and young adults 18–24 years of age (13.6%

Figure 7 Percentage of students in grades 8, 10, and 12 who used e-cigarettes and cigarettes in the past 30 days; Monitoring the Future (MTF) 2015



Source: University of Michigan, Institute for Social Research, unpublished data (data: MTF 2015).

Note: Questions on e-cigarette use were asked on four of six questionnaire forms. Data presented here are based on those four forms only.

in 2013–2014) compared to middle school students (5.3% in 2015, 3.9% in 2014) and adults 25 years of age and older (5.7% in 2013–2014).

3. Exclusive, past-30-day use of e-cigarettes among 8th-, 10th-, and 12th-grade students (6.8%, 10.4%, and 10.4%, respectively) exceeded exclusive, past-30-day use of conventional cigarettes in 2015 (1.4%, 2.2%, and 5.3%, respectively). In contrast—in 2013–2014 among young adults 18–24 years of age—exclusive, past-30-day use of conventional cigarettes (9.6%) exceeded exclusive, past-30-day use of e-cigarettes (6.1%). For both age groups, dual use of these products is common.
4. E-cigarette use is strongly associated with the use of other tobacco products among youth and young adults, particularly the use of combustible tobacco products. For example, in 2015, 58.8% of high school students who were current users of combustible tobacco products were also current users of e-cigarettes.
5. Among youth—older students, Hispanics, and Whites are more likely to use e-cigarettes than younger students and Blacks. Among young

adults—males, Hispanics, Whites, and those with lower levels of education are more likely to use e-cigarettes than females, Blacks, and those with higher levels of education.

6. The most commonly cited reasons for using e-cigarettes among both youth and young adults are curiosity, flavoring/taste, and low perceived harm compared to other tobacco products. The use of e-cigarettes as an aid to quit conventional cigarettes is not reported as a primary reason for use among youth and young adults.
7. Flavored e-cigarette use among young adult current users (18–24 years of age) exceeds that of older adult current users (25 years of age and older). Moreover, among youth who have ever tried an e-cigarette, a majority used a flavored product the first time they tried an e-cigarette.
8. E-cigarette products can be used as a delivery system for cannabinoids and potentially for other illicit drugs. More specific surveillance measures are needed to assess the use of drugs other than nicotine in e-cigarettes.

Chapter 3. Health Effects of E-Cigarette Use Among U.S. Youth and Young Adults

There is little doubt that the use of e-cigarettes by youth and young adults represents self-administration of the drug nicotine, and this self-administration of nicotine puts youth at risk for addiction and many related harmful consequences. Animal research indicates adolescent brains are particularly sensitive to nicotine's effects, such that subsequent self-administration is more likely, and that same literature indicates that this age group is at risk for a constellation of nicotine-induced neural and behavioral alterations (Table A3.1-4 in Appendix 3.1). Studies of the effects of maternal smoking of conventional cigarettes during pregnancy, coupled with preclinical literature (e.g., animal studies) examining the effects of administration of nicotine during pregnancy, suggest that e-cigarette use by mothers during pregnancy could present a wide variety of risks to fetal, infant, and child brain development.

Users of e-cigarettes risk respiratory exposure to a variety of aerosolized chemicals, including solvents and flavorants added intentionally to e-liquids, adulterants added unintentionally, and other toxicants produced during the heating/aerosolization process (see the section on "Effects of the Inhalation of Aerosol Constituents Other than Nicotine" in Chapter 3). The health impacts of frequent exposure to the toxicants in e-cigarette aerosol are not well understood, though several are known carcinogens. The detection and level of these carcinogens depend on several factors, including the concentration of the e-liquid and the strength of the heating device. Although adults report using e-cigarettes as a cessation device, the evidence supporting the effectiveness of e-cigarettes as an aid for quitting conventional cigarettes remains unproven (Bullen et al. 2013; Caponnetto et al. 2013; Grana et al. 2014b) and nonexistent among youth (Bullen et al. 2013; Caponnetto et al. 2013; Grana et al. 2014b).

Further research is warranted to focus on the characteristics of e-cigarette devices, the constituents of e-liquids, and the user behaviors that can influence the yield of nicotine and other toxicants (Shihadeh and Eissenberg 2015). This close focus includes providing details of devices (e.g., voltage of the power supply, heating element resistance) and components of e-liquids (e.g., propylene glycol, vegetable glycerin, other additives), and measuring user puff topography. Standardization of procedures for producing and delivering the aerosol is likely a necessary component of at least some in vivo and in vitro work. Preclinical work examining the effects of e-cigarette aerosols is a clear research need and, again, the standardization of procedures for production and delivery of the

aerosol is necessary. To enhance relevance, the parameters of aerosol production should span the range of those seen with humans (Shihadeh and Eissenberg 2011).

The huge variety of products of different origin and design, the rapid appearance of new products, and the varied ways in which consumers use these products make the development of standard measurement conditions challenging (Famele et al. 2015). Accordingly, more research is needed to understand how different design features relate to potential toxicity—for example, how various compounds in e-cigarettes are affected by heating, changes in chemical composition, or pH; to what extent these compounds are absorbed into the bloodstream; and how additives to the e-liquid affect the bioavailability of these compounds, among other considerations. Research is also needed to understand whether potential health risks may be ameliorated by changes in product engineering.

Conclusions

1. Nicotine exposure during adolescence can cause addiction and can harm the developing adolescent brain.
2. Nicotine can cross the placenta and has known effects on fetal and postnatal development. Therefore, nicotine delivered by e-cigarettes during pregnancy can result in multiple adverse consequences, including sudden infant death syndrome, and could result in altered corpus callosum, deficits in auditory processing, and obesity.
3. E-cigarettes can expose users to several chemicals, including nicotine, carbonyl compounds, and volatile organic compounds, known to have adverse health effects. The health effects and potentially harmful doses of heated and aerosolized constituents of e-cigarette liquids, including solvents, flavorants, and toxicants, are not completely understood.
4. E-cigarette aerosol is not harmless "water vapor," although it generally contains fewer toxicants than combustible tobacco products.
5. Ingestion of e-cigarette liquids containing nicotine can cause acute toxicity and possibly death if the contents of refill cartridges or bottles containing nicotine are consumed.

Chapter 4. Activities of the E-Cigarette Companies

Although the e-cigarette marketplace is complicated by the differences in brands that are owned by tobacco companies versus independent brands, e-cigarette companies continue to change and influence the manufacturing, price, marketing and promotion, and distribution of e-cigarette products and accessories. The e-cigarette market continues to grow, with projected sales of \$3.5 billion in 2015. Consolidation of e-cigarette companies has been rapid, with the first major merger taking place in 2012. These mergers and acquisitions are likely to continue, but the rate of consolidation may slow down as sales of “cigalikes” (products that resemble cigarettes) have recently decelerated, and “vape shops” could have the potential to influence the e-cigarette marketplace based on the current structure of the marketplace and regulatory landscape. Chapter 4 shows that many of the marketing techniques used by e-cigarette companies are similar to those used by the tobacco industry for conventional cigarettes, and that awareness by youth and young adults of this marketing, and their levels of exposure to it, is high. Further, tracking marketing expenditures and product sales is difficult because of the rapidly changing venues, including “vape shops,” use of social media and online advertising, and limited regulation of marketing.

Chapter 5. E-Cigarette Policy and Practice Implications

Chapters 1–4 document the particular challenges posed by the rapid emergence and dynamic nature of e-cigarette use among youth and young adults. The principles and strategies articulated in the 2014 Surgeon General’s report and prior reports are also relevant to e-cigarettes. The 2014 report was written not long after the use of e-cigarettes began to surge dramatically; that report emphasized the need for rapid elimination of conventional cigarettes and other combustible tobacco products, but did not discuss strategies to minimize adverse effects among youth and young adults (USDHHS 2014). Building on this foundation, Chapter 5 sets out an evidence-based strategy for the future. It describes recommendations related to e-cigarettes that can be taken at the state and local levels to address e-cigarette use among youth and young adults, such as:

- Incorporating e-cigarettes into smokefree policies;
- Preventing access to e-cigarettes by youth;

Conclusions

1. The e-cigarette market has grown and changed rapidly, with notable increases in total sales of e-cigarette products, types of products, consolidation of companies, marketing expenses, and sales channels.
2. Prices of e-cigarette products are inversely related to sales volume: as prices have declined, sales have sharply increased.
3. E-cigarette products are marketed in a wide variety of channels that have broad reach among youth and young adults, including television, point-of-sale, magazines, promotional activities, radio, and the Internet.
4. Themes in e-cigarette marketing, including sexual content and customer satisfaction, are parallel to themes and techniques that have been found to be appealing to youth and young adults in conventional cigarette advertising and promotion.

- Significant increases in tax and price;
- Retail licensure;
- Regulation of e-cigarette marketing that is likely to attract youth and young adults, to the extent feasible under the law; and
- Educational initiatives targeting this population.

Conclusions

1. The dynamic nature of the e-cigarette landscape calls for expansion and enhancement of tobacco-related surveillance to include (a) tracking patterns of use in priority populations; (b) monitoring the characteristics of the retail market; (c) examining policies at the national, state, local, tribal, and territorial levels; (d) examining the channels and messaging for marketing e-cigarettes in order to more

- fully understand the impact future regulations could have; and (e) searching for sentinel health events in youth and young adult e-cigarette users, while longer-term health consequences are tracked.
2. Strategic, comprehensive research is critical to identify and characterize the potential health risks from e-cigarette use, particularly among youth and young adults.
 3. The adoption of public health strategies that are precautionary to protect youth and young adults from adverse effects related to e-cigarettes is justified.
 4. A broad program of behavioral, communications, and educational research is crucial to assess how youth perceive e-cigarettes and associated marketing messages, and to determine what kinds of tobacco control communication strategies and channels are most effective.
 5. Health professionals represent an important channel for education about e-cigarettes, particularly for youth and young adults.
 6. Diverse actions, modeled after evidence-based tobacco control strategies, can be taken at the state, local, tribal, and territorial levels to address e-cigarette use among youth and young adults, including incorporating e-cigarettes into smoke-free policies; preventing the access of youth to e-cigarettes; price and tax policies; retail licensure; regulation of e-cigarette marketing that is likely to attract youth and young adults, to the extent feasible under the law; and educational initiatives targeting youth and young adults. Among others, research focused on policy, economics, and the e-cigarette industry will aid in the development and implementation of evidence-based strategies and best practices.

The Call to Action

Finally, the Call to Action is issued to accelerate policies and approaches that can reduce the public health threat posed by e-cigarette use among young people. It offers a list of goals and evidence-based strategies designed to reduce the public health threat posed by e-cigarette use among youth and young adults.

Goal 1. First, Do No Harm

- **Strategy 1A.** Implement a comprehensive strategy to address e-cigarettes that will avoid adverse consequences and give careful consideration to the risks for youth and young adults. This can be done by including e-cigarettes in policies and programs related to conventional cigarette smoking at the national, state, local, tribal, and territorial levels.
- **Strategy 1B.** Provide consistent and evidence-based messages about the health risks of e-cigarette use and exposure to secondhand aerosol from e-cigarettes.

Goal 2. Provide Information About the Dangers of E-Cigarette Use Among Youth and Young Adults

- **Strategy 2A.** Educate parents, teachers, coaches, and other influencers of youth about the risks of e-cigarette use among youth and young adults.
- **Strategy 2B.** Educate health professionals about the risks of e-cigarette use among youth and young adults.

Goal 3. Continue to Regulate E-Cigarettes at the Federal Level to Protect Public Health

- **Strategy 3A.** Implement FDA regulatory authority over the manufacturing, marketing, and distribution of e-cigarettes.
- **Strategy 3B.** Reinforce other federal agencies as they implement programs and policies to address e-cigarettes.

Goal 4. Promote Programs and Policies at the State and Local Levels to Prevent E-Cigarette Use Among Youth and Young Adults

- **Strategy 4A.** State, local, tribal, and territorial governments should implement population-level strategies to reduce e-cigarette use among youth and young adults, such as including e-cigarettes in smokefree indoor air policies, restricting youth access to e-cigarettes in retail settings, licensing retailers, and establishing specific package requirements.
- **Strategy 4B.** Coordinate, evaluate, and share best practices from state and local entities that have implemented programs and policies to address e-cigarette use among youth and young adults.

Goal 5. Curb Advertising and Marketing that Encourages Youth and Young Adults to Use E-Cigarettes

- **Strategy 5A.** Curb e-cigarette advertising and marketing that are likely to attract youth and young adults.
- **Strategy 5B.** Urge the e-cigarette companies to stop advertising and marketing that encourages and glamorizes e-cigarette use among youth and young adults.

Goal 6. Expand Surveillance, Research, and Evaluation Related to E-Cigarettes

- **Strategy 6A.** Improve the quality, timeliness, and scope of e-cigarette surveillance, research, and evaluation.
- **Strategy 6B.** Address surveillance, research, and evaluation gaps related to e-cigarettes.

Summary

We know a great deal about what works to effectively prevent tobacco use among young people (USDHHS 2012). Now we must apply these strategies to e-cigarettes—and continue to apply them to other tobacco products. To achieve success, we must work together, aligning and coordinating efforts across a wide range of stakeholders, including individuals and families; public health professionals and

clinicians; federal, state, local, tribal, and territorial governments; public health agencies; and researchers. We must protect our nation's young people from a lifetime of nicotine addiction and associated problems by immediately addressing e-cigarettes as an urgent public health problem. Now is the time to take action.

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U.S. Department of Health and Human Services

COVER

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CITY OF LAGUNA WOODS



FIRE HAZARD SEVERITY ZONES IN LOCAL RESPONSIBILITY AREA

Updated: August 25, 2017

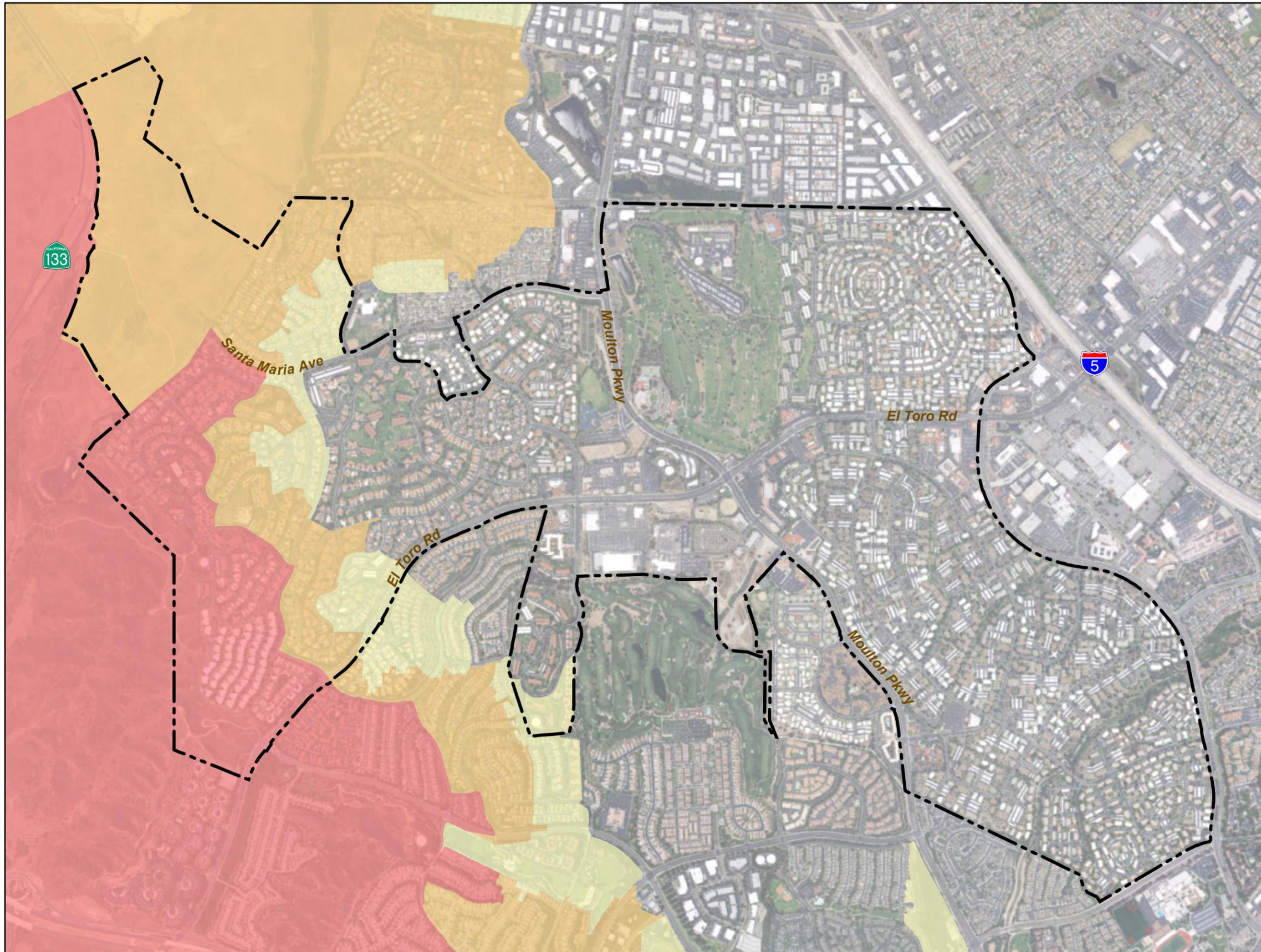
Legend

--- City Limit

Fire Hazard Severity Zones in Local Responsibility Area (LRA)

- Very High / Incorporated LRA
- High / Incorporated LRA
- Moderate / Incorporated LRA

Reference: Laguna Woods Municipal Code
Chapter 10.13



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8.1
"A PLACE FOR PAWS" DOG PARK

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City of Laguna Woods Agenda Report

TO: Honorable Mayor and City Councilmembers
FROM: Christopher Macon, City Manager
FOR: October 18, 2017 Regular Meeting
SUBJECT: “A Place for Paws” Dog Park

Recommendation

1. Approve a memorandum of understanding with the Golden Rain Foundation of Laguna Woods to allow for the City’s operation and maintenance of a dog park along Ridge Route Drive and authorize the Mayor to execute the memorandum of understanding, subject to approval as to form by the City Attorney. (*Please refer to Attachment A.*)

AND

2. Direct the Mayor to call a special meeting of the City Council following October 31, 2017 to consider the interim status of “A Place for Paws” Dog Park, if Third Laguna Hills Mutual has not by then indicated its consent to the temporary operation and maintenance of the Dog Park in its existing location.

AND

3. Approve a resolution entitled:

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LAGUNA WOODS, CALIFORNIA, AMENDING AND ADOPTING THE FISCAL YEARS 2017-19 BUDGET AND WORK PLAN FOR FISCAL YEAR 2017-18 COMMENCING JULY 1, 2017 AND ENDING JUNE 30, 2018, AND FISCAL YEAR 2018-19 COMMENCING JULY 1, 2018 AND

ENDING JUNE 30, 2019, RELATED TO CAPITAL IMPROVEMENT PROJECTS, THE ADDITION OF A NEW “A PLACE FOR PAWS” DOG PARK RELOCATION PROJECT, AND RELATED GENERAL FUND AND CAPITAL PROJECTS FUND APPROPRIATIONS
[Please refer to attachments B and C (particularly page 47).]

AND

4. Approve a resolution entitled:

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LAGUNA WOODS, CALIFORNIA, AMENDING AND ADOPTING THE SEVEN-YEAR CAPITAL IMPROVEMENT PLAN FOR FISCAL YEARS 2017-18 THROUGH 2023-24 IN COMFORMANCE WITH MEASURE M2 AND ROAD REPAIR AND ACCOUNTABILITY ACT OF 2017 REQUIREMENTS
(Please refer to Attachment D.)

Attachments: A – Proposed Memorandum of Understanding (Recommendation #1)
B – Proposed Resolution (Recommendation #3)
C – Proposed Amended Chapter 4.0 (City Capital Projects) of the Fiscal Years 2017-19 Budget & Work Plan (Recommendation #3)
D – Proposed Resolution (Recommendation #4)
 Exhibit A – Seven-Year Capital Improvement Program for Fiscal Years 2017-18 through Fiscal 2023-24

**MEMORANDUM OF UNDERSTANDING
TO ALLOW FOR THE CITY OF LAGUNA WOODS’ OPERATION AND
MAINTENANCE OF A DOG PARK ALONG RIDGE ROUTE DRIVE (“MOU”)**

1. **CONSENT TO DOG PARK OPERATION AND MAINTENANCE.** Effective on the date of execution below, the Golden Rain Foundation of Laguna Woods, a non-profit mutual benefit corporation (GRF), grants a temporary license to the City of Laguna Woods for the operation and maintenance of a dog park within the “street easement” and “vehicular access rights” areas immediately adjacent to Ridge Route Drive as shown on County of Orange Tract Maps 5719 and 6998. Such license extends only to the extent that such areas are owned either in whole or in part by GRF, and only to the extent that the City of Laguna Woods chooses to operate a dog park in such areas. The term of this license and accompanying MOU shall end at 11:59 p.m. on June 30, 2027. Such term may be extended upon written agreement of both parties to this MOU.

2. **LIMITATIONS.** The City of Laguna Woods shall not expand or modify the size or location of the dog park that exists on the above described property as of the date of execution below without the express written permission of GRF. This provision shall not limit the City of Laguna Woods’ discretion to make repairs or improvements to the dog park within its existing size and location, or to choose to reduce the size of the dog park. By entering into this MOU, the City of Laguna Woods makes no guarantee or warranty to GRF regarding the size or facilities of the dog park, nor guarantees the continued operation of a dog park at all, and the City of Laguna Woods reserves to itself all statutory and other immunities at law or equity.

3. **DOG PARK ACCESS.** The City of Laguna Woods shall meet, confer, and cooperate in good faith with GRF on such improvements to the dog park as may be proposed by GRF, to enhance the ease, efficiency, safety, or security of access to and from the dog park, its appurtenant parking facilities, or adjacent public park, street, or access way facilities.

4. **INDEMNIFICATION.** The City of Laguna Woods agrees to indemnify, protect, defend, and hold GRF and its respective elected and appointed boards, officials, officers, agents, employees, attorneys and volunteers harmless from and against any and all claims, losses, liabilities, actions, judgements, costs, and expenses (including reasonable attorneys’ fees and costs) that they may suffer or incur as a result of the operation and maintenance of a dog park as specified herein.

5. **AUTHORITY TO EXECUTE.** The person or persons executing this MOU on behalf of GRF and City of Laguna Woods represents and warrants that he/she/they has/have the authority to so execute this MOU and to bind GRF or City of Laguna Woods to the performance of its obligations hereunder.

6. **BINDING EFFECT.** This MOU shall be binding upon the heirs, executors, administrators, successors, and assigns of the parties.

[SIGNATURES ON NEXT PAGE]

IN WITNESS WHEREOF, the parties hereto have caused this MOU to be executed the day and year first above written.

“GOLDEN RAIN FOUNDATION OF LAGUNA WOODS”

Signature

Date

Name and Title

“CITY OF LAGUNA WOODS”

Signature

Date

Name and Title

RESOLUTION NO. 17-XX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LAGUNA WOODS, CALIFORNIA, AMENDING AND ADOPTING THE FISCAL YEARS 2017-19 BUDGET AND WORK PLAN FOR FISCAL YEAR 2017-18 COMMENCING JULY 1, 2017 AND ENDING JUNE 30, 2018, AND FISCAL YEAR 2018-19 COMMENCING JULY 1, 2018 AND ENDING JUNE 30, 2019, RELATED TO CAPITAL IMPROVEMENT PROJECTS, THE ADDITION OF A NEW “A PLACE FOR PAWS” DOG PARK RELOCATION PROJECT, AND RELATED GENERAL FUND AND CAPITAL PROJECTS FUND APPROPRIATIONS

WHEREAS, the Fiscal Years 2017-19 Budget and Work Plan (“Budget”) was adopted by the City Council on June 28, 2017; and

WHEREAS, City Council action is required to increase fund-level budget appropriations adopted as a part of the Budget; and

WHEREAS, subsequent to the adoption of the Budget, the City Council added the “ ‘A Place for Paws’ Dog Park Relocation Project” (“Project”) to the City’s Capital Improvement Program for Fiscal Year 2017-18; and

WHEREAS, it is necessary for the City Council to establish a new Fiscal Year 2017-18 budget for the Project in the Capital Projects Fund in the amount of \$325,000, with the appropriation drawn from the General Fund unassigned balance, in order for design and construction work to be completed (as of October 2017; subject to the completion of design documents, construction drawings, and competitive bids).

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF LAGUNA WOODS, DOES HEREBY RESOLVE, DECLARE, DETERMINE AND ORDER AS FOLLOWS:

SECTION 1. Chapter 4.0 (City Capital Projects) of the Fiscal Years 2017-19 Budget and Work Plan for the City of Laguna Woods is hereby amended and adopted as presented at the October 18, 2017 City Council meeting.

SECTION 2. Section 2 of Resolution No. 17-20, as previously amended by Resolution No. 17-28 and Resolution No. 17-XX, is hereby amended, in its entirety, to read as follows:

The budget appropriations authorized, on a fund level, are:

	<i>Fiscal Year 2017-18</i>	<i>Fiscal Year 2018-19</i>
General Fund	\$6,101,938	\$5,621,246
Capital Projects Fund	\$742,888	\$165,000
<i>Transportation Funds</i>		
Fuel Tax	\$447,936	\$300,102
Road Maintenance & Rehabilitation Program	\$50,000	\$110,250
Measure M2	\$242,044	\$242,992
<i>Public Safety Funds</i>		
Supplemental Law Enforcement Services	\$141,707	\$123,500
<i>Environmental Funds</i>		
Beverage Container Recycling	\$5,000	\$0
<i>Community Services Funds</i>		
PEG/Cable Television	\$2,000	\$2,047
Senior Mobility	\$294,179	\$316,700
Community Development Block Grant (CDBG)	\$145,700	\$145,700
TOTAL	\$8,173,392	\$7,027,538

The budget appropriations authorized by this section reflect the Fiscal Years 2017-19 adopted budgets, plus authorized budget adjustments approved between July 1, 2017 and the date of this amendment. The budget appropriations authorized by this section do not include carryovers of approved, but unspent, budget appropriations from prior fiscal years. Such carryovers were approved by the City Council with the adoption of the current budget and/or pursuant to Administrative Policy 2.9.

SECTION 3. The Deputy City Clerk shall certify to the adoption of this resolution.

PASSED, APPROVED AND ADOPTED on this XX day of XX 2017.

SHARI L. HORNE, Mayor

ATTEST:

YOLIE TRIPPY, Deputy City Clerk

STATE OF CALIFORNIA)
COUNTY OF ORANGE) ss.
CITY OF LAGUNA WOODS)

I, YOLIE TRIPPY, Deputy City Clerk of the City of Laguna Woods, do
HEREBY CERTIFY that the foregoing **Resolution No. 17-XX** was duly adopted
by the City Council of the City of Laguna Woods at a regular meeting thereof, held
on the XX day of XX 2017, by the following vote:

AYES: COUNCILMEMBERS:
NOES: COUNCILMEMBERS:
ABSENT: COUNCILMEMBERS:

YOLIE TRIPPY, Deputy City Clerk

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4.0. CITY CAPITAL PROJECTS

This chapter is intended to describe major capital improvement projects that are included in this budget, as well as projects that are currently unfunded, but may be considered in the future.

CAPITAL IMPROVEMENT PROGRAM

In order to assist with the long-term development of funding for major capital improvement projects on public property, the City Council adopts a seven-year Capital Improvement Program ("CIP") on an annual basis. The CIP and the seven-year period to which it applies is also a requirement for receiving funding from Orange County's Measure M2 half-cent sales tax, which voters approved in 2006 to fund transportation projects and activities. While the first two years of the CIP are included in this budget and work plan, it is important to note that the City Council retains the ability to modify the CIP at its discretion and that no funding commitment is created by the inclusion of unfunded projects or projects planned for future years.

The City considers a "major capital improvement project" to be any project that meets the definition of a "public project" in Section 22002 of the State of California's Public Contracts Code, including "construction, reconstruction, erection, alteration, renovation, improvement, demolition, and repair work" of facilities owned, leased, or operated by the City, as well as any non-minor "painting or repainting." Maintenance is not considered a public project. A "major capital improvement project" also includes pavement management work included in the City's seven-year Pavement Management Plan.

The City classifies its major capital improvement projects as either primarily relating to buildings (e.g., City Hall), green spaces (e.g., landscaping and parks), and/or transportation (e.g., streets and traffic control devices). These classifications are intended to organize similar projects for ease of reference. Throughout the CIP, projects are color-coded **purple** for building projects, **green** for green spaces projects, and **blue** for transportation projects. Where a project is classified in multiple categories, the color-coding is blended (e.g., transportation/green spaces projects are color-coded **blue/green**).

Major capital improvement projects are further categorized as either funded, partially funded, or unfunded. Partial funding of projects is not unusual, as full

funding may be developed over the course of several fiscal years, as grants and other federal, state, and county funds are obtained in order to reduce impacts to the General Fund. In other cases, funding from the General Fund may be set aside for projects over multiple fiscal years in the interest of fiscal prudence. The preparation of design documents and construction drawings may also precede the allocation of construction funding.

SIGNIFICANT CHANGES IN CAPITAL IMPROVEMENT PROJECTS

Fiscal Year 2017-18

A project to rehabilitate the pavement on westbound El Toro Road between Avenida Sevilla and Paseo de Valencia has been added to the Fiscal Year 2017-18 Budget & Work Plan and CIP as a funded project. The project is part of the City's seven-year Pavement Management Plan.

A project to improve pedestrian accessibility in several locations along Moulton Parkway has been added to the Fiscal Year 2017-18 Budget & Work Plan and CIP as a funded project contingent on the receipt of external funding. The City has received a tentative notice of award of Community Development Block Grant ("CDBG") funds for the project.

A project to improve drainage in the vicinity of Moulton Parkway at Santa Maria Avenue has been added to the Fiscal Year 2017-18 Budget & Work Plan and CIP as a funded project.

Construction of the "City Hall Restroom Repair and Improvement Project" has been added to the Fiscal Year 2017-18 Budget & Work Plan and CIP as a funded project. Design documents and construction drawings were prepared in Fiscal Year 2016-17.

A project to design various refurbishments and safety improvements at City Hall has been added to the Fiscal Year 2017-18 Budget & Work Plan and CIP as a funded project. Construction of the refurbishments has been added to the Fiscal Year 2018-19 Budget & Work Plan and CIP as a funded project.

Fiscal Year 2018-19

A project to rehabilitate the pavement on eastbound El Toro Road between Avenida Sevilla and Church Intersection has been added to the Fiscal Year 2018-19 Budget & Work Plan and CIP as a funded project. The project is part of the City's seven-year Pavement Management Plan.

A project to improve pedestrian accessibility in several locations along El Toro Road and Moulton Parkway has been added to the Fiscal Year 2018-19 Budget & Work Plan and CIP as a funded project, contingent on the receipt of external funding. The City intends to apply for CDBG funds for the project.

A project to design water efficient improvements for the medians located on El Toro Road between Calle Sonora and Moulton Parkway has been added to the Fiscal Year 2018-19 Budget & Work Plan and CIP as a funded project. The City Council is expected to consider funding construction as part of the Fiscal Years 2019-20 Budget & Work Plan and CIP.

A project to refurbish and improve safety at City Hall has been added to the Fiscal Year 2018-19 Budget & Work Plan and CIP as a funded project.

Future Fiscal Years

The following projects have been added to the CIP as unfunded projects for the fiscal years noted. The City Council is expected to consider funding as a part of the respective fiscal years budgets, work plans, and CIPs.

[Capital Projects Summary – Changes for Future Fiscal Years]

Fiscal Year	Project Title
2019-20	Americans with Disabilities Act (ADA) Pedestrian Accessibility Project: Phase 3 (El Toro Road)
2019-20	El Toro Road Water Efficient Median Improvement Project (Between Calle Sonora and Moulton Parkway) (Construction)
2019-20	City Hall Emergency Backup Generator Project (Design)
2020-21	Woods End Wilderness Preserve Trail Drainage and Improvement Project
2020-21	City Hall Emergency Backup Generator Project (Construction)
2020-21	City Hall Television Broadcast Improvement Project
2021-22	Americans with Disabilities Act (ADA) Pedestrian Accessibility Project: Phase 4 (Moulton Parkway and Santa Maria Avenue)
2022-23	Americans with Disabilities Act (ADA) Pedestrian Accessibility Project: Phase 5 (El Toro Road and Santa Maria Avenue)

The estimated cost of the pedestrian accessibility improvements included in the “Pavement Management Plan Project (Eastbound Ridge Route Drive between Eastern City Limit and Moulton Parkway)” has been increased by \$1,750, based on the nature of anticipated improvements.

The estimated costs for design and construction of the “El Toro Road Water Efficient Median Improvement Project (Between Calle Sonora and Moulton Parkway)” have been decreased by \$181,300, based on conceptual design changes. It is assumed that no hardscape maintenance band will be installed and that the irrigated area will be limited to 25% of the pervious surface area.

The “Santa Maria Avenue Water Efficient Median Project” has been removed from the CIP. It was previously included as an unfunded project; however, after further consideration, it has been determined that on-site conditions do not necessitate such extensive reconstruction, at this time.

FUTURE OUTLOOK FOR CAPITAL PROJECTS

The City’s seven-year Pavement Management Plan anticipates rehabilitation phased in a manner that is intended to minimize the length and impact of in-lane roadway work on residents and businesses. The Pavement Management Plan will undergo a biennial update during Fiscal Year 2017-18 for a term spanning fiscal years 2018-19 through 2024-25. It is anticipated that additional pavement management plan projects will be identified through that effort.

Pedestrian accessibility improvements on City sidewalks and curb ramps will continue to be necessary on an ongoing basis, as even well-maintained and presently accessible hardscape cracks, lifts, or otherwise degrades over time. It is anticipated that an accessibility survey will be completed during Fiscal Year 2020-21, and every five years thereafter, to identify future projects.

During Fiscal Years 2017-19, staff will conduct an analysis of El Toro Road and Moulton Parkway in order to identify opportunities for active transportation, pedestrian and bicycle safety, transit facility, drainage and storm water capture, and other “complete streets” improvements. It is anticipated that future projects will be identified through that effort.

During Fiscal Years 2017-19, staff will prepare a scope of work for additional refurbishments and safety improvements at City Hall. It is anticipated that the scope of work will form the basis of a future, second phase of the “City Hall Refurbishment and Safety Improvement Project.”

Like jurisdictions throughout California, the City’s urban forest is impacted by the invasive Polyphagous Shot Hole Borer (“PSHB”). The PSHB has infected more than one-third of the Sycamore trees on El Toro Road (as of November 2016) with a pathogenic fungi likely to cause branch dieback, canopy loss, and/or death. While the infected trees show only minimal impacts at present,

extensive tree removal and replacement may be required in coming years to maintain a healthy and safe urban forest. Staff is currently monitoring the situation and developing a recommended course of action. PSHB response is included as a significant work plan item in this budget and work plan.

FUNDED AND PARTIALLY FUNDED CAPITAL IMPROVEMENT PROJECTS

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AMENDMENT RECORD

Significant amendments made to the CIP are summarized in this section.

9/20/2017 – Modified the estimated construction and implementation costs for the “Pavement Management Plan Project (Westbound El Toro Road between Avenida Sevilla and Paseo de Valencia)” to reflect the planned expenditure of Road Maintenance and Rehabilitation Program funds.

Added estimates of the useful lives of the “Pavement Management Plan Project (Westbound El Toro Road between Avenida Sevilla and Paseo de Valencia)” and the “Pavement Management Plan Project (Eastbound El Toro Road between Avenida Sevilla and Church Intersection),” in order to comply with Road Maintenance and Rehabilitation Program funding requirements.

10/18/2017 – Added the “ ‘A Place for Paws’ Dog Park Relocation Project” as a funded project for Fiscal Year 2017-18.

CAPITAL IMPROVEMENT PROGRAM PROJECT WORKSHEET



Project Title: **El Toro Road Traffic Signal Synchronization Project**

Classification: **Transportation**

Funding Status: **Funded (Multiple Prior Years)**

Priority

Alignment:



Healthy and safe



High in quality of life



Environmentally conscious

Project Description

This project is a multi-city undertaking with the City acting as the lead agency with support from the City of Aliso Viejo, City of Laguna Hills, and the California Department of Transportation ("Caltrans"). The project includes synchronization work and the installation of traffic detection, monitoring, and backup power equipment at certain intersections on El Toro Road from Bells Vireo Lane (in Aliso Viejo) to Bridger Road (in Laguna Hills).

Purpose

This project will help improve the flow of traffic by modifying timing plans and installing various equipment to reduce congestion. Minimization of the time motor vehicles spend idling at red lights will also improve air quality and new uninterrupted power supplies will help sustain the operation of traffic signals during energy shortages and disruptions.

Construction and Implementation Costs

This project is currently awarded \$514,000 in funding from the Orange County Transportation Authority's Measure M2 program. The City will match the award with in-kind services and \$83,020 in CARITS funds. The total project cost, including matches from all involved agencies, is \$642,500.

CAPITAL IMPROVEMENT PROGRAM PROJECT WORKSHEET



Project Title: **Moulton Parkway Traffic Signal Synchronization Project**

Classification: **Transportation**

Funding Status: Funded (Multiple Prior Years)

Priority

Alignment:



Healthy and safe



High in quality of life



Environmentally conscious

Project Description

This project is a multi-city undertaking with the City acting as the lead agency with support from the City of Laguna Hills, City of Laguna Niguel, and the California Department of Transportation ("Caltrans"). The project includes synchronization work and the installation of traffic detection, monitoring, and backup power equipment at certain intersections on Moulton Parkway from Lake Forest Drive (in Laguna Hills) to Camino del Avion (in Laguna Niguel).

Purpose

This project will help improve the flow of traffic by modifying timing plans and installing various equipment to reduce congestion. Minimization of the time motor vehicles spend idling at red lights will also improve air quality and new uninterrupted power supplies will help sustain the operation of traffic signals during energy shortages and disruptions.

Construction and Implementation Costs

This project is currently awarded \$645,440 in funding from the Orange County Transportation Authority's Measure M2 program. The City will match the award with in-kind services and \$65,680 in CARITS funds. The total project cost, including matches from all involved agencies, is \$808,050.

CAPITAL IMPROVEMENT PROGRAM PROJECT WORKSHEET



Project Title: **Pavement Management Plan Project (Westbound El Toro Road between Avenida Sevilla and Paseo de Valencia)**

Classification: **Transportation** Street Section ID: W/BET-AS-PDV

Funding Status: Funded (2017-18) Estimated Useful Life: 5 years

Priority

Alignment:



Healthy and safe



High in quality of life

Project Description

This project involves the rehabilitation of pavement along the specified street section, including replacement of deteriorated pavement and a surface seal of crack sealant and rubberized slurry. Pedestrian accessibility improvements will also be made along the street section and/or within the City.

Purpose

This project is a part of the City’s seven-year Pavement Management Plan to extend the useful life and improve the quality of pavement on street sections rated at a Pavement Condition Index (“PCI”) below 80. Ongoing pavement management helps to minimize the prolonged and more impactful work that typically accompanies projects involving significantly degraded pavement. As of January 2016, the specified street section had a PCI of 78.

Construction and Implementation Costs

The one-time cost of designing and constructing this project is estimated at \$157,500 (as of May 2016; subject to the completion of design documents, construction drawings, and competitive bids). \$50,000 in Road Maintenance and Rehabilitation Program revenue and \$107,500 in Fuel Tax revenue will be used to fund this project.

CAPITAL IMPROVEMENT PROGRAM PROJECT WORKSHEET



Project Title: **Americans with Disabilities Act (ADA) Pedestrian Accessibility Improvement Project: Phase 1 (Moulton Parkway)**

Classification: **Transportation**

Funding Status: Contingent on the receipt of external funding (2017-18)

Priority

Alignment:



Healthy and safe



High in quality of life

Project Description

This project involves the improvement of pedestrian paths-of-travel, including elimination of gaps, lifts, and other uneven sidewalk surfaces; reconstruction of curb ramps; and, replacement of detectable warnings. Right-of-way may also be modified to increase navigable area and clearances.

Purpose

This project is based on the findings of an accessibility survey of City sidewalks and curb ramps. The improvements are intended to enhance ease of travel and promote compliance with the Americans with Disabilities Act of 1990, Architectural Barriers Act of 1968, and Rehabilitation Act of 1973.

Construction and Implementation Costs

The one-time cost of designing and constructing this project is estimated at \$145,700 (as of January 2017; subject to the completion of design documents, construction drawings, and competitive bids). This project is contingent on the receipt of external funding. The City anticipates receiving Community Development Block Grant ("CDBG") funding.

CAPITAL IMPROVEMENT PROGRAM PROJECT WORKSHEET



Project Title: **Drainage Improvement Project (Moulton Parkway at Santa Maria Avenue)**

Classification: **Transportation**

Funding Status: **Funded (2017-18)**

Priority

Alignment:



Healthy and safe



High in quality of life

Project Description

The project involves the installation of a box culvert and related drainage, as well as the repair of an existing perforated pipe, on Moulton Parkway south of Santa Maria Avenue. Portions of the southbound sidewalk will be removed to allow for the repair of the perforated pipe and replaced with mulch or another pervious covering to facilitate future repairs.

Purpose

This project is intended to improve drainage and prevent pooling near curb ramps and in pedestrian paths-of-travel.

Construction and Implementation Costs

The one-time cost of constructing this project is estimated at \$59,563 (as of April 2017; subject to competitive bids). Unassigned General Fund balance will be used to fund this project.

CAPITAL IMPROVEMENT PROGRAM PROJECT WORKSHEET



Project Title: **Moulton Parkway Water Efficient Median Improvement Project (Construction)**

Classification: **Transportation/Green Spaces**

Funding Status: **Funded (2016-17)**

Priority

Alignment:



Healthy and safe



High in quality of life



Environmentally conscious

Project Description

This project involves retrofitting three primarily turf grass medians with drought-tolerant landscaping, water efficient irrigation systems, and “purple pipe” for future recycled water use. The irrigated area of the medians will be limited to 25% of the pervious surface area. The medians are located on Moulton Parkway between Via Campo Verde and Via Iglesia.

Purpose

This project is intended to reduce irrigation-related water consumption and runoff through the replacement of turf grass with drought-tolerant plantings and overhead spray irrigation with a more water efficient alternative. Moving irrigation systems and plantings further from the curb face of the medians will also help prevent inadvertent runoff and related pavement damage. When available, the use of recycled water for irrigation will help conserve potable water, thereby reducing demand for imported water.

Construction and Implementation Costs

The one-time cost of constructing this project is estimated at \$273,914 (as of June 2017). Fuel tax revenue will be used to fund this project.

CAPITAL IMPROVEMENT PROGRAM PROJECT WORKSHEET



Project Title: "A Place for Paws" Dog Park Relocation Project

Classification: Green Spaces

Funding Status: Funded (2017-18)

Priority

Alignment:



Healthy and safe



High in quality of life

Project Description

This project involves relocating "A Place for Paws" Dog Park from its present location along Ridge Route Drive east of the eastbound public parking lot to a new location west of the eastbound public parking lot. The relocated dog park will include facilities and amenities similar to the existing dog park. Due to the limited area and intensity of use of the dog park, as well as the on-going operations and maintenance requirements associated with natural turf grass, an artificial turf grass designed for use by dogs will be the primary recreational surface. This project also involves the conversion of the existing dog park to a permeable sidewalk with parkways.

Purpose

This project is intended to provide continued local access to a public dog park in a new location.

Construction and Implementation Costs

The one-time cost of designing and constructing this project is estimated at \$325,000 (as of October 2017; subject to the completion of design documents, construction drawings, and competitive bids). Unassigned General Fund balance will be used to fund this project.

CAPITAL IMPROVEMENT PROGRAM PROJECT WORKSHEET



Project Title: **City Hall Restroom Repair and Improvement Project**

Classification: **Buildings**

Funding Status: Funded (2017-18)

Priority

Alignment:



Healthy and safe

Project Description

This project involves the repair of the deteriorated subfloor in the second floor restrooms at City Hall, including replacement of tile flooring and underlying lightweight concrete. Accessibility, lighting, energy, heating, ventilation, and air conditioning improvements will also be made in both the first and second floor restrooms, and first floor drinking fountains.

Purpose

This project is necessary in order to complete the repair of the deteriorated subfloor at City Hall, improve accessibility and energy efficiency within City Hall, and modernize restroom and drinking facilities.

Construction and Implementation Costs

The one-time cost of constructing this project is estimated at \$283,363 (as of May 2017; subject to competitive bids). Unassigned General Fund balance will be used to fund this project.

CAPITAL IMPROVEMENT PROGRAM PROJECT WORKSHEET



Project Title: **City Hall Refurbishment and Safety Project: Phase 1 (Design)**

Classification: **Buildings**

Funding Status: **Funded (2017-18)**

Priority Alignment:

Healthy and safe

Project Description

This project involves refurbishments and safety improvements at City Hall, including the exterior, public areas, and stairwells. Improvements will include paint, façade repair, replacement of deteriorated signage, reconstruction of damaged planters, replacement of stained/worn carpeting and baseboards, accessibility improvements, and safety and security modifications.

Purpose

This project is intended to ensure that City Hall remains a safe, accessible, and well-maintained public space. The improvements will help to safeguard the City’s only public building and seat of government.

Design Costs

The one-time cost of designing this project is estimated at \$22,500. Unassigned General Fund balance will be used to fund this project.

CAPITAL IMPROVEMENT PROGRAM PROJECT WORKSHEET



Project Title: **Pavement Management Plan Project (Eastbound El Toro Road between Avenida Sevilla and Church Intersection)**

Classification: **Transportation** Street Section ID: E/BET-AS-LCC

Funding Status: Funded (2018-19) Estimated Useful Life: 5 years

Priority

Alignment:



Healthy and safe



High in quality of life

Project Description

This project involves the rehabilitation of pavement along the specified street section, including replacement of deteriorated pavement and a surface seal of crack sealant and rubberized slurry. Pedestrian accessibility improvements will also be made along the street section and/or within the City.

Purpose

This project is a part of the City’s seven-year Pavement Management Plan to extend the useful life and improve the quality of pavement on street sections rated at a Pavement Condition Index (“PCI”) below 80. Ongoing pavement management helps to minimize the prolonged and more impactful work that typically accompanies projects involving significantly degraded pavement. As of January 2016, the specified street section had a PCI of 79.

Construction and Implementation Costs

The one-time cost of designing and constructing this project is estimated at \$110,250 (as of May 2016; subject to the completion of design documents, construction drawings, and competitive bids). Road Maintenance and Rehabilitation Program revenue will be used to fund this project.

CAPITAL IMPROVEMENT PROGRAM PROJECT WORKSHEET



Project Title: **Americans with Disabilities Act (ADA) Pedestrian Accessibility Improvement Project: Phase 2 (El Toro Road and Moulton Parkway)**

Classification: **Transportation**

Funding Status: Contingent on the receipt of external funding (2018-19)

Priority

Alignment:



Healthy and safe



High in quality of life

Project Description

This project involves the improvement of pedestrian paths-of-travel, including elimination of gaps, lifts, and other uneven sidewalk surfaces; reconstruction of curb ramps; and/or, replacement of detectable warnings. Right-of-way may also be modified to increase navigable area and clearances.

Purpose

This project is based on the findings of an accessibility survey of City sidewalks and curb ramps. The improvements are intended to enhance ease of travel and promote compliance with the Americans with Disabilities Act of 1990, Architectural Barriers Act of 1968, and Rehabilitation Act of 1973.

Construction and Implementation Costs

The one-time cost of designing and constructing this project is estimated at \$145,700 (as of January 2017; subject to the completion of design documents, construction drawings, and competitive bids). This project is contingent on the receipt of external funding. The City anticipates applying for Community Development Block Grant ("CDBG") funding.

CAPITAL IMPROVEMENT PROGRAM PROJECT WORKSHEET



Project Title: **El Toro Road Water Efficient Median Improvement Project (Between Calle Sonora and Moulton Parkway) (Design)**

Classification: **Transportation/Green Spaces**

Funding Status: **Funded (2018-19)**

Priority

Alignment:



Healthy and safe



High in quality of life

Project Description

This project involves retrofitting two primarily turf grass medians with drought-tolerant landscaping, water efficient irrigation systems, and “purple pipe” for future recycled water use. The irrigated area of the medians will be limited to 25% of the pervious surface area. The medians are located on El Toro Road between Calle Sonora and Moulton Parkway.

Purpose

This project is intended to reduce irrigation-related water consumption and runoff through the replacement of turf grass with drought-tolerant plantings and overhead spray irrigation with a more water efficient alternative. Moving irrigation systems and plantings further from the curb face of the medians will also help prevent inadvertent runoff and related pavement damage. When available, the use of recycled water for irrigation will help conserve potable water, thereby reducing demand for imported water.

Design Costs

The one-time cost of designing this project is estimated at \$19,250. Fuel Tax revenue will be used to fund this project.

CAPITAL IMPROVEMENT PROGRAM PROJECT WORKSHEET



Project Title: **City Hall Refurbishment and Safety Project: Phase 1 (Construction)**

Classification: **Buildings**

Funding Status: **Funded (2018-19)**

Priority

Alignment:



Healthy and safe



Environmentally conscious

Project Description

This project involves refurbishments and safety improvements at City Hall, including the exterior, public areas, and stairwells. Improvements will include paint, façade repair, replacement of deteriorated signage, reconstruction of damaged planters, replacement of stained/worn carpeting and baseboards, accessibility improvements, and safety and security modifications.

Purpose

This project is intended to ensure that City Hall remains a safe, accessible, and well-maintained public space. The improvements will help to safeguard the City’s only public building and seat of government.

Construction and Implementation Costs

The one-time cost of constructing this project is estimated at \$165,000 (as of May 2017; subject to the completion of design documents, construction drawings, and competitive bids). Unassigned General Fund balance will be used to fund this project.

CAPITAL IMPROVEMENT PROGRAM PROJECT WORKSHEET

Project Title: **Americans with Disabilities Act (ADA) Pedestrian Accessibility Improvement Projects**

Classification: **Transportation** Funding Status: Unfunded

Projected Funding Plan: See Table Below

Project Description

These projects involve the improvement of pedestrian paths-of-travel along El Toro Road, Moulton Parkway, and Santa Maria Avenue, including elimination of gaps, lifts, and other uneven sidewalk surfaces; reconstruction of curb ramps; and/or, replacement of detectable warnings. Right-of-way may also be modified to increase navigable area and clearances.

Street(s)
El Toro Road
Moulton Parkway and Santa Maria Avenue
El Toro Road and Santa Maria Avenue

Purpose

These projects are based on the findings of an accessibility survey of City sidewalks and curb ramps. The improvements are intended to enhance ease of travel and promote compliance with the Americans with Disabilities Act of 1990, Architectural Barriers Act of 1968, and Rehabilitation Act of 1973.

Construction and Implementation Costs

Over the course of fiscal years 2019-20 through 2022-23, the one-time cost of designing and constructing these projects is estimated at \$437,100 (as of January 2017; subject to the completion of design documents, construction drawings, and competitive bids). These projects are contingent on the receipt of external funding. The City anticipates applying for Community Development Block Grant ("CDBG") funding.

Street(s)	Anticipated Fiscal Year	Total
El Toro Road	2019-20	\$145,700
Moulton Parkway and Santa Maria Avenue	2021-22	\$145,700
El Toro Road and Santa Maria Avenue	2022-23	\$145,700
Total		\$437,100

CAPITAL IMPROVEMENT PROGRAM PROJECT WORKSHEET

Project Title: **Pavement Management Plan Projects**

Classification: **Transportation** Funding Status: Unfunded

Projected Funding Plan: See Table Below

Project Description

These projects involve the rehabilitation of pavement, including replacement of deteriorated pavement and surface seals of crack sealant and rubberized slurry. Pedestrian accessibility improvements would also be made along the street sections and/or within the City.

Street Section ID	Street Section Location
W/BET-SNCC-AS	Westbound El Toro Road between Avenida Sevilla and Church Intersection
E/BRR-MP-RRLP	Eastbound Ridge Route Drive between Moulton Parkway and Ridge Route Linear Park

Purpose

These projects are a part of the City's seven-year Pavement Management Plan to extend the useful life and improve the quality of pavement on street sections rated at a Pavement Condition Index ("PCI") below 80. Ongoing pavement management helps to minimize the prolonged and more impactful work that typically accompanies projects involving significantly degraded pavement. As of January 2016, Street Section W/BET-SNCC-AS had a PCI of 78 and Street Section E/BRR-MP-RRLP had a PCI of 95.

Construction and Implementation Costs

Over the course of fiscal years 2019-20 through 2021-22, the one-time cost of constructing these projects is estimated at \$127,750 (as of June 2016; subject to the completion of design documents, construction drawings, and competitive bids). It is anticipated that Road Maintenance and Rehabilitation Program revenue will be used to fund these projects.

Street Section ID	Anticipated Fiscal Year	Pavement	Pedestrian Accessibility	Total
W/BET-SNCC-AS	2019-20	\$105,000	\$5,250	\$110,250
E/BRR-MP-RRLP	2021-22	\$15,000	\$2,500	\$17,500
Total		\$120,000	\$7,750	\$127,750

CAPITAL IMPROVEMENT PROGRAM PROJECT WORKSHEET

Project Title: **El Toro Road Water Efficient Median Improvement Project (Between Calle Sonora and Moulton Parkway) (Construction)**

Classification: **Transportation/Green Spaces**

Funding Status: Unfunded

Projected Funding Plan: Fiscal Year 2019-20

Project Description

This project involves retrofitting two primarily turf grass medians with drought-tolerant landscaping, water efficient irrigation systems, and “purple pipe” for future recycled water use. The irrigated area of the medians will be limited to 25% of the impervious surface area. The medians are located on El Toro Road between Calle Sonora and Moulton Parkway.

Purpose

This project is intended to reduce irrigation-related water consumption and runoff through the replacement of turf grass with drought-tolerant plantings and overhead spray irrigation with a more water efficient alternative. Moving irrigation systems and plantings further from the curb face of the medians will also help prevent inadvertent runoff and related pavement damage. When available, the use of recycled water for irrigation will help conserve potable water, thereby reducing demand for imported water.

Construction and Implementation Costs

The one-time cost of constructing this project is estimated at \$95,000 (as of May 2017; subject to the completion of design documents, construction drawings, and competitive bids). It is anticipated that Fuel Tax revenue will be used to fund this project.

CAPITAL IMPROVEMENT PROGRAM PROJECT WORKSHEET

Project Title: **City Centre Park Lighting Improvement Project**

Classification: **Green Spaces** Funding Status: Unfunded

Projected Funding Plan: Fiscal Year 2023-24

Project Description

This project involves using existing conduit to install low-level walkway lighting along the serpentine walking path and hardscape areas in City Centre Park.

Purpose

This project is intended to improve the utility and function of City Centre Park. Light fixtures were part of the initial design for City Centre Park; however, only conduit to allow for future lighting was installed during construction.

Construction and Implementation Costs

The one-time cost of designing and constructing this project is estimated at \$115,000 (as of May 2016; subject to the completion of design documents, construction drawings, and competitive bids). No funding source has been identified; however, City personnel will seek grant opportunities.

CAPITAL IMPROVEMENT PROGRAM PROJECT WORKSHEET

Project Title: **Woods End Wilderness Preserve Trail Drainage and Improvement Project**

Classification: **Green Spaces** Funding Status: Unfunded

Projected Funding Plan: Fiscal Year 2020-21

Project Description

This project involves the construction of new drainage facilities, installation of crushed rock and gravel on the trail and access road, entry improvements, and safety and security modifications at Woods End Wilderness Preserve.

Purpose

This project is intended to improve drainage and prevent storm water runoff from the Woods End Wilderness Preserve trail and access road. It will also enhance the safety and condition of the City-maintained entry area.

Construction and Implementation Costs

The one-time cost of constructing this project is estimated at \$101,396 (as of May 2017; subject to competitive bids). It is anticipated that unassigned General Fund balance will be used to fund this project.

CAPITAL IMPROVEMENT PROGRAM PROJECT WORKSHEET

Project Title: **City Hall Emergency Backup Generator Project (Design)**

Classification: **Buildings** Funding Status: Unfunded

Projected Funding Plan: Fiscal Year 2019-20

Project Description

This project involves the installation of an emergency backup generator and automatic transfer switch at City Hall. The emergency backup generator will be capable of providing sufficient power to allow City Hall to function for a period of not less than 24 hours of continuous use.

Purpose

This project is intended to ensure the security, reliability, and functionality of City Hall during emergencies. The installation of an appropriately sized and configured emergency backup generator will support continuity of City Hall's operations during energy shortages and disruptions.

Design Costs

The one-time cost of designing this project is estimated at \$60,000. It is anticipated that unassigned General Fund balance will be used to fund this project.

CAPITAL IMPROVEMENT PROGRAM PROJECT WORKSHEET

Project Title: **City Hall Emergency Backup Generator Project
(Construction)**

Classification: **Buildings** Funding Status: Unfunded

Projected Funding Plan: Fiscal Year 2020-21

Project Description

This project involves the installation of an emergency backup generator and automatic transfer switch at City Hall. The emergency backup generator will be capable of providing sufficient power to allow City Hall to function for a period of not less than 24 hours of continuous use.

Purpose

This project is intended to ensure the security, reliability, and functionality of City Hall during emergencies. The installation of an appropriately sized and configured emergency backup generator will support continuity of City Hall’s operations during energy shortages and disruptions.

Construction and Implementation Costs

The one-time cost of constructing this project is estimated at \$385,000 (as of May 2017; subject to the completion of design documents, construction drawings, and competitive bids). It is anticipated that unassigned General Fund balance will be used to fund this project.

CAPITAL IMPROVEMENT PROGRAM PROJECT WORKSHEET

Project Title: **City Hall Television Broadcast Improvement Project**

Classification: **Buildings** Funding Status: Unfunded

Projected Funding Plan: Fiscal Year 2020-21

Project Description

This project involves the replacement of analog video equipment in the City Council Chambers at City Hall with digital video equipment.

Purpose

This project is intended to improve the broadcast quality of the City’s local government television channel. Currently, individuals who use digital or high-definition televisions to view the City’s local government channel experience low picture quality as a result of existing analog video equipment.

Construction and Implementation Costs

The one-time cost of designing and constructing this project is estimated at \$75,000 (as of May 2017; subject to the completion of design documents, construction drawings, and competitive bids). It is anticipated that Public, Educational, and Governmental (“PEG”) Fees collected from cable television franchisees will be used to fund this project.

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CITY OF LAGUNA WOODS
Fiscal Years 2017-18 and 2018-19 Capital Improvement Program - Funding Plan

EXPENDITURES		FY 14-15	FY 15-16	FY 2016-17	Year 1				Year 2					
#	Project Title	Estimated Project Cost	Funded FY 14-15	Funded FY 15-16	Funded FY 16-17	Amount Unfunded (If Partially Funded)	Budget FY 17-18 (General Fund)	Budget FY 17-18 (Transportation Funds)	Proposed FY 17-18 (Other)	Amount Unfunded (If Partially Funded)	Budget FY 18-19 (General Fund)	Budget FY 18-19 (Transportation Funds)	Budget FY 18-19 (Other)	Amount Unfunded (If Partially Funded)
TRANSPORTATION PROJECTS														
1	El Toro Road Traffic Signal Synchronization Project	\$ 642,500	\$ 720	\$ 611,800	\$ 29,980	-	-	-	-	-	-	-	-	-
2	Moulton Parkway Traffic Signal Synchronization Project	\$ 808,050	\$ 1,440	\$ 736,850	\$ 69,760	-	-	-	-	-	-	-	-	-
3	Pavement Management Plan Project (Westbound El Toro Road between Avenida Sevilla and Paseo de Valencia)	\$ 157,500	-	-	-	-	-	\$ 157,500 *	-	-	-	-	-	-
4	Pavement Management Plan Project (Eastbound El Toro Road between Avenida Sevilla and Church Intersection)	\$ 110,250	-	-	-	-	-	-	-	-	-	\$ 110,250 **	-	-
5	Pavement Management Plan Project (Westbound El Toro Road between Avenida Sevilla and Church Intersection)	\$ 110,250	-	-	-	-	-	-	-	-	-	-	-	-
6	Pavement Management Plan Project (Eastbound Ridge Route Drive between Moulton Parkway and Ridge Route Linear Park)	\$ 17,500	-	-	-	-	-	-	-	-	-	-	-	-
7	Americans with Disabilities Act (ADA) Pedestrian Accessibility Improvement Project: Phase 1 (Moulton Parkway)	\$ 145,700	-	-	-	-	-	-	\$ 145,700 ***	-	-	-	-	-
8	Americans with Disabilities Act (ADA) Pedestrian Accessibility Improvement Project: Phase 2 (El Toro Road and Moulton Parkway)	\$ 145,700	-	-	-	-	-	-	-	-	-	-	\$ 145,700 ****	-
9	Americans with Disabilities Act (ADA) Pedestrian Accessibility Improvement Project: Phase 3 (El Toro Road)	\$ 145,700	-	-	-	-	-	-	-	-	-	-	-	-
10	Americans with Disabilities Act (ADA) Pedestrian Accessibility Improvement Project: Phase 4 (Moulton Parkway and Santa Maria Avenue)	\$ 145,700	-	-	-	-	-	-	-	-	-	-	-	-
11	Americans with Disabilities Act (ADA) Pedestrian Accessibility Improvement Project: Phase 5 (El Toro Road and Santa Maria Avenue)	\$ 145,700	-	-	-	-	-	-	-	-	-	-	-	-
12	Drainage Improvement Project (Moulton Parkway at Santa Maria Avenue)	\$ 59,563	-	-	-	-	\$ 59,563	-	-	-	-	-	-	-
TRANSPORTATION / GREEN SPACES PROJECTS														
13	El Toro Road Water Efficient Median Improvement Project (Between Calle Sonora and Moulton Parkway) (Design)	\$ 19,250	-	-	-	-	-	-	-	-	-	\$ 19,250	-	-

CITY OF LAGUNA WOODS
Fiscal Years 2017-18 and 2018-19 Capital Improvement Program - Funding Plan

EXPENDITURES		FY 14-15	FY 15-16	FY 2016-17	Year 1				Year 2					
#	Project Title	Estimated Project Cost	Funded FY 14-15	Funded FY 15-16	Funded FY 16-17	Amount Unfunded (If Partially Funded)	Budget FY 17-18 (General Fund)	Budget FY 17-18 (Transportation Funds)	Proposed FY 17-18 (Other)	Amount Unfunded (If Partially Funded)	Budget FY 18-19 (General Fund)	Budget FY 18-19 (Transportation Funds)	Budget FY 18-19 (Other)	Amount Unfunded (If Partially Funded)
TRANSPORTATION / GREEN SPACES PROJECTS (continued)														
14	El Toro Road Water Efficient Median Improvement Project (Between Calle Sonora and Moulton Parkway) (Construction)	\$ 95,000	-	-	-	-	-	-	-	-	-	-	-	-
15	Moulton Parkway Water Efficient Median Improvement Project (Design)	\$ 52,250	-	\$ 52,250	-	-	-	-	-	-	-	-	-	-
16	Moulton Parkway Water Efficient Median Improvement Project (Construction)	\$ 273,914	-	-	\$ 273,914	-	-	-	-	-	-	-	-	-
GREEN SPACES PROJECTS														
17	"A Place for Paws" Dog Park Relocation Project	\$ 325,000	-	-	-	-	\$ 325,000	-	-	-	-	-	-	-
18	City Centre Park Lighting Improvement Project	\$ 115,000	-	-	-	-	-	-	-	-	-	-	-	-
19	Woods End Wilderness Preserve Trail Drainage and Improvement Project	\$ 101,396	-	-	-	-	-	-	-	-	-	-	-	-
BUILDING PROJECTS														
20	City Hall Restroom Repair and Improvement Project (Construction)	\$ 283,363	-	-	-	-	\$ 283,363	-	-	-	-	-	-	-
21	City Hall Refurbishment and Safety Project: Phase 1 (Design)	\$ 22,500	-	-	-	-	\$ 22,500	-	-	-	-	-	-	-
22	City Hall Refurbishment and Safety Project: Phase 1 (Construction)	\$ 165,000	-	-	-	-	-	-	-	\$ 165,000	-	-	-	-
23	City Hall Emergency Backup Generator Project (Design)	\$ 60,000	-	-	-	-	-	-	-	-	-	-	-	-
24	City Hall Emergency Backup Generator Project (Construction)	\$ 385,000	-	-	-	-	-	-	-	-	-	-	-	-
25	City Hall Television Broadcast Improvement Project	\$ 75,000	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL (ALL PROJECTS)		\$ 4,606,786	\$ 2,160	\$ 1,400,900	\$ 373,654	\$ -	\$ 690,426	\$ 157,500	\$ 145,700	\$ -	\$ 165,000	\$ 129,500	\$ 145,700	\$ -
TRANSPORTATION-RELATED OPERATIONS & MAINTENANCE*****														
A	Measure M2 Fair Share Expenditures													
	Street Lighting - Public Right-of-Way	\$ 22,501	\$ 27,006	\$ 25,329	-	-	-	\$ 25,761	-	-	-	\$ 26,367	-	-
	Contract - Traffic Engineering	\$ 119,429	\$ 122,126	\$ 165,600	-	-	-	\$ 163,600	-	-	-	\$ 163,600	-	-
	Contract - Traffic Signal Maintenance	\$ 35,502	\$ 23,843	\$ 41,505	-	-	-	\$ 51,983	-	-	-	\$ 52,325	-	-
	Vendor Reimbursements (Prior Year Charges)	\$ (9,495)	-	-	-	-	-	-	-	-	-	-	-	-
	Allowable Overhead Costs	\$ 1,535	\$ 600	\$ 600	-	-	-	\$ 700	-	-	-	\$ 700	-	-
TOTAL		\$ 169,472	\$ 173,575	\$ 233,034	\$ -	\$ -	\$ -	\$ 242,044	\$ -	\$ -	\$ -	\$ 242,992	\$ -	\$ -

* \$50,000 in Road Maintenance and Rehabilitation Program revenue and \$107,500 in Fuel Tax revenue will be used to fund this project.
 ** Road Maintenance and Rehabilitation Program revenue will be used to fund this project.
 *** This project is contingent on the City receiving external funding. The City anticipates receiving Community Development Block Grant (CDBG) funding.
 **** This project is contingent on the City receiving external funding. The City anticipates applying for Community Development Block Grant (CDBG) funding.
 ***** This information is provided at the direction of the Orange County Transportation Authority. Operations and maintenance expenses are not capital improvement projects.

CITY OF LAGUNA WOODS
Fiscal Years 2019-20 through 2023-24 Capital Improvement Program - Projected Funding Plan

EXPENDITURES		Year 3				Year 4				Year 5				Year 6				Year 7				
		Estimated Project Cost	Projected FY 19-20 (General Fund)	Projected FY 19-20 (Transportation Funds)	Projected FY 19-20 (Other)	Amount Unfunded (If Partially Funded)	Projected FY 20-21 (General Fund)	Projected FY 20-21 (Transportation Funds)	Projected FY 20-21 (Other)	Amount Unfunded (If Partially Funded)	Projected FY 21-22 (General Fund)	Projected FY 21-22 (Transportation Funds)	Projected FY 21-22 (Other)	Amount Unfunded (If Partially Funded)	Projected FY 22-23 (General Fund)	Projected FY 22-23 (Transportation Funds)	Projected FY 22-23 (Other)	Amount Unfunded (If Partially Funded)	Projected FY 23-24 (General Fund)	Projected FY 23-24 (Transportation Funds)	Projected FY 23-24 (Other)	Amount Unfunded (If Partially Funded)
TRANSPORTATION PROJECTS																						
1	El Toro Road Traffic Signal Synchronization Project	\$ 642,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2	Moulton Parkway Traffic Signal Synchronization Project	\$ 808,050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3	Pavement Management Plan Project (Westbound El Toro Road between Avenida Sevilla and Paseo de Valencia)	\$ 157,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4	Pavement Management Plan Project (Eastbound El Toro Road between Avenida Sevilla and Church Intersection)	\$ 110,250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5	Pavement Management Plan Project (Westbound El Toro Road between Avenida Sevilla and Church Intersection)	\$ 110,250	-	\$ 110,250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6	Pavement Management Plan Project (Eastbound Ridge Route Drive between Moulton Parkway and Ridge Route Linear Park)	\$ 17,500	-	-	-	-	-	-	-	-	\$ 17,500	-	-	-	-	-	-	-	-	-	-	
7	Americans with Disabilities Act (ADA) Pedestrian Accessibility Improvement Project: Phase 1 (Moulton Parkway)	\$ 145,700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
8	Americans with Disabilities Act (ADA) Pedestrian Accessibility Improvement Project: Phase 2 (El Toro Road and Moulton Parkway)	\$ 145,700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9	Americans with Disabilities Act (ADA) Pedestrian Accessibility Improvement Project: Phase 3 (El Toro Road)	\$ 145,700	-	-	\$ 145,700 *	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10	Americans with Disabilities Act (ADA) Pedestrian Accessibility Improvement Project: Phase 4 (Moulton Parkway and Santa Maria Avenue)	\$ 145,700	-	-	-	-	-	-	-	-	-	\$ 145,700 **	-	-	-	-	-	-	-	-	-	
11	Americans with Disabilities Act (ADA) Pedestrian Accessibility Improvement Project: Phase 5 (El Toro Road and Santa Maria Avenue)	\$ 145,700	-	-	-	-	-	-	-	-	-	-	-	-	\$ 145,700 **	-	-	-	-	-	-	
12	Drainage Improvement Project (Moulton Parkway at Santa Maria Avenue)	\$ 59,563	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TRANSPORTATION / GREEN SPACES PROJECTS																						
13	El Toro Road Water Efficient Median Improvement Project (Between Calle Sonora and Moulton Parkway) (Design)	\$ 19,250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
14	El Toro Road Water Efficient Median Improvement Project (Between Calle Sonora and Moulton Parkway) (Construction)	\$ 95,000	-	\$ 95,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15	Moulton Parkway Water Efficient Median Improvement Project (Design)	\$ 52,250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
16	Moulton Parkway Water Efficient Median Improvement Project (Construction)	\$ 273,914	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GREEN SPACES PROJECTS																						
17	"A Place for Paws" Dog Park Relocation	\$ 325,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
18	City Centre Park Lighting Improvement Project	\$ 115,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	\$ 115,000	-	-	
19	Woods End Wilderness Preserve Trail Drainage and Improvement Project	\$ 101,396	-	-	-	\$ 101,396	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BUILDING PROJECTS																						
20	City Hall Restroom Repair and Improvement Project (Construction)	\$ 283,363	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
21	City Hall Refurbishment and Safety Project: Phase 1 (Design)	\$ 22,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
22	City Hall Refurbishment and Safety Project: Phase 1 (Construction)	\$ 165,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
23	City Hall Emergency Backup Generator Project (Design)	\$ 60,000	\$ 60,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
24	City Hall Emergency Backup Generator Project (Construction)	\$ 385,000	-	-	-	\$ 385,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
25	City Hall Television Broadcast Improvement Project	\$ 75,000	-	-	-	-	-	\$ 75,000 ***	-	-	-	-	-	-	-	-	-	-	-	-	-	
TOTAL (ALL PROJECTS)		\$ 4,606,786	\$ 60,000	\$ 205,250	\$ 145,700	\$ -	\$ 486,396	\$ -	\$ 75,000	\$ -	\$ -	\$ 17,500	\$ 145,700	\$ -	\$ -	\$ -	\$ 145,700	\$ -	\$ 115,000	\$ -	\$ -	\$ -

CITY OF LAGUNA WOODS
Fiscal Years 2019-20 through 2023-24 Capital Improvement Program - Projected Funding Plan

EXPENDITURES		Year 3				Year 4				Year 5				Year 6				Year 7					
#	Project Title	Estimated Project Cost	Projected FY 19-20 (General Fund)	Projected FY 19-20 (Transportation Funds)	Projected FY 19-20 (Other)	Amount Unfunded (If Partially Funded)	Projected FY 20-21 (General Fund)	Projected FY 20-21 (Transportation Funds)	Projected FY 20-21 (Other)	Amount Unfunded (If Partially Funded)	Projected FY 21-22 (General Fund)	Projected FY 21-22 (Transportation Funds)	Projected FY 21-22 (Other)	Amount Unfunded (If Partially Funded)	Projected FY 22-23 (General Fund)	Projected FY 22-23 (Transportation Funds)	Projected FY 22-23 (Other)	Amount Unfunded (If Partially Funded)	Projected FY 23-24 (General Fund)	Projected FY 23-24 (Transportation Funds)	Projected FY 23-24 (Other)	Amount Unfunded (If Partially Funded)	
TRANSPORTATION-RELATED OPERATIONS & MAINTENANCE****																							
A	Measure M2 Fair Share Expenditures																						
	Street Lighting - Public Right-of-Way		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Contract - Traffic Engineering		\$ 163,600	-	-	-	-	\$ 167,440	-	-	-	\$ 167,440	-	-	-	\$ 167,440	-	-	-	-	\$ 167,440	-	
	Contract - Traffic Signal Maintenance		\$ 52,682	-	-	-	-	\$ 53,048	-	-	-	\$ 54,359	-	-	-	\$ 54,359	-	-	-	-	\$ 54,359	-	
	Vendor Reimbursements (Prior Year Charges)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Allowable Overhead Costs		\$ 700	-	-	-	-	\$ 750	-	-	-	\$ 750	-	-	-	\$ 700	-	-	-	-	-	\$ 700	
	TOTAL		\$ 216,982	\$ -	\$ -	\$ -	\$ -	\$ 221,238	\$ -	\$ -	\$ -	\$ -	\$ 222,549	\$ -	\$ -	\$ -	\$ 222,499	\$ -	\$ -	\$ -	\$ -	\$ 222,499	\$ -

* This project is contingent on the City receiving external funding. The City anticipates receiving Community Development Block Grant (CDBG) funding.
 ** This project is contingent on the City receiving external funding. The City anticipates applying for Community Development Block Grant (CDBG) funding.
 *** This project would be funded using Public, Educational, and Governmental ("PEG") fees.
 **** This information is provided at the direction of the Orange County Transportation Authority. Operations and maintenance expenses are not capital improvement projects.

RESOLUTION NO. 17-XX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LAGUNA WOODS, CALIFORNIA, AMENDING AND ADOPTING THE SEVEN-YEAR CAPITAL IMPROVEMENT PLAN FOR FISCAL YEARS 2017-18 THROUGH 2023-24 IN COMFORMANCE WITH MEASURE M2 AND ROAD REPAIR AND ACCOUNTABILITY ACT OF 2017 REQUIREMENTS

WHEREAS, the City of Laguna Woods (“City”) seeks to maintain its eligibility to receive apportionments of Measure M2 sales tax revenues and Road Repair and Accountability Act of 2017 revenues that can be used to fund transportation-related projects and programs; and

WHEREAS, a prerequisite of such eligibility for the City is the annual filing of a Measure M2 eligibility package for review and approval by the Orange County Transportation Authority; and

WHEREAS, one component of the Measure M2 eligibility package is the preparation and adoption of a Seven-Year Capital Improvement Program (“CIP”) which includes, at a minimum, all projects and programs which are needed to meet and maintain adopted levels of service performance standards, in addition to all projects and programs proposed to receive Measure M2 funding; and

WHEREAS, the Road Repair and Accountability Act of 2017 includes a Road Maintenance and Rehabilitation Account (“RMRA”) with certain budgeting and annual reporting requirements in order to receive an apportionment of RMRA funds from the State Controller in a fiscal year; and

WHEREAS, the Fiscal Year 2017-18 expenditures identified in the CIP are consistent with the City’s adopted Fiscal Year 2017-18 Budget; and

WHEREAS, the Fiscal Year 2018-19 expenditures identified in the CIP are consistent with the City’s adopted Fiscal Year 2018-19 Budget; and

WHEREAS, the CIP, for the purpose of Measure M2 eligibility, is recognized as a program and project finance and planning tool to assist local governments in the long-term development and funding of transportation-related programs and projects, and not a budget commitment beyond the fiscal year(s) for which budgets have been adopted by the City Council; and

WHEREAS, the CIP is updated annually to include adjustments to funding and project schedules; and

WHEREAS, subsequent to the adoption of the Budget, the City Council added the “ ‘A Place for Paws’ Dog Park Relocation Project” (“Project”) to the City’s Capital Improvement Program for Fiscal Year 2017-18; and

WHEREAS, staff has recommended that the City Council amend the CIP for Fiscal Years 2017-18 through 2023-24 to ensure completeness.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF LAGUNA WOODS, DOES HEREBY RESOLVE, DECLARE, DETERMINE AND ORDER AS FOLLOWS:

SECTION 1. The City’s Seven-Year Capital Improvement Program for Fiscal Years 2017-18 through 2023-24 is amended and adopted in conformance with Measure M2 and Road Repair and Accountability Act of 2017 requirements, as attached hereto as Exhibit A and incorporated herein by reference.

SECTION 2. The Deputy City Clerk shall certify to the adoption of this resolution.

PASSED, APPROVED AND ADOPTED on this XX day of XX 2017.

SHARI L. HORNE, Mayor

ATTEST:

YOLIE TRIPPY, Deputy City Clerk

STATE OF CALIFORNIA)
COUNTY OF ORANGE) ss.
CITY OF LAGUNA WOODS)

I, YOLIE TRIPPY, Deputy City Clerk of the City of Laguna Woods, do
HEREBY CERTIFY that the foregoing **Resolution No. 17-XX** was duly adopted
by the City Council of the City of Laguna Woods at a regular meeting thereof, held
on the XX day of XX 2017, by the following vote:

AYES: COUNCILMEMBERS:
NOES: COUNCILMEMBERS:
ABSENT: COUNCILMEMBERS:

YOLIE TRIPPY, Deputy City Clerk

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CITY OF LAGUNA WOODS
Fiscal Years 2017-18 and 2018-19 Capital Improvement Program - Funding Plan

EXPENDITURES		FY 14-15	FY 15-16	FY 2016-17	Year 1				Year 2					
#	Project Title	Estimated Project Cost	Funded FY 14-15	Funded FY 15-16	Funded FY 16-17	Amount Unfunded (If Partially Funded)	Budget FY 17-18 (General Fund)	Budget FY 17-18 (Transportation Funds)	Proposed FY 17-18 (Other)	Amount Unfunded (If Partially Funded)	Budget FY 18-19 (General Fund)	Budget FY 18-19 (Transportation Funds)	Budget FY 18-19 (Other)	Amount Unfunded (If Partially Funded)
TRANSPORTATION PROJECTS														
1	El Toro Road Traffic Signal Synchronization Project	\$ 642,500	\$ 720	\$ 611,800	\$ 29,980	-	-	-	-	-	-	-	-	-
2	Moulton Parkway Traffic Signal Synchronization Project	\$ 808,050	\$ 1,440	\$ 736,850	\$ 69,760	-	-	-	-	-	-	-	-	-
3	Pavement Management Plan Project (Westbound El Toro Road between Avenida Sevilla and Paseo de Valencia)	\$ 157,500	-	-	-	-	-	\$ 157,500 *	-	-	-	-	-	-
4	Pavement Management Plan Project (Eastbound El Toro Road between Avenida Sevilla and Church Intersection)	\$ 110,250	-	-	-	-	-	-	-	-	-	\$ 110,250 **	-	-
5	Pavement Management Plan Project (Westbound El Toro Road between Avenida Sevilla and Church Intersection)	\$ 110,250	-	-	-	-	-	-	-	-	-	-	-	-
6	Pavement Management Plan Project (Eastbound Ridge Route Drive between Moulton Parkway and Ridge Route Linear Park)	\$ 17,500	-	-	-	-	-	-	-	-	-	-	-	-
7	Americans with Disabilities Act (ADA) Pedestrian Accessibility Improvement Project: Phase 1 (Moulton Parkway)	\$ 145,700	-	-	-	-	-	-	\$ 145,700 ***	-	-	-	-	-
8	Americans with Disabilities Act (ADA) Pedestrian Accessibility Improvement Project: Phase 2 (El Toro Road and Moulton Parkway)	\$ 145,700	-	-	-	-	-	-	-	-	-	-	\$ 145,700 ****	-
9	Americans with Disabilities Act (ADA) Pedestrian Accessibility Improvement Project: Phase 3 (El Toro Road)	\$ 145,700	-	-	-	-	-	-	-	-	-	-	-	-
10	Americans with Disabilities Act (ADA) Pedestrian Accessibility Improvement Project: Phase 4 (Moulton Parkway and Santa Maria Avenue)	\$ 145,700	-	-	-	-	-	-	-	-	-	-	-	-
11	Americans with Disabilities Act (ADA) Pedestrian Accessibility Improvement Project: Phase 5 (El Toro Road and Santa Maria Avenue)	\$ 145,700	-	-	-	-	-	-	-	-	-	-	-	-
12	Drainage Improvement Project (Moulton Parkway at Santa Maria Avenue)	\$ 59,563	-	-	-	-	\$ 59,563	-	-	-	-	-	-	-
TRANSPORTATION / GREEN SPACES PROJECTS														
13	El Toro Road Water Efficient Median Improvement Project (Between Calle Sonora and Moulton Parkway) (Design)	\$ 19,250	-	-	-	-	-	-	-	-	-	\$ 19,250	-	-

CITY OF LAGUNA WOODS
Fiscal Years 2017-18 and 2018-19 Capital Improvement Program - Funding Plan

EXPENDITURES		FY 14-15	FY 15-16	FY 2016-17	Year 1				Year 2					
#	Project Title	Estimated Project Cost	Funded FY 14-15	Funded FY 15-16	Funded FY 16-17	Amount Unfunded (If Partially Funded)	Budget FY 17-18 (General Fund)	Budget FY 17-18 (Transportation Funds)	Proposed FY 17-18 (Other)	Amount Unfunded (If Partially Funded)	Budget FY 18-19 (General Fund)	Budget FY 18-19 (Transportation Funds)	Budget FY 18-19 (Other)	Amount Unfunded (If Partially Funded)
TRANSPORTATION / GREEN SPACES PROJECTS (continued)														
14	El Toro Road Water Efficient Median Improvement Project (Between Calle Sonora and Moulton Parkway) (Construction)	\$ 95,000	-	-	-	-	-	-	-	-	-	-	-	-
15	Moulton Parkway Water Efficient Median Improvement Project (Design)	\$ 52,250	-	\$ 52,250	-	-	-	-	-	-	-	-	-	-
16	Moulton Parkway Water Efficient Median Improvement Project (Construction)	\$ 273,914	-	-	\$ 273,914	-	-	-	-	-	-	-	-	-
GREEN SPACES PROJECTS														
17	"A Place for Paws" Dog Park Relocation Project	\$ 325,000	-	-	-	-	\$ 325,000	-	-	-	-	-	-	-
18	City Centre Park Lighting Improvement Project	\$ 115,000	-	-	-	-	-	-	-	-	-	-	-	-
19	Woods End Wilderness Preserve Trail Drainage and Improvement Project	\$ 101,396	-	-	-	-	-	-	-	-	-	-	-	-
BUILDING PROJECTS														
20	City Hall Restroom Repair and Improvement Project (Construction)	\$ 283,363	-	-	-	-	\$ 283,363	-	-	-	-	-	-	-
21	City Hall Refurbishment and Safety Project: Phase 1 (Design)	\$ 22,500	-	-	-	-	\$ 22,500	-	-	-	-	-	-	-
22	City Hall Refurbishment and Safety Project: Phase 1 (Construction)	\$ 165,000	-	-	-	-	-	-	-	\$ 165,000	-	-	-	-
23	City Hall Emergency Backup Generator Project (Design)	\$ 60,000	-	-	-	-	-	-	-	-	-	-	-	-
24	City Hall Emergency Backup Generator Project (Construction)	\$ 385,000	-	-	-	-	-	-	-	-	-	-	-	-
25	City Hall Television Broadcast Improvement Project	\$ 75,000	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL (ALL PROJECTS)		\$ 4,606,786	\$ 2,160	\$ 1,400,900	\$ 373,654	\$ -	\$ 690,426	\$ 157,500	\$ 145,700	\$ -	\$ 165,000	\$ 129,500	\$ 145,700	\$ -
TRANSPORTATION-RELATED OPERATIONS & MAINTENANCE*****														
A	Measure M2 Fair Share Expenditures													
	Street Lighting - Public Right-of-Way	\$ 22,501	\$ 27,006	\$ 25,329	-	-	-	\$ 25,761	-	-	-	\$ 26,367	-	-
	Contract - Traffic Engineering	\$ 119,429	\$ 122,126	\$ 165,600	-	-	-	\$ 163,600	-	-	-	\$ 163,600	-	-
	Contract - Traffic Signal Maintenance	\$ 35,502	\$ 23,843	\$ 41,505	-	-	-	\$ 51,983	-	-	-	\$ 52,325	-	-
	Vendor Reimbursements (Prior Year Charges)	\$ (9,495)	-	-	-	-	-	-	-	-	-	-	-	-
	Allowable Overhead Costs	\$ 1,535	\$ 600	\$ 600	-	-	-	\$ 700	-	-	-	\$ 700	-	-
TOTAL		\$ 169,472	\$ 173,575	\$ 233,034	\$ -	\$ -	\$ -	\$ 242,044	\$ -	\$ -	\$ -	\$ 242,992	\$ -	\$ -

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 **** This project is contingent on the City receiving external funding. The City anticipates applying for Community Development Block Grant (CDBG) funding.
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CITY OF LAGUNA WOODS
Fiscal Years 2019-20 through 2023-24 Capital Improvement Program - Projected Funding Plan

EXPENDITURES		Year 3				Year 4				Year 5				Year 6				Year 7				
		Estimated Project Cost	Projected FY 19-20 (General Fund)	Projected FY 19-20 (Transportation Funds)	Projected FY 19-20 (Other)	Amount Unfunded (If Partially Funded)	Projected FY 20-21 (General Fund)	Projected FY 20-21 (Transportation Funds)	Projected FY 20-21 (Other)	Amount Unfunded (If Partially Funded)	Projected FY 21-22 (General Fund)	Projected FY 21-22 (Transportation Funds)	Projected FY 21-22 (Other)	Amount Unfunded (If Partially Funded)	Projected FY 22-23 (General Fund)	Projected FY 22-23 (Transportation Funds)	Projected FY 22-23 (Other)	Amount Unfunded (If Partially Funded)	Projected FY 23-24 (General Fund)	Projected FY 23-24 (Transportation Funds)	Projected FY 23-24 (Other)	Amount Unfunded (If Partially Funded)
TRANSPORTATION PROJECTS																						
1	El Toro Road Traffic Signal Synchronization Project	\$ 642,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2	Moulton Parkway Traffic Signal Synchronization Project	\$ 808,050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3	Pavement Management Plan Project (Westbound El Toro Road between Avenida Sevilla and Paseo de Valencia)	\$ 157,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4	Pavement Management Plan Project (Eastbound El Toro Road between Avenida Sevilla and Church Intersection)	\$ 110,250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5	Pavement Management Plan Project (Westbound El Toro Road between Avenida Sevilla and Church Intersection)	\$ 110,250	-	\$ 110,250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6	Pavement Management Plan Project (Eastbound Ridge Route Drive between Moulton Parkway and Ridge Route Linear Park)	\$ 17,500	-	-	-	-	-	-	-	-	\$ 17,500	-	-	-	-	-	-	-	-	-	-	
7	Americans with Disabilities Act (ADA) Pedestrian Accessibility Improvement Project: Phase 1 (Moulton Parkway)	\$ 145,700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
8	Americans with Disabilities Act (ADA) Pedestrian Accessibility Improvement Project: Phase 2 (El Toro Road and Moulton Parkway)	\$ 145,700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9	Americans with Disabilities Act (ADA) Pedestrian Accessibility Improvement Project: Phase 3 (El Toro Road)	\$ 145,700	-	-	\$ 145,700 *	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10	Americans with Disabilities Act (ADA) Pedestrian Accessibility Improvement Project: Phase 4 (Moulton Parkway and Santa Maria Avenue)	\$ 145,700	-	-	-	-	-	-	-	-	-	\$ 145,700 **	-	-	-	-	-	-	-	-	-	
11	Americans with Disabilities Act (ADA) Pedestrian Accessibility Improvement Project: Phase 5 (El Toro Road and Santa Maria Avenue)	\$ 145,700	-	-	-	-	-	-	-	-	-	-	-	\$ 145,700 **	-	-	-	-	-	-	-	
12	Drainage Improvement Project (Moulton Parkway at Santa Maria Avenue)	\$ 59,563	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TRANSPORTATION / GREEN SPACES PROJECTS																						
13	El Toro Road Water Efficient Median Improvement Project (Between Calle Sonora and Moulton Parkway) (Design)	\$ 19,250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
14	El Toro Road Water Efficient Median Improvement Project (Between Calle Sonora and Moulton Parkway) (Construction)	\$ 95,000	-	\$ 95,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15	Moulton Parkway Water Efficient Median Improvement Project (Design)	\$ 52,250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
16	Moulton Parkway Water Efficient Median Improvement Project (Construction)	\$ 273,914	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
GREEN SPACES PROJECTS																						
17	"A Place for Paws" Dog Park Relocation	\$ 325,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
18	City Centre Park Lighting Improvement Project	\$ 115,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	\$ 115,000	-	-	
19	Woods End Wilderness Preserve Trail Drainage and Improvement Project	\$ 101,396	-	-	-	\$ 101,396	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BUILDING PROJECTS																						
20	City Hall Restroom Repair and Improvement Project (Construction)	\$ 283,363	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
21	City Hall Refurbishment and Safety Project: Phase 1 (Design)	\$ 22,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
22	City Hall Refurbishment and Safety Project: Phase 1 (Construction)	\$ 165,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
23	City Hall Emergency Backup Generator Project (Design)	\$ 60,000	\$ 60,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
24	City Hall Emergency Backup Generator Project (Construction)	\$ 385,000	-	-	-	\$ 385,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
25	City Hall Television Broadcast Improvement Project	\$ 75,000	-	-	-	-	-	\$ 75,000 ***	-	-	-	-	-	-	-	-	-	-	-	-	-	
TOTAL (ALL PROJECTS)		\$ 4,606,786	\$ 60,000	\$ 205,250	\$ 145,700	\$ -	\$ 486,396	\$ -	\$ 75,000	\$ -	\$ -	\$ 17,500	\$ 145,700	\$ -	\$ -	\$ -	\$ 145,700	\$ -	\$ 115,000	\$ -	\$ -	\$ -

8.2 SPEED LIMITS ON CITY STREETS

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City of Laguna Woods

Agenda Report

TO: Honorable Mayor and City Councilmembers

FROM: Christopher Macon, City Manager

FOR: October 18, 2017 Regular Meeting

SUBJECT: Speed Limits on City Streets

Recommendation

Approve the introduction and first reading of an ordinance – read by title with further reading waived – entitled:

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF LAGUNA WOODS, CALIFORNIA, AMENDING SECTION 8.06.010 OF THE LAGUNA WOODS MUNICIPAL CODE RELATED TO THE ADOPTION AND ESTABLISHMENT OF SPEED LIMITS ON EL TORO ROAD, MOULTON PARKWAY, RIDGE ROUTE DRIVE, AND SANTA MARIA AVENUE, INCLUDING AN INCREASED SPEED LIMIT ON EL TORO ROAD BETWEEN AVENIDA SEVILLA AND PASEO DE VALENICA, AND RE-ADOPTION AND RE-ESTABLISHMENT OF OTHER EXISTING SPEED LIMITS

Background

The process by which cities must establish and periodically review speed limits is set forth in the California Vehicle Code. In general, the law is based on the premise that the majority of motorists (85%) drive in a reasonable manner intended to avoid collisions and dangerous conditions. Therefore, speed limits are typically required to be established at the closest five mile per hour increment to the speed traveled by the majority of motorists (the “85th percentile speed”), unless unusual conditions – such as limited sight distance – exist. Cities are not able to simply lower speed limits based on perceptions that motorists are driving “too fast” or at unsafe speeds,

unless an engineering and traffic survey is performed in accordance with state law and yields data that validates those perceptions.

Earlier this fiscal year, staff solicited proposals from several traffic engineering consultants and selected Hartzog & Crabill, Inc. to perform an engineering and traffic survey for speed limits on City streets (Attachment B). Hartzog & Crabill, Inc. has performed similar work for the City in the past, as well as for the cities of Laguna Hills, Laguna Niguel, Lake Elsinore, San Juan Capistrano, and others.

The engineering and traffic survey studied the following City street segments:

Table 1: City Street Segments Surveyed

Street	Segment
El Toro Road	Aliso Creek Road to Calle Corta
El Toro Road	Calle Corta to Calle Sonora
El Toro Road	Calle Sonora to Moulton Parkway
El Toro Road	Moulton Parkway to Avenida Sevilla
El Toro Road	Avenida Sevilla to Paseo de Valencia
Moulton Parkway	Santa Maria Avenue to El Toro Road
Moulton Parkway	El Toro Road to Calle Cortez
Moulton Parkway	Calle Cortez to South City Limits
Ridge Route Drive	Moulton Parkway to East City Limits
Santa Maria Avenue	Moulton Parkway to Via Vista
Santa Maria Avenue	Santa Vittoria to Avenida Sosiega

The engineering and traffic survey included the review of three years of accident information provided by the Orange County Sheriff's Department for each of the City street segments surveyed.

Discussion

Today's meeting is an opportunity for City Council action, as well as public input, on the proposed amendments to Section 8.06.010 of the Laguna Woods Municipal Code related to the establishment of speed limits on El Toro Road, Moulton Parkway, Ridge Route Drive, and Santa Maria Avenue, including an increased speed limit on El Toro Road between Avenida Sevilla and Paseo de Valenica, and re-adoption and re-establishment of other existing speed limits (Attachment A). Staff recommends that the City Council initiate adoption of the proposed ordinance, in order to ensure compliance with state law.

Based on the engineering and traffic survey, City staff, the City Traffic Engineer, and Hartzog & Crabill, Inc. recommend that the City Council increase the speed limit on El Toro Road between Avenida Sevilla and Paseo de Valencia from 35 to 40 miles per hour. The speed limit on El Toro Road immediately west of Avenida Sevilla is 40 miles per hour. The speed limit on El Toro Road immediately east of Paseo de Valencia (in the City of Laguna Hills) is 35 miles per hour. If approved, the proposed speed limit change would result in a consistent 40 mile per hour speed limit along El Toro Road between Moulton Parkway and Paseo de Valencia.

With the exception of the speed limit on El Toro Road between Avenida Sevilla and Paseo de Valencia, all other speed limits are proposed to remain unchanged.

If the City Council takes the recommended action at today's meeting, the proposed ordinance would be agendized for a second reading and consideration of adoption at an upcoming meeting. The ordinance would take effect 30 days after adoption.

Environmental Review

This project is exempt from review under the California Environmental Quality Act ("CEQA") pursuant to sections 15061(b)(3) and 15078(b) of Title 14 of the California Code of Regulations, in that the project is not a project which has the potential for causing a significant effect on the environment and is a governmental activity that will not result in direct or indirect physical changes in the environment.

Fiscal Impact

Funds to support this project are included in the City's budget. The cost to purchase and install signage related to the recommended speed limit change is estimated at less than \$1,000 and could be accommodated within existing budgets.

Attachments: A – Proposed Ordinance
 Exhibit A – Code Amendment Text
 B – Engineering and Traffic Survey (dated September 2017)

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ORDINANCE NO. 17-XX

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF LAGUNA WOODS, CALIFORNIA, AMENDING SECTION 8.06.010 OF THE LAGUNA WOODS MUNICIPAL CODE RELATED TO THE ADOPTION AND ESTABLISHMENT OF SPEED LIMITS ON EL TORO ROAD, MOULTON PARKWAY, RIDGE ROUTE DRIVE, AND SANTA MARIA AVENUE, INCLUDING AN INCREASED SPEED LIMIT ON EL TORO ROAD BETWEEN AVENIDA SEVILLA AND PASEO DE VALENICA, AND RE-ADOPTION AND RE-ESTABLISHMENT OF OTHER EXISTING SPEED LIMITS

WHEREAS, the California Vehicle Code sets forth the process by which speed limits must be established and periodically reviewed; and

WHEREAS, speed limits for El Toro Road, Moulton Parkway, Ridge Route Drive, and Santa Maria Avenue are codified at Section 8.06.010 of the Laguna Woods Municipal Code; and

WHEREAS, an Engineering and Traffic Survey has been performed by the engineering consulting firm of Hartzog & Crabill, Inc. (dated September 2017), in accordance with applicable state law, to determine whether changes in pre-existing conditions have occurred where older speed limits should be modified; and

WHEREAS, the Engineering and Traffic Survey performed by Hartzog & Crabill, Inc. (dated September 2017) recommends no change in the speed limits for 10 of the 11 street segments studied, and an increase in the speed limit for El Toro Road between Avenida Sevilla and Paseo de Valencia from 35 miles per hour to 40 miles per hour; and

WHEREAS, City staff and the City Traffic Engineer have reviewed and concur with the recommendations contained in the Engineering and Traffic Survey performed by Hartzog & Crabill, Inc. (dated September 2017), and recommend amendments to the existing speed limits as set forth in the attached Exhibit A to this Ordinance (the “Code Amendments”); and

WHEREAS, on October 18, 2017, the City Council was presented with the Engineering and Traffic Survey performed by Hartzog & Crabill, Inc. (dated September 2017) and had an opportunity to consider all of the information, evidence, and comments presented, both written and oral.

THE CITY COUNCIL OF THE CITY OF LAGUNA WOODS DOES HEREBY ORDAIN AS FOLLOWS:

SECTION 1. The City Council hereby finds and determines that (i) each of the recitals to this Ordinance are true and correct, and are adopted herein as findings; (ii) the Code Amendments comply with all applicable requirements of state law; (iii) the Code Amendments will not adversely affect the health, safety, or welfare of the residents within the community; (iv) the Code Amendments are in the public interest of the City of Laguna Woods; and, (v) the Code Amendments are consistent with the Laguna Woods General Plan and its various elements.

SECTION 2. After reviewing the entire project record, the City Council hereby determines and certifies that the Code Amendments are exempt from review under the California Environmental Quality Act (“CEQA”) pursuant to sections 15061(b)(3) and 15078(b) of Title 14 of the California Code of Regulations, in that the Code Amendments are not a project which has the potential for causing a significant effect on the environment and are a governmental activity that will not result in direct or indirect physical changes in the environment.

SECTION 3. Section 8.06.010 of the Laguna Woods Municipal Code is hereby amended to read as set forth in Exhibit A, attached to this Ordinance and incorporated herein by this reference.

SECTION 4. This Ordinance shall take effect and be in full force and operation thirty (30) days after adoption.

SECTION 5. If any section, subsection, subdivision, paragraph, sentence, clause, or phrase added by this Ordinance, or any part thereof, is for any reason held to be unconstitutional or invalid or ineffective by any court of competent jurisdiction, such decision shall not affect the validity or effectiveness of the remaining portions of this Ordinance or any part thereof. The City Council hereby declares that it would have passed each section, subsection, subdivision, paragraph, sentence, clause, or phrase thereof irrespective of the fact that any one or more subsections, subdivisions, paragraphs sentences, clauses, or phrases are declared unconstitutional, invalid, or ineffective.

SECTION 6. The Deputy City Clerk shall certify to the passage of this Ordinance and shall cause this Ordinance to be published or posted as required by law.

SECTION 7. All of the above-referenced documents and information have been and are on file with the City Clerk of the City.

PASSED, APPROVED AND ADOPTED this XX day of XX 2017.

SHARI L. HORNE, Mayor

ATTEST:

YOLIE TRIPPY, Deputy City Clerk

APPROVED AS TO FORM:

DAVID B. COSGROVE, City Attorney

STATE OF CALIFORNIA)
COUNTY OF ORANGE) ss.
CITY OF LAGUNA WOODS)

I, YOLIE TRIPPY, Deputy City Clerk of the City of Laguna Woods, do HEREBY CERTIFY that the foregoing **Ordinance No. 17-XX** was duly introduced and placed upon its first reading at a regular meeting of the City Council on the XX day of XX 2017, and that thereafter, said Ordinance was duly adopted and passed at a regular meeting of the City Council on the XX day of XX 2017 by the following vote to wit:

AYES: COUNCILMEMBERS:
NOES: COUNCILMEMBERS:
ABSENT: COUNCILMEMBERS:

YOLIE TRIPPY, Deputy City Clerk

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**EXHIBIT A
CODE AMENDMENTS**

Section 8.06.010 (“Speed limits”) of Chapter 8.06 (“Vehicle Operation”) of Title 8 (“Traffic Control”) of the Laguna Woods Municipal Code is repealed in its entirety and replaced with the following:

Sec. 8.06.010. - Speed limits.

The following speed limits are established:

Street	Segment	Speed Limit
El Toro Road	Aliso Creek Road to Calle Corta	50 miles per hour
El Toro Road	Calle Corta to Calle Sonora	50 miles per hour
El Toro Road	Calle Sonora to Moulton Parkway	45 miles per hour
El Toro Road	Moulton Parkway to Avenida Sevilla	40 miles per hour
El Toro Road	Avenida Sevilla to Paseo de Valencia	40 miles per hour
Moulton Parkway	Santa Maria Avenue to El Toro Road	45 miles per hour
Moulton Parkway	El Toro Road to Calle Cortez	45 miles per hour
Moulton Parkway	Calle Cortez to South City Limits	45 miles per hour
Ridge Route Drive	Moulton Parkway to East City Limits	45 miles per hour
Santa Maria Avenue	Moulton Parkway to Via Vista	40 miles per hour
Santa Maria Avenue	Santa Vittoria to Avenida Sosiega	40 miles per hour

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**ENGINEERING AND TRAFFIC SURVEY
FOR SPEED LIMITS**

CITY OF LAGUNA WOODS

SEPTEMBER 2017

PREPARED FOR:

**CITY OF LAGUNA WOODS
24264 EL TORO ROAD
LAGUNA WOODS, CALIFORNIA 92637**

PREPARED BY:

**HARTZOG & CRABILL, INC.
17852 EAST 17TH STREET, SUITE 101
TUSTIN, CA 92780
(714) 731-9455**

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CERTIFICATION

I, Gerald Stock, do hereby certify that this Engineering and Traffic Survey for the City of Laguna Woods was performed under my supervision and is accurate and complete. I certify that I am both experienced in performing surveys of this type and duly registered in the State of California as a professional Traffic Engineer.


Gerald Stock
RTE # 2049



**CITY OF LAGUNA WOODS
ENGINEERING AND TRAFFIC SURVEY FOR SPEED LIMITS**

In accordance with procedures established by the State of California, this Engineering and Traffic Survey has been developed for the City of Laguna Woods as the basis for the establishment and enforcement of speed limits for selected streets within the City. The work provided herein was authorized by the City and was performed by the engineering consulting firm of Hartzog & Crabill, Inc. The goal of the survey was to determine whether changes in pre-existing conditions have occurred where older speed limits should be modified.

The requirement to perform Engineering and Traffic surveys for speed limits is based on the California Vehicle Code (CVC). CVC Section 40802 states that at least once every five (5), seven (7) or ten (10) years, States and local agencies should re-evaluate non-statutory speed limits on segments of their roadways. Engineering and Traffic Surveys must be performed with the use of radar or other approved electronic devices if the use of radar is to be employed to enforce speed limits. If such a survey is not performed within five years (or seven years, or 10 years as stated previously) of the date of the preceding survey, then the new data and its use will constitute a speed trap. Hence, evidence using such would not be admissible in court. From the Vehicle Code, a "speed trap" is either of the following:

- (a) A particular section of a highway measured as to distance and with boundaries marked, designated, or otherwise determined in order that the speed of a vehicle may be calculated by securing the time it takes the vehicle to travel the known distance.
- (b) A particular section of a highway with a prima facie speed limit provided by this code or by local ordinance under sub-paragraph (A) of paragraph (2) of subdivision (a) of Section 22352, or established pursuant to Section 22354, 22357, 22358, or 22358.3 if that prima facie speed limit is not justified by an engineering and traffic survey conducted within five years prior to the date of the alleged violation, and where enforcement involves the use of radar or other electronic devices that measures the speed of moving objects. This paragraph does not apply to a local street, road, or school zone.

The definition of a Traffic and Engineering Survey is contained in Section 627 of the Vehicle Code and is as follows:

Engineering and Traffic survey, as used in this code, means a survey of highway and traffic conditions in accordance with methods determined by the California Department of Transportation (Caltrans) for use by State and local authorities. An Engineering and Traffic survey shall include, among other requirements deemed necessary by the State Department of Transportation, consideration of the following:

- (a) Prevailing speeds as determined by traffic engineering measurements.
- (b) Accident records.
- (c) Highway, traffic and roadside conditions not readily apparent to the driver.

The California Vehicle code has set certain regulations regarding the posting and enforcement of speed zones. These regulations generally reflect the viewpoint that speed zoning should be based on traffic conditions and natural driver behavior and not because of an arbitrary response to a traffic event or occurrence. Therefore, it is important to have a general understanding of the "Basic Speed Law", "Prima Facie Speed Limits" and "Intermediate Speed Zones".

Basic Speed Law (CVC 22350)

All fifty states base their speed regulations on the Basic Speed Law. In California, CVC 22350 defines the basic speed law as:

"No Person shall drive a vehicle upon a highway at a speed greater than is reasonable or prudent having due regard for weather, visibility, the traffic on, and the surface and width of the highway, and in no event at a speed which endangers the safety of persons or property."

This law recognizes that driving conditions vary widely from time-to-time and place-to-place and, therefore, no set of fixed driving rules will adequately serve all conditions. The motorist will constantly adjust their driving behavior to fit the conditions encountered, and must learn to do this with a minimum of assistance from the police. The Basic Speed Law is founded on the belief that a majority of motorists are able to modify their driving behavior properly, as long as they are aware of the conditions around them.

Prima Facie Speed Limits (CVC 22352)

All other speed limits are prima facie limits which, "on the face of it", are reasonable and prudent under normal conditions. The opportunity given to the driver to exceed a prima facie speed limit when it is safe to do so recognizes the fact that any posted speed limit cannot adequately reflect the many different conditions of traffic, weather, visibility, etc., that may be found on the same highway at different times.

Certain prima facie limits are automatically established by law (CVC 22352), including a 15 mph limit in alleys, blind intersections, blind railroad crossing, and the 25 mph limit in business and residence districts. There is also a part time 25 mph limit in school zones when children are present in route to or from school.

Business and residence districts are defined in the Vehicle Code as specific areas meeting a specified minimum density of roadside development. CVC Sections 235 and 515 define these regulations. A count of houses or active businesses facing on a highway must be made to determine whether or not a valid business or residence district exists. The law does not require posting these prima facie limits that are readily apparent.

Establishment of Speed Zones

The reason that speed limit areas and their required postings are done is to guard reasonable drivers from the unreasonable behavior of reckless, unreliable, or otherwise dangerous drivers. As with other similar laws, the limits identified are based on the consensus of the majority of

those who drive the highway as to what speed is reasonable and safe. It is this type of information that is reflected in the analysis section of this report. Namely, posted speed limits are a reflection of that speed which most people deem to be safe as opposed to a minority of drivers who do not drive in a reasonable manner.

Speed zones are also established to advise drivers of road conditions or hazards that may not be readily apparent to a reasonable driver. For that reason, a field review of related road/traffic variables is conducted which considers the analytical data and accident history of a particular roadway segment to determine a safe and reasonable speed limit.

Data Collection Procedures

Speed evaluation data was collected at 11 different segments on four different roadways in the Community of Laguna Woods. These areas and the number of segments on each are described as follows:

- | | | |
|-----|--------------------|--------------------------------------|
| 1. | El Toro Road | Aliso Creek to Calle Corta |
| 2. | | Calle Corta to Calle Sonora |
| 3. | | Calle Sonora to Moulton Pkwy |
| 4. | | Moulton Pkwy to Avenida Sevilla |
| 5. | | Avenida Sevilla to Paseo De Valencia |
| 6. | Moulton Parkway | Santa Maria Ave to El Toro Rd |
| 7. | | El Toro Rd to Calle Cortez |
| 8. | | Calle Cortez to South City Limits |
| 9. | Ridge Route Road | Moulton Pkwy to East City Limits |
| 10. | Santa Maria Avenue | Moulton Pkwy to Via Vista |
| 11. | | Santa Vittoria To Avenida Sosiega |

As described in various traffic engineering documents - including information provided by the State of California, the individual locations on which radar data collection procedures were used involved considerations for the following:

- a. Stop sign or traffic signal locations;
- b. Visibility issues;
- c. Traffic flow at intersections, cross-traffic, major driveways, crosswalks, railroad crossings and unusual turning movements; and
- d. The influence of other traffic factors on the speed of cars: such as on street parking, roadway features, adjacent land uses, and lighting.

Speed Zoning Methodology

The California Manual on Uniform Traffic Control Devices (California MUTCD) specifies a "short method" of determining speed limits in cities and counties through Highways, Arterial and Collector Roads Procedures.

Introduction - This short method of speed zoning is based on the premise that the reasonable speed limit is one that conforms to the actual behavior of the majority of motorists, and that by measuring motorist's speeds, one will be able to select a speed limit that is both reasonable and effective. Other factors that need to be considered include, but are not limited to: the most recent two-year collision record, roadway design speed, safe stopping sight distance, superelevation, shoulder conditions, profile conditions, intersection spacing and offsets, commercial driveway characteristics, and pedestrian traffic in the roadway without sidewalks.

Speed Zone Survey

- Only one person is required for the fieldwork. Speeds can be read directly from a radar speed meter.
- A section of road should be selected with representative operating speeds. If speeds vary on a given road, additional surveys should be conducted. In this case, it may be necessary to establish additional speed zones with different speed limits. The section selected should be straight and should have no traffic signal, stop sign or intersection with a major cross street.
- Speed measurements should be taken during off-peak hours on weekdays. The weather should be fair with no unusual conditions prevailing. It is important that the surveyor and the equipment be so inconspicuous as not to affect traffic speeds. For this reason, an unmarked car is recommended, with the radar speed meter located as inconspicuously as possible. It should be placed so as to be able to survey traffic in both directions, and should not make an angle greater than 15 degrees with the roadway centerline.
- It is desirable to have a minimum sample of 100 automobiles in each survey. This may result in excessive survey periods for low-volume roads. Under these conditions, the survey should be conducted for a minimum of two hours, but in no case should the sample for any survey contain less than 50 automobiles.
- The California MUTCD states that speed limits are established at or near the 85th percentile speed, which is defined as that speed at or below which 85 percent of the traffic is moving. This speed can be selected directly from the data sheet. However, roadway conditions not readily apparent to the motorist such as vertical or horizontal curves or other roadway conditions that may impact sight distance may result in a further reduction of 5 mph in the recommended speed limit.
- As a check on the validity of the proposed speed limit, an analysis should be made of the two-year accident record for the section of roadway under consideration. If this record shows an abnormally high percentage of accidents normally associated with excessive speeds, the proposed speed limit should be further reduced. This is a judgment situation, and will not usually be a factor.

- Short speed zones of less than half a mile should be avoided, except in transition areas.
- Speed zone changes should be coordinated with changes in roadway conditions or roadway development.
- Speed zoning in 5 mile per hour increments should be avoided if possible. A 10-mile per hour increment is preferable.
- Speed zoning should be coordinated between adjacent jurisdictions.

Local Street Exemptions (CVC 40802)

Many streets are designated as "Local" streets per CVC 40802. These streets are exempt from the radar study. Therefore, the speed limit for these streets does not require an Engineering and Traffic Survey. The code is as follows:

"For the purpose of this section, local streets and roads shall be defined by the latest functional usage and federal aid system maps as submitted to the Federal Highway Administration. When these maps have not been submitted, the following definition shall be used: A local street or road primarily provides access to abutting residential property and shall meet the following three conditions:

1. Roadway width of not more than 40 feet.
2. Not more than one half mile of uninterrupted length.
3. Not more than one traffic lane in each direction.

Other Considerations

Every street should be inspected for unusual traffic, roadway and roadside conditions not readily apparent to a motorist. A check should be made of the adequacy of traffic control devices, roadway alignment, width surface conditions, accident history and any unique traffic hazards that may exist. Any of these conditions may warrant the selection of a speed lower than the 85th percentile speed for speed zoning.

Radar Collection Time-Frames

The hours of radar operation were restricted to off-peak periods (when possible) for heavily traveled streets and to uncongested peak periods on lightly traveled streets. All surveys were conducted in fair weather.

The radar unit was mounted at the top of the front dash of an unmarked vehicle with the meter-reading unit sustained inside the vehicle. The radar unit's calibration was checked periodically using a tuning fork. The radar operator and assistant recorded the speed meter readings for each location on Radar Speed Survey Field Sheets included in Appendix A of this report. A representative sampling of at least 50 vehicles were surveyed in each direction or a cumulative sample of 100 vehicles for both directions where possible. On low volume roads, where a total

sample of 100 vehicles would result in an excessive time period, sampling was continued until a representative bell-shaped frequency distribution was attained.

Analysis Factors

Several factors were used as input to our recommendations for speed limits. These include the 85th Percentile, the 10 MPH Pace and others. These are described in detail below.

1. The **CRITICAL SPEED**, or the 85th percentile is defined as that speed at or below which 85 % of the traffic is moving. This is one of the key factors in determining appropriate speed limits and complies with State of California requirements.

Hence, the accepted practice, and one that has been used in this case is to set the speed limit at or near the critical speed. This recognizes that other factors could be present where the above may not be appropriate. When this procedure is used, it not only conforms to that required by the State but it also provides a strong base for law enforcement personnel to properly enforce speed limits.

2. The **10 MPH PACE** is that continuous 10 mph incremental range of speeds in which the largest number of recorded vehicles is contained. It is a measure of the dispersion of speeds within the sample surveyed. For this element, the accepted practice to the greatest extent possible, is to try and keep the recommended speed limit within the 10 mph pace after considering the critical speed and any factors requiring a speed lower than the critical speed.
3. The **MEDIAN (MIDDLE) SPEED**, or 50th percentile speed, represents the mid-point value within the range of recorded speeds for a particular roadway location. In other words, 50% of the vehicles travel faster than, and 50% travel slower than the median speeds. This value is another measure of the central tendency of the vehicle speed distribution.
4. The **15th PERCENTILE SPEED** is that speed at or below which 15% of the vehicles are traveling. This value is important in determining the minimum allowable speed limit, given that the vehicles traveling below this speed tend to obstruct the flow of traffic, thereby increasing the accident potential.
5. **MODAL SPEED**: The modal speed is the speed, which occurs most frequently in the distribution (the most). It serves as another useful measure in verifying the correct recommendation for speed limits.
6. **STANDARD DEVIATION**: This is a mathematical element, which relates to measures of dispersion of data. It is used to assist in describing the center of speed distribution information around the arithmetic mean or the time mean speed. It also is used in the overall review of recommended speed limits and serves to verify the level of confidence of data used in making recommendations.
7. The **MEAN (AVERAGE)** is the sum of the speeds of the samples divided by the number of samples.

The numerical values of the above factors are derived from the speed distribution curves calculated for each survey location. These distribution curves represent a method of graphic analysis that compares the cumulative percentage of vehicles to the speed at which the vehicles are traveling.

Field Review

In addition to the availability of the above statistical data, a significant aspect of speed limit recommendations is based on the field review. Its importance is that existing conditions may warrant a lower speed than is actually indicated by the application of survey data. Examples of the field data collected for the purposes of analyzing related roadway characteristics as they pertain to the determination of appropriate speed limits are listed below:

1. Segment length, width and alignment.
2. Level of pedestrian activity.
3. Traffic flow characteristics.
4. Vertical and/or horizontal curves.
5. Driver sight distance constraints.
6. Adjacent residential/commercial/industrial etc. zoning.
7. Number of lanes and other channelization/stripping factors.
8. Frequency of intersections, driveways and on street parking.
9. Location of stop signs, traffic signals, and other regulatory traffic control devices.
10. Roadway conditions, bumps and dips.
11. Obstructions to pedestrian visibility.
12. Land use and proximity of schools.
13. Uniformity with existing speed zones to/with adjacent jurisdictions.
14. Any other unusual conditions not readily apparent to the driver.

The results of the field review of related road/traffic variables are summarized on the Engineering and Traffic Survey forms found in Appendix A of this report.

Accident History

The Engineering and Traffic Survey forms summarize the available three-year accident information for the subject streets rather than the required twenty-four months. The accident information includes the total number of accidents within each street segment and of those accidents, the number that are speed-related. The annual accident rate figures represent the number of speed-related accidents divided by years of accident records. The evaluation of accidents is useful as a check on the accuracy of recommended or existing speed limits. Should this review show a high percentage of accidents associated with excessive speeds, then consideration based on professional traffic engineering judgement should be directed toward reducing the posted or recommended speed limit.

Results and Recommendations

The following Summaries: No Speed Limit Changes, New Speed Limit Postings, Speed Limit Increases, Speed Limit Reductions and Summary of Recommendations presents the results of the radar survey for the selected four streets. As shown, the Summary of Recommendations chart presents the necessary analysis elements that in addition to the field review of a registered traffic engineer, led to the recommendations indicated.

Locations of “No Speed Limit Changes”

Ten of the 11 segments studied are recommended for no speed limit changes. The reason centers mostly on the fact that the newly measured values of the 85th percentile and the 10 mph pace are still within the parameters of the existing speed limits. Additional factors such as the presence of horizontal or vertical curves reducing sight distance form the basis in some instances of our recommendation. Therefore, the current postings should remain as is. The segments recommended for “No Change” are listed below:

El Toro Road

Aliso Creek Rd to Calle Corta	Remain posted at 50 mph
Calle Corta to Calle Sonora	Remain posted at 50 mph
Calle Sonora to Moulton Pkwy	Remain posted at 45 mph
Moulton Pkwy to Avenida Sevilla	Remain posted at 40 mph

Moulton Parkway

Santa Maria Ave to El Toro Rd	Remain posted at 45 mph
El Toro Rd to Calle Cortez	Remain posted at 45 mph
Calle Cortez to South City Limits	Remain posted at 45 mph

Ridge Route Drive

Moulton Pkwy to East City Limits	Remain posted at 45 mph
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Santa Maria Avenue

Moulton Parkway to Via Vista	Remain posted at 40 mph
Santa Vittoria to Avenida Sosiega	Remain posted at 40 mph

Location of Speed Limit Increase

At one location, the Engineering and Traffic Survey data indicates a need for a speed limit increase. The newly measured values of the 85th percentile speeds, the 10 mph pace range, and existing roadway characteristics were factors used to make this recommendation. This segment and reasons for the recommendations are explained below:

El Toro Road

Avenida Sevilla to Paseo de Valencia	Increase from 35 mph to 40 mph
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Support Explanation for “Speed Limit Increase”

El Toro Road

Avenida Sevilla to Paseo de Valencia

This section of El Toro Road is a six lane divided roadway. The adjacent land uses are non-fronting residential gated communities and commercial at Paseo de Valencia. Field observations include a wide off-street pedestrian walkway and bicycle path along south-side of the roadway (golf carts are also permitted to travel on this off-street area between Avenida Sevilla and the commercial at Paseo de Valencia), and a golf cart crossing at Avenida Sevilla.

There are no intersections between the intersection of Avenida Sevilla and Paseo de Valencia, two driveways near the intersection of Paseo de Valencia, and "No Stopping Anytime" due to no shoulders on both sides of the roadway. The speed survey resulted with an 85th percentile speed of 41.5 mph and a 10 mph pace range of 33 to 42 mph. With that, it is recommended that the existing 35 mph speed limit be increased to 40 mph.

**SUMMARY OF RECOMMENDATIONS
2017**

STREET LOCATION	EXISTING SPEED LIMIT	RECOMMENDED SPEED LIMIT	85TH PERCENTILE SPEED	AVERAGE SPEED	10 MPH PACE RANGE	PERCENT OF VEHICLES IN PACE	JUSTIFICATION / COMMENTS
<u>EL TORO ROAD</u>							
ALISO CREEK TO CALLE CORTA	50	50	49.3	42.9	38-47	59.7	NO CHANGE – 85 TH PERCENTILE
CALLE CORTA TO CALLE SONORA	50	50	52.6	48.7	44-53	78.0	NO CHANGE – 85 TH PERCENTILE
CALLE SONORA TO MOULTON PKWY	45	45	44.2	39.4	36-45	72.6	NO CHANGE – 85 TH PERCENTILE
MOULTON PKWY TO AVENIDA SEVILLA	40	40	43.9	38.5	34-43	66.5	NO CHANGE – 85 TH PERCENTILE
AVENIDA SEVILLA TO PASEO DE VALENCIA	35	40	41.5	36.1	33-42	68.2	INCREASE – 85 TH PERCENTILE
<u>MOULTON PARKWAY</u>							
SANTA MARIA AVE TO EL TORO RD	45	45	46.2	42.1	37-46	72.6	NO CHANGE – 85 TH PERCENTILE
EL TORO RD TO CALLE CORTEZ	45	45	47.2	42.8	39-48	75.9	NO CHANGE – 85 TH PERCENTILE
CALLE CORTEZ TO SOUTH CITY LIMITS	45	45	48.4	44.4	40-49	77.1	NO CHANGE – 85 TH PERCENTILE
<u>RIDGE ROUTE DRIVE</u>							
MOULTON PKWY TO EAST CITY LIMITS	45	45	47.4	41.9	39-48	68.1	NO CHANGE – 85 TH PERCENTILE
<u>SANTA MARIA AVENUE</u>							
MOULTON PKWY TO VIA VISTA	40	40	43.9	39.1	36-45	80.6	NO CHANGE – 85 TH PERCENTILE
SANTA VITTORIA TO AVENIDA SOSIEGA	40	40	41.2	37.1	32-41	75.0	NO CHANGE – 85 TH PERCENTILE

APPENDIX A

ENGINEERING AND TRAFFIC SURVEY

CITY OF LAGUNA WOODS

HCI**EL TORO ROAD****ALISO CREEK RD TO CALLE CORTA**

DATE: 8/28/2017

SURVEY BY: HCI - C.BUENDIA

TIME: 12:15 PM - 12:50 PM

CHECKED BY: JERRY STOCK

PREVAILING SPEED DATA	
LOCATION OF SURVEY	EAST OF ALISO CREEK
DATE OF SURVEY	8/28/2017
85th PERCENTILE	49.3 MPH
10 MPH PACE	38 - 47 MPH
PERCENT IN PACE	59.7 %
POSTED SPEED LIMIT	50 MPH

ACCIDENT HISTORY	
NO. OF MONTHS OBSERVED	36
SPEED-RELATED ACCIDENTS	1
TOTAL ACCIDENTS	5
ANNUAL ACCIDENT RATE	0.33 ACCIDENTS PER YEAR (SPEED RELATED ONLY)
ACC./MILLION VEH. MILES	0.23 ACCIDENTS PER MVM (SPEED RELATED ONLY)

TRAFFIC FACTORS	
AVERAGE DAILY TRAFFIC	16,000
LANE CONFIGURATION	3 LANES PER DIRECTION
TRAFFIC CONTROLS	SIGNAL - CALLE CORTA / ALISO CREEK
CROSSWALKS	AT CALLE CORTA / ALISO CREEK
PEDESTRIAN/BICYCLES	FEW / YES
TRUCK TRAFFIC	YES
ON-STREET PARKING	NO STOPPING ANYTIME
OTHER	PAINTED BIKE LANES BUS STOPS

ROADWAY FACTORS	
LENGTH OF SEGMENT (MILES)	0.25
VERTICAL CURVE	SLIGHT UPHILL GRADES (EB)
HORIZONTAL CURVE	GRADUAL "S" CURVES
LATERAL VISIBILITY	LIMITED SIGHT DISTANCE (areas of)
ROAD CONDITIONS	GOOD
SIDEWALKS / DRIVEWAYS	YES / NO
STREET LIGHTING	YES
DRIVEWAY DENSITY	NOMINAL
OTHER	RAISED MEDIAN ISLAND

ADJACENT LAND USE	RESIDENTIAL (NF)
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RECOMMENDED SPEED LIMIT	50 MPH
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SPEED LIMIT CHANGE	NO CHANGE
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JUSTIFICATION:

The recommended speed is within 0.7 mph of the 85th percentile speed and meets CVC standards.

RADAR SPEED DISTRIBUTION SHEET

HCI **CITY OF LAGUNA WOODS**
EL TORO ROAD **ALISO CREEK RD TO CALLE CORTA**
 DATE: 8/28/2017 SURVEY BY: HCI - C.BUENDIA
 TIME: 12:15 PM - 12:50 PM CHECKED BY: JERRY STOCK

SPEED	CUMMULATIVE PERCENT					
	20	40	60	80	100	
60					X	100.0%
59					X	99.5%
58					X	99.1%
57					X	97.6%
56					X	96.7%
55					X	95.3%
54					X	92.4%
53					X	91.9%
52					X	90.5%
51					X	88.6%
50					X	87.7%
49					X	83.9%
48					X	79.1% ---85PCT
47					X	76.3% }PACE
46					X	70.1% }PACE
45					X	64.5% }PACE
44					X	59.2% }PACE
43					X	50.7% }PACE
42					X	46.0% }PACE ---MEAN
41					X	37.9% }PACE
40					X	30.8% }PACE
39					X	25.6% }PACE
38					X	21.8% }PACE
37					X	16.6%
36					X	13.7% ---15PCT
35					X	10.4%
34					X	8.5%
33					X	6.2%
32					X	3.8%
31					X	2.8%
30					X	1.9%
29					X	0.5%
28					X	0.5%
27					X	0.5%
26					X	0.0%
25					X	0.0%
24					X	0.0%
23					X	0.0%
22					X	0.0%
21					X	0.0%
20					X	0.0%
19					X	0.0%
18					X	0.0%
17					X	0.0%
16					X	0.0%
15					X	0.0%

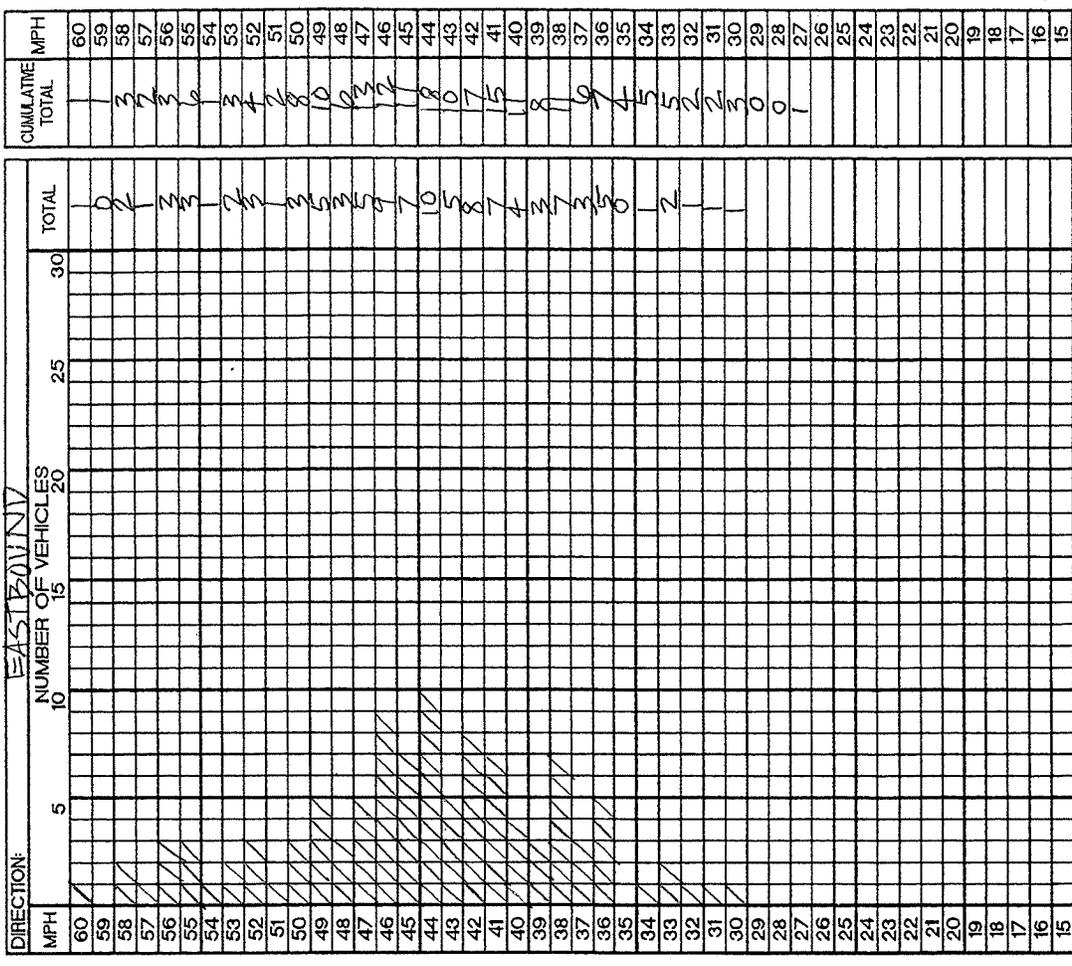
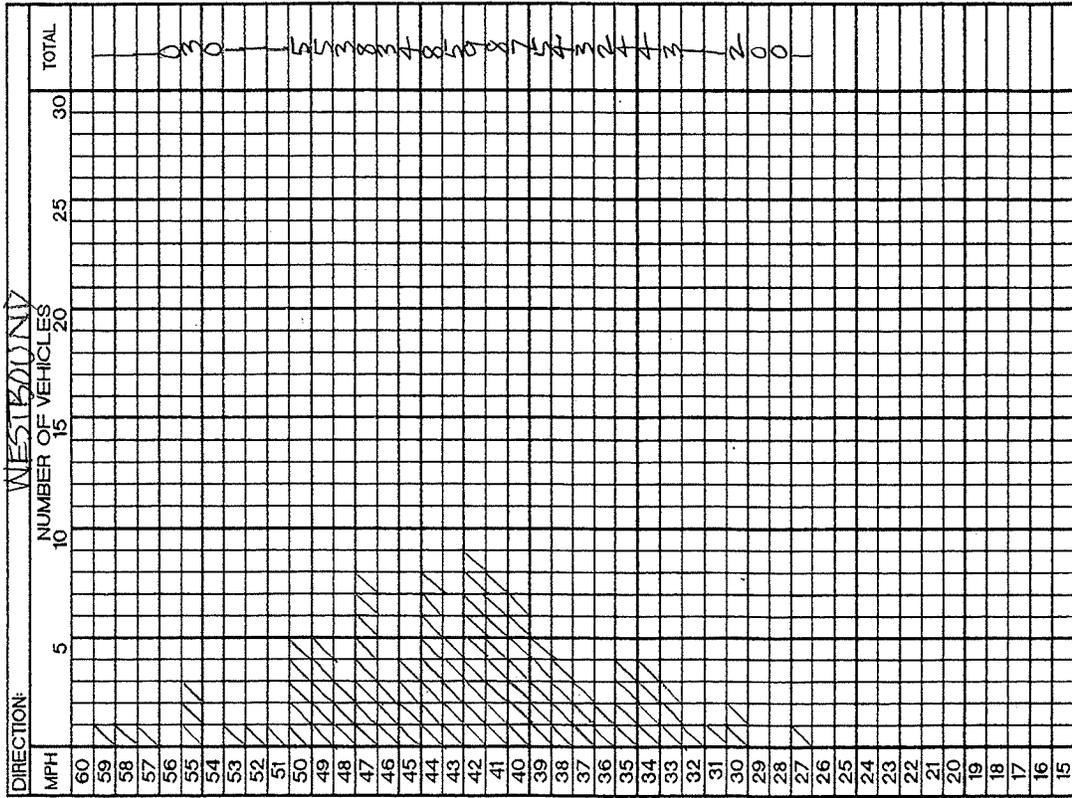
UPPER LIMIT 10 MPH PACE:	47 MPH	85th PERCENTILE SPEED:	49.3 MPH
LOWER LIMIT 10 MPH PACE:	38 MPH	MEDIAN SPEED:	42.9 MPH
PERCENT OVER PACE:	23.7 %	15th PERCENTILE SPEED:	36.4 MPH
PERCENT IN PACE:	59.7 %		
PERCENT UNDER PACE:	16.6 %		

HARTZOG AND CRABILL INC.
County Road 100, Suite 14, 14209
P.O. Box 2424

Radar Speed Survey Field Sheet

WEATHER: WINDY DATE: 08/28/17
ROAD CONDITION: DRY START TIME: 12:15 PM
OBSERVER: CATHY BUENDIA END TIME: 12:50 PM VAC

AGENCY: CITY OF LAGUNA WOODS
STREET: EL TORO ROAD
LOCATION: ALLSO CREEK RD TO CALLE CORTA



AVERAGE SPEED: _____ PACE SPEED: _____
CRITICAL SPEED: _____

CUMULATIVE (BOTH DIRECTIONS) _____

ENGINEERING AND TRAFFIC SURVEY

CITY OF LAGUNA WOODS

HCI**EL TORO ROAD****CALLE CORTA TO CALLE SONORA**

DATE: 8/28/2017

SURVEY BY: HCI - C.BUENDIA

TIME: 11:30 AM - 12:05 PM

CHECKED BY: JERRY STOCK

PREVAILING SPEED DATA	
LOCATION OF SURVEY	WEST OF CALLE WREN
DATE OF SURVEY	8/28/2017
85th PERCENTILE	52.6 MPH
10 MPH PACE	44 - 53 MPH
PERCENT IN PACE	78.0 %
POSTED SPEED LIMIT	50 MPH

ACCIDENT HISTORY	
NO. OF MONTHS OBSERVED	36
SPEED-RELATED ACCIDENTS	2
TOTAL ACCIDENTS	8
ANNUAL ACCIDENT RATE	0.67 ACCIDENTS PER YEAR (SPEED RELATED ONLY)
ACC./MILLION VEH. MILES	0.11 ACCIDENTS PER MVM (SPEED RELATED ONLY)

TRAFFIC FACTORS	
AVERAGE DAILY TRAFFIC	19,000
LANE CONFIGURATION	3 LANES PER DIRECTION
TRAFFIC CONTROLS	SIGNAL - CALLE SONORA / CALLE CORTA / CANYON WREN
CROSSWALKS	AT CALLE SONORA / CALLE CORTA / CANYON WREN
PEDESTRIAN/BICYCLES	YES / YES
TRUCK TRAFFIC	FEW
ON-STREET PARKING	NO STOPPING ANYTIME
OTHER	PAINTED BIKE LANES BUS STOPS

ROADWAY FACTORS	
LENGTH OF SEGMENT (MILES)	0.91
VERTICAL CURVE	GRADUAL UP/DOWNHILL GRADES
HORIZONTAL CURVE	GRADUAL-MODERATE "S" CURVES
LATERAL VISIBILITY	LIMITED SIGHT DISTANCE (areas of)
ROAD CONDITIONS	GOOD
SIDEWALKS / DRIVEWAYS	YES / NO
STREET LIGHTING	YES
DRIVEWAY DENSITY	NOMINAL
OTHER	GOLF CART XING AT INTERSECTIONS RAISED MEDIAN ISLAND

ADJACENT LAND USE	RESIDENTIAL (NF) / COMMERCAL (at Calle Sonora) / CHURCH
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RECOMMENDED SPEED LIMIT	50 MPH
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SPEED LIMIT CHANGE	NO CHANGE
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JUSTIFICATION:

The recommended speed limit is within 2.6 mph of the 85th percentile speed as meets CVC standards.

RADAR SPEED DISTRIBUTION SHEET

HCI **CITY OF LAGUNA WOODS**
EL TORO ROAD **CALLE CORTA TO CALLE SONORA**
 DATE: 8/28/2017 SURVEY BY: HCI - C.BUENDIA
 TIME: 11:30 AM - 12:05 PM CHECKED BY: JERRY STOCK

SPEED	CUMMULATIVE PERCENT					
	20	40	60	80	100	
60					X	100.0%
59					X	97.4%
58					X	96.9%
57					X	95.8%
56					X	94.2%
55					X	92.1%
54					X	90.6%
53					X	88.0% } PACE
52				X		79.6% } PACE ---85PCT
51				X		73.8% } PACE
50				X		66.0% } PACE
49			X			52.9% } PACE
48			X			44.5% } PACE ---MEAN
47		X				35.6% } PACE
46		X				26.2% } PACE
45		X				22.0% } PACE
44		X				16.2% } PACE
43	X					9.9% ---15PCT
42	X					7.9%
41	X					5.8%
40	X					4.2%
39	X					3.1%
38	X					2.1%
37	X					1.6%
36	X					0.5%
35	X					0.0%
34	X					0.0%
33	X					0.0%
32	X					0.0%
31	X					0.0%
30	X					0.0%
29	X					0.0%
28	X					0.0%
27	X					0.0%
26	X					0.0%
25	X					0.0%
24	X					0.0%
23	X					0.0%
22	X					0.0%
21	X					0.0%
20	X					0.0%
19	X					0.0%
18	X					0.0%
17	X					0.0%
16	X					0.0%
15	X					0.0%

UPPER LIMIT 10 MPH PACE:	53 MPH	85th PERCENTILE SPEED:	52.6 MPH
LOWER LIMIT 10 MPH PACE:	44 MPH	MEDIAN SPEED:	48.7 MPH
PERCENT OVER PACE:	12.0 %	15th PERCENTILE SPEED:	43.8 MPH
PERCENT IN PACE:	78.0 %		
PERCENT UNDER PACE:	9.9 %		

Radar Speed Survey Field Sheet

HARTZOG AND CARROLL INC.
Company: HARTZOG & CARROLL
1332 East 10th St., Suite 100, San Jose, CA 95128
(415) 251-5445

WEATHER: SUNNY DATE: 08/28/17
ROAD CONDITION: DRY START TIME: 11:30 AM
OBSERVER: CATHY BUENDIA END TIME: 12:05 PM / 10/17

AGENCY: CITY OF LAGUNA WOODS
STREET: EL TORO ROAD
LOCATION: CALLE CORTA TO CALLE SONORA

DIRECTION: WESTBOUND

MPH	5	10	15	20	25	30	TOTAL
60	/	/	/	/	/	/	2
59	/	/	/	/	/	/	1
58	/	/	/	/	/	/	1
57	/	/	/	/	/	/	0
56	/	/	/	/	/	/	2
55	/	/	/	/	/	/	2
54	/	/	/	/	/	/	3
53	/	/	/	/	/	/	4
52	/	/	/	/	/	/	7
51	/	/	/	/	/	/	13
50	/	/	/	/	/	/	9
49	/	/	/	/	/	/	6
48	/	/	/	/	/	/	4
47	/	/	/	/	/	/	6
46	/	/	/	/	/	/	7
45	/	/	/	/	/	/	4
44	/	/	/	/	/	/	2
43	/	/	/	/	/	/	4
42	/	/	/	/	/	/	2
41	/	/	/	/	/	/	2
40	/	/	/	/	/	/	0
39	/	/	/	/	/	/	0
38	/	/	/	/	/	/	0
37	/	/	/	/	/	/	0
36	/	/	/	/	/	/	0
35	/	/	/	/	/	/	0
34	/	/	/	/	/	/	0
33	/	/	/	/	/	/	0
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28	/	/	/	/	/	/	0
27	/	/	/	/	/	/	0
26	/	/	/	/	/	/	0
25	/	/	/	/	/	/	0
24	/	/	/	/	/	/	0
23	/	/	/	/	/	/	0
22	/	/	/	/	/	/	0
21	/	/	/	/	/	/	0
20	/	/	/	/	/	/	0
19	/	/	/	/	/	/	0
18	/	/	/	/	/	/	0
17	/	/	/	/	/	/	0
16	/	/	/	/	/	/	0
15	/	/	/	/	/	/	0

AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____
CUMULATIVE (BOTH DIRECTIONS) _____

DIRECTION: EASTBOUND

MPH	5	10	15	20	25	30	TOTAL
60	/	/	/	/	/	/	3
59	/	/	/	/	/	/	0
58	/	/	/	/	/	/	3
57	/	/	/	/	/	/	2
56	/	/	/	/	/	/	3
55	/	/	/	/	/	/	3
54	/	/	/	/	/	/	7
53	/	/	/	/	/	/	7
52	/	/	/	/	/	/	8
51	/	/	/	/	/	/	12
50	/	/	/	/	/	/	8
49	/	/	/	/	/	/	7
48	/	/	/	/	/	/	7
47	/	/	/	/	/	/	4
46	/	/	/	/	/	/	5
45	/	/	/	/	/	/	5
44	/	/	/	/	/	/	2
43	/	/	/	/	/	/	2
42	/	/	/	/	/	/	0
41	/	/	/	/	/	/	0
40	/	/	/	/	/	/	0
39	/	/	/	/	/	/	0
38	/	/	/	/	/	/	0
37	/	/	/	/	/	/	0
36	/	/	/	/	/	/	0
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34	/	/	/	/	/	/	0
33	/	/	/	/	/	/	0
32	/	/	/	/	/	/	0
31	/	/	/	/	/	/	0
30	/	/	/	/	/	/	0
29	/	/	/	/	/	/	0
28	/	/	/	/	/	/	0
27	/	/	/	/	/	/	0
26	/	/	/	/	/	/	0
25	/	/	/	/	/	/	0
24	/	/	/	/	/	/	0
23	/	/	/	/	/	/	0
22	/	/	/	/	/	/	0
21	/	/	/	/	/	/	0
20	/	/	/	/	/	/	0
19	/	/	/	/	/	/	0
18	/	/	/	/	/	/	0
17	/	/	/	/	/	/	0
16	/	/	/	/	/	/	0
15	/	/	/	/	/	/	0

AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____

ENGINEERING AND TRAFFIC SURVEY

CITY OF LAGUNA WOODS

HCI**EL TORO ROAD****CALLE SONORA TO MOULTON PARKWAY**

DATE: 8/28/2017

SURVEY BY: HCI - C.BUENDIA

TIME: 10:45 AM - 11:20 AM

CHECKED BY: JERRY STOCK

PREVAILING SPEED DATA	
LOCATION OF SURVEY	EAST OF TOWN CENTER
DATE OF SURVEY	8/28/2017
85th PERCENTILE	44.2 MPH
10 MPH PACE	36 - 45 MPH
PERCENT IN PACE	72.6 %
POSTED SPEED LIMIT	45 MPH

ACCIDENT HISTORY	
NO. OF MONTHS OBSERVED	36
SPEED-RELATED ACCIDENTS	2
TOTAL ACCIDENTS	13
ANNUAL ACCIDENT RATE	0.67 ACCIDENTS PER YEAR (SPEED RELATED ONLY)
ACC./MILLION VEH. MILES	0.16 ACCIDENTS PER MVM (SPEED RELATED ONLY)

TRAFFIC FACTORS	
AVERAGE DAILY TRAFFIC	27,000
LANE CONFIGURATION	3 LANES PER DIRECTION
TRAFFIC CONTROLS	SIGNAL - CALLE SONORA / TOWN CTR / MOULTON
CROSSWALKS	AT CALLE SONORA / TOWN CTR / MOULTON
PEDESTRIAN/BICYCLES	YES / YES
TRUCK TRAFFIC	FEW
ON-STREET PARKING	NO STOPPING ENTIRE BLOCK
OTHER	PAINTED BIKE LANES / BUS STOPS GOLF CART XINGS AT INTERSECTIONS / DENSE TRAFFIC

ROADWAY FACTORS	
LENGTH OF SEGMENT (MILES)	0.43
VERTICAL CURVE	GRADUAL UPHILL GRADE (WB)
HORIZONTAL CURVE	SLIGHT "S" CURVES
LATERAL VISIBILITY	GOOD
ROAD CONDITIONS	GOOD
SIDEWALKS / DRIVEWAYS	YES / YES
STREET LIGHTING	YES
DRIVEWAY DENSITY	LIGHT
OTHER	RAISED MEDIAN ISLAND SHORT DISTANCE BTWN INTERSECTIONS - SURVEYED ON GREENS ONLY

ADJACENT LAND USE	COMMERCAL / BUSINESS
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RECOMMENDED SPEED LIMIT	45 MPH
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SPEED LIMIT CHANGE	NO CHANGE
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JUSTIFICATION:	The recommended speed limit is within 0.8 mph of the 85th percentile speed and meets CVC standards.
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RADAR SPEED DISTRIBUTION SHEET



CITY OF LAGUNA WOODS

EL TORO ROAD

DATE: 8/28/2017

TIME: 10:45 AM - 11:20 AM

CALLE SONORA TO MOULTON PARKWAY

SURVEY BY: HCI - C.BUENDIA

CHECKED BY: JERRY STOCK

SPEED	CUMMULATIVE PERCENT					
	20	40	60	80	100	
60					X	100.0%
59					X	100.0%
58					X	100.0%
57					X	100.0%
56					X	100.0%
55					X	100.0%
54					X	100.0%
53					X	100.0%
52					X	100.0%
51					X	100.0%
50					X	100.0%
49					X	98.6%
48					X	97.7%
47					X	95.8%
46					X	93.5%
45					X	92.1%
44				X	X	83.7% }PACE ---85PCT
43				X	X	78.1% }PACE
42				X	X	68.4% }PACE
41			X	X	X	63.3% }PACE
40			X	X	X	56.3% }PACE
39			X	X	X	45.6% }PACE ---MEAN
38		X	X	X	X	36.7% }PACE
37		X	X	X	X	32.6% }PACE
36		X	X	X	X	26.0% }PACE
35		X	X	X	X	19.5%
34		X	X	X	X	14.9% ---15PCT
33	X	X	X	X	X	11.2%
32	X	X	X	X	X	7.9%
31	X	X	X	X	X	6.5%
30	X	X	X	X	X	5.1%
29	X	X	X	X	X	3.3%
28	X	X	X	X	X	2.8%
27	X	X	X	X	X	1.9%
26	X	X	X	X	X	0.9%
25	X	X	X	X	X	0.9%
24	X	X	X	X	X	0.5%
23	X	X	X	X	X	0.5%
22	X	X	X	X	X	0.0%
21	X	X	X	X	X	0.0%
20	X	X	X	X	X	0.0%
19	X	X	X	X	X	0.0%
18	X	X	X	X	X	0.0%
17	X	X	X	X	X	0.0%
16	X	X	X	X	X	0.0%
15	X	X	X	X	X	0.0%

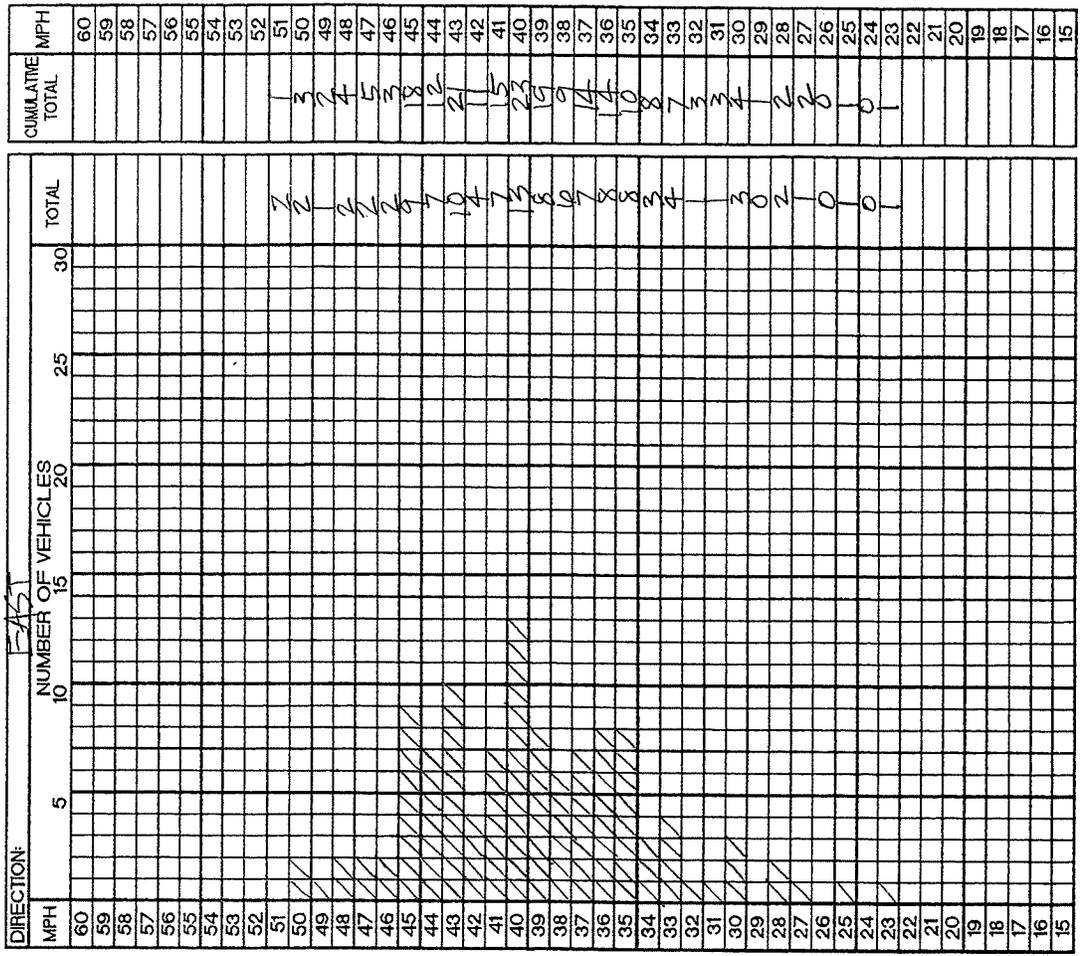
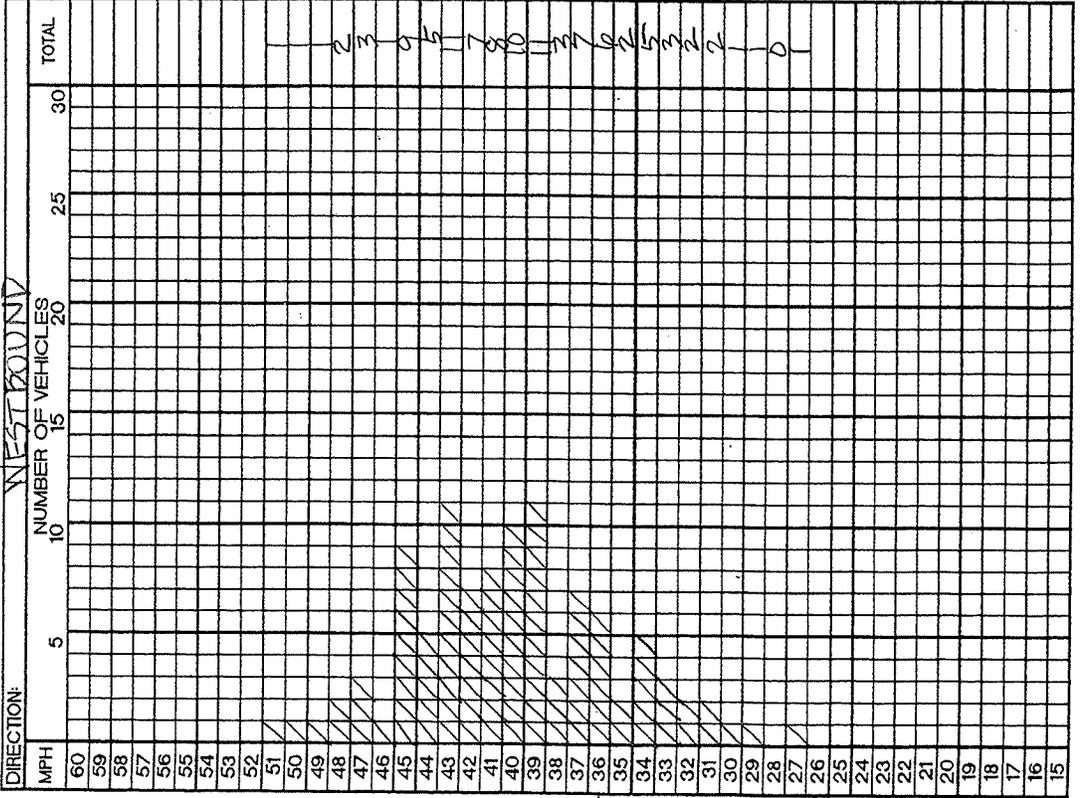
UPPER LIMIT 10 MPH PACE: 45 MPH	85th PERCENTILE SPEED: 44.2 MPH
LOWER LIMIT 10 MPH PACE: 36 MPH	MEDIAN SPEED: 39.4 MPH
PERCENT OVER PACE: 7.9 %	15th PERCENTILE SPEED: 34.0 MPH
PERCENT IN PACE: 72.6 %	
PERCENT UNDER PACE: 19.5 %	

Radar Speed Survey Field Sheet

HARTZOG AND CRABILL INC.
 Consulting Traffic Engineers
 1802 East Blvd, Suite 102, Dallas, TX 75210
 (214) 721-5442

AGENCY: CITY OF LAGUNA WOODS
 STREET: EL TORO ROAD
 LOCATION: CALLE SONORA TO MOUNTAIN PKWY

WEATHER: SUNNY - HOT DATE: 08/28/17
 ROAD CONDITION: DRY START TIME: 10:45 AM
 OBSERVER: CATHY BUENDIA END TIME: 11:20 AM v W



ENGINEERING AND TRAFFIC SURVEY

CITY OF LAGUNA WOODS

HCI**EL TORO ROAD****MOULTON PARKWAY TO AVENIDA SEVILLA**

DATE: 8/28/2017

SURVEY BY: HCI - C.BUENDIA

TIME: 10:00 AM - 10:40 AM

CHECKED BY: JERRY STOCK

PREVAILING SPEED DATA	
LOCATION OF SURVEY	EAST OF MOULTON
DATE OF SURVEY	8/28/2017
85th PERCENTILE	43.9 MPH
10 MPH PACE	34 - 43 MPH
PERCENT IN PACE	66.5 %
POSTED SPEED LIMIT	40 MPH

ACCIDENT HISTORY	
NO. OF MONTHS OBSERVED	36
SPEED-RELATED ACCIDENTS	2
TOTAL ACCIDENTS	8
ANNUAL ACCIDENT RATE	0.67 ACCIDENTS PER YEAR (SPEED RELATED ONLY)
ACC./MILLION VEH. MILES	0.13 ACCIDENTS PER MVM (SPEED RELATED ONLY)

TRAFFIC FACTORS	
AVERAGE DAILY TRAFFIC	32,000
LANE CONFIGURATION	3 LANES PER DIRECTION
TRAFFIC CONTROLS	SIGNAL - MOULTON / CHURCH ENTRANCE / AVD SEVILLA
CROSSWALKS	AT MOULTON / CHURCH ENTRANCE / AVD SEVILLA
PEDESTRIAN/BICYCLES	YES / YES
TRUCK TRAFFIC	FEW
ON-STREET PARKING	NO STOPPING ANYTIME
OTHER	BUS STOPS / GOLF CART XINGS AT INTERSECTIONS DENSE TRAFFIC-INTERSECTIONS BACK UP

ROADWAY FACTORS	
LENGTH OF SEGMENT (MILES)	0.43
VERTICAL CURVE	SLIGHT UP/DOWNHILL GRADES
HORIZONTAL CURVE	SLIGHT-GRADUAL "S" CURVES
LATERAL VISIBILITY	GOOD
ROAD CONDITIONS	GOOD
SIDEWALKS / DRIVEWAYS	YES / YES (EB) - YES / MINIMAL (WB)
STREET LIGHTING	YES
DRIVEWAY DENSITY	LIGHT
OTHER	RAISED MEDIAN ISLAND / NO SHOULDERS "NO GOLF CARTS ON PED WALK (EB)"

ADJACENT LAND USE	RESIDENTIAL ON GOLF COURSE (NF) / COMMERCAL / BUSINESS / CITY HALL
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RECOMMENDED SPEED LIMIT	40 MPH
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SPEED LIMIT CHANGE	NO CHANGE
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JUSTIFICATION:

The recommended speed is within 3.9 mph of the 85th percentile speed and meets CVC standards.

RADAR SPEED DISTRIBUTION SHEET

HCI **CITY OF LAGUNA WOODS**
EL TORO ROAD MOULTON PARKWAY TO AVENIDA SEVILLA
 DATE: 8/28/2017 SURVEY BY: HCI - C.BUENDIA
 TIME: 10:00 AM - 10:40 AM CHECKED BY: JERRY STOCK

SPEED	CUMMULATIVE PERCENT					
	20	40	60	80	100	
60						X 100.0%
59						X 100.0%
58						X 100.0%
57						X 100.0%
56						X 100.0%
55						X 100.0%
54						X 100.0%
53						X 100.0%
52						X 99.5%
51						X 99.5%
50						X 99.0%
49						X 98.1%
48						X 98.1%
47						X 96.2%
46						X 93.8%
45						X 90.0%
44						X 85.6%
43						X 79.9% }PACE ---85PCT
42						X 74.2% }PACE
41						X 70.3% }PACE
40						X 62.7% }PACE
39						X 52.6% }PACE
38						X 47.4% }PACE ----MEAN
37						X 39.2% }PACE
36						X 32.5% }PACE
35						X 26.3% }PACE
34						X 19.6% }PACE
33						X 13.4% ---15PCT
32						X 9.6%
31						X 6.7%
30	X					X 3.3%
29	X					X 2.4%
28	X					X 1.0%
27	X					X 0.5%
26	X					X 0.5%
25	X					X 0.5%
24	X					X 0.0%
23	X					X 0.0%
22	X					X 0.0%
21	X					X 0.0%
20	X					X 0.0%
19	X					X 0.0%
18	X					X 0.0%
17	X					X 0.0%
16	X					X 0.0%
15	X					X 0.0%

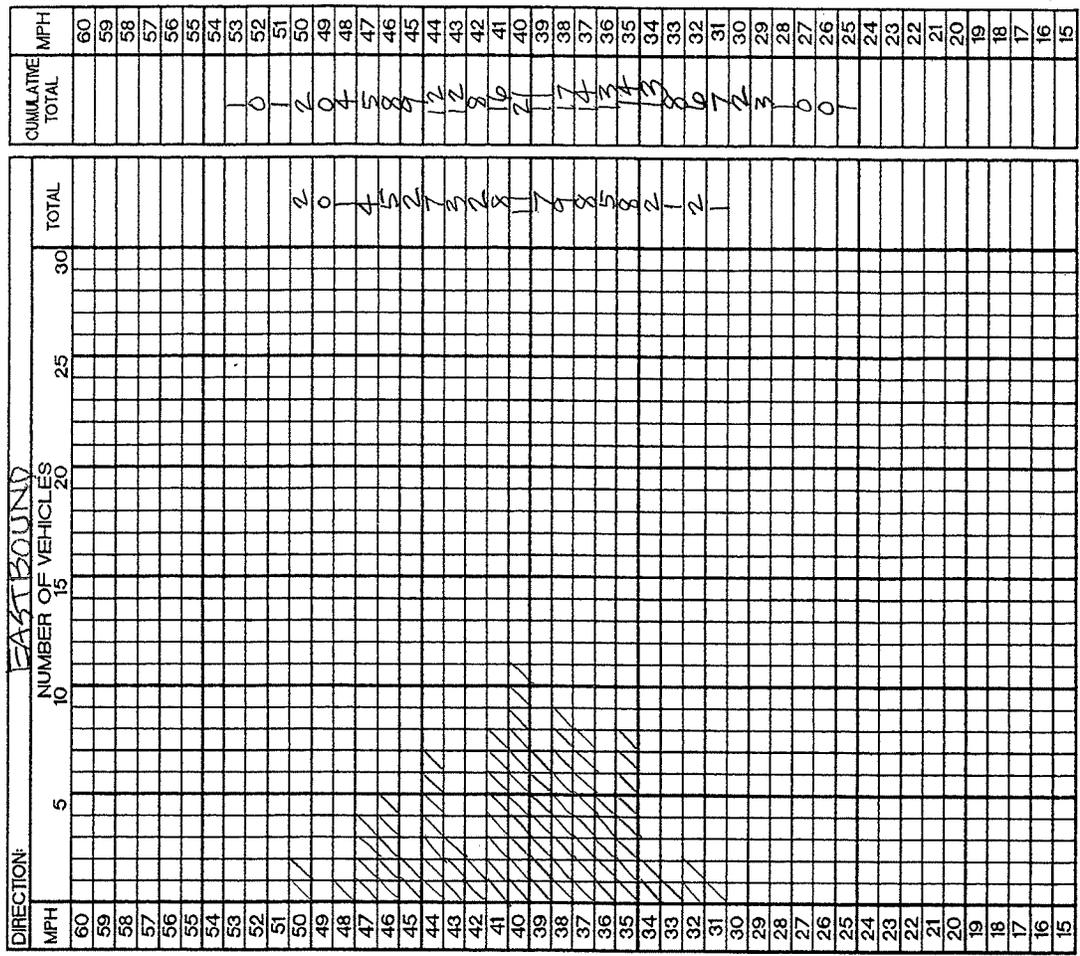
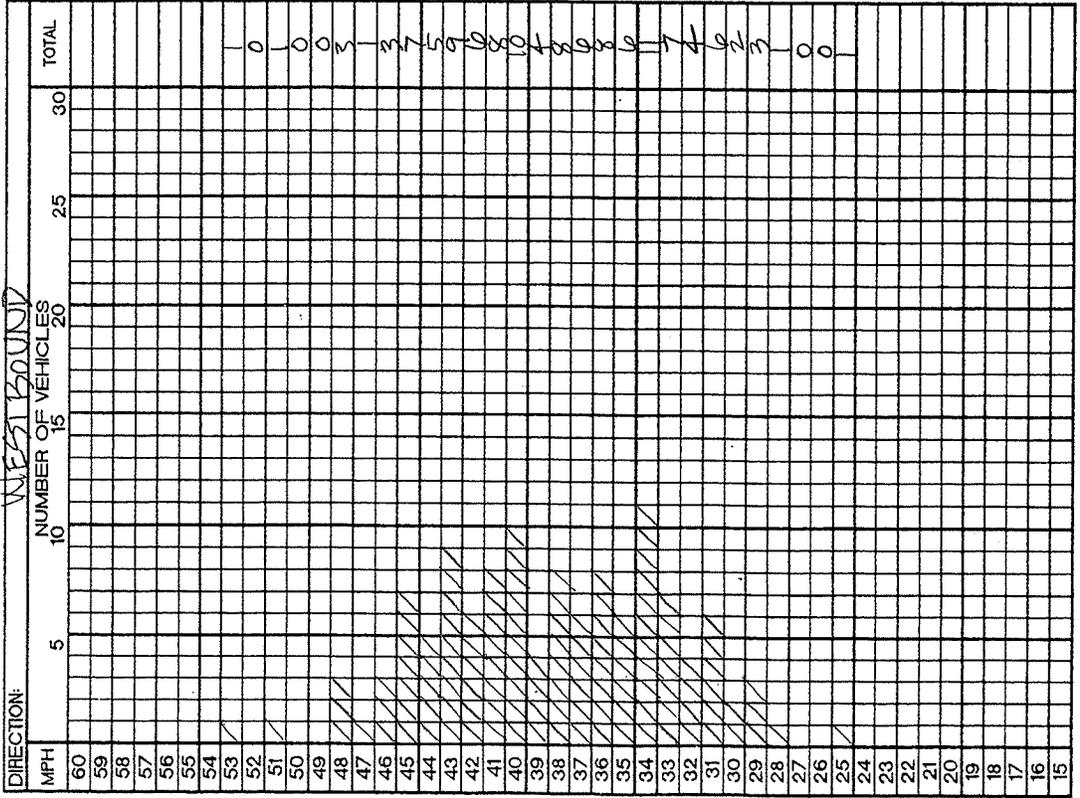
UPPER LIMIT 10 MPH PACE:	43 MPH	85th PERCENTILE SPEED:	43.9 MPH
LOWER LIMIT 10 MPH PACE:	34 MPH	MEDIAN SPEED:	38.5 MPH
PERCENT OVER PACE:	20.1 %	15th PERCENTILE SPEED:	33.3 MPH
PERCENT IN PACE:	66.5 %		
PERCENT UNDER PACE:	13.4 %		

Radar Speed Survey Field Sheet

HARTZOG AND CABELL INC.
 CONSULTING ENGINEERS
 1932 9th St., Suite 101, Eugene, OR 97401
 (503) 253-5382

AGENCY: LAGUNA WOODS
 STREET: EL TORO ROAD
 LOCATION: MOUNTAIN PKWY TO AVENIDA SEVILLA

WEATHER: SUNNY DATE: 08/28/17
 ROAD CONDITION: DRY START TIME: 10:00 AM
 OBSERVER: CATHY BUENDIA END TIME: 10:40 AM / cal



AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____
 CUMULATIVE (BOTH DIRECTIONS) _____

AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____

ITEM 52 - Attachment B
ENGINEERING AND TRAFFIC SURVEY

CITY OF LAGUNA WOODS



EL TORO ROAD

AVENIDA SEVILLA TO PASEO DE VALENCIA

DATE: 8/25/2017

SURVEY BY: HCI - C.BUENDIA

TIME: 10:00 AM - 10:45 AM

CHECKED BY: JERRY STOCK

PREVAILING SPEED DATA	
LOCATION OF SURVEY	WEST OF PASEO DE VALENCIA
DATE OF SURVEY	8/25/2017
85th PERCENTILE	41.5 MPH
10 MPH PACE	33 - 42 MPH
PERCENT IN PACE	68.2 %
POSTED SPEED LIMIT	35 MPH

ACCIDENT HISTORY	
NO. OF MONTHS OBSERVED	36
SPEED-RELATED ACCIDENTS	3
TOTAL ACCIDENTS	11
ANNUAL ACCIDENT RATE	1.00 ACCIDENTS PER YEAR (SPEED RELATED ONLY)
ACC./MILLION VEH. MILES	0.28 ACCIDENTS PER MVM (SPEED RELATED ONLY)

TRAFFIC FACTORS	
AVERAGE DAILY TRAFFIC	32,000
LANE CONFIGURATION	3 LANES PER DIRECTION
TRAFFIC CONTROLS	SIGNAL - AVD SEVILLA / PASEO DE VALENCIA
CROSSWALKS	AT AVD SEVILLA / PASEO DE VALENCIA
PEDESTRIAN/BICYCLES	YES / YES
TRUCK TRAFFIC	FEW
ON-STREET PARKING	NO STOPPING ANYTIME
OTHER	NO SHOULDERS / BUS STOPS GOLF CART XINGS AT INTERSECTIONS DENSE TRAFFIC-INTERSECTIONS BACK UP AT INTERSECTIONS

ROADWAY FACTORS	
LENGTH OF SEGMENT (MILES)	0.31
VERTICAL CURVE	NONE
HORIZONTAL CURVE	SLIGHT "C" CURVES
LATERAL VISIBILITY	GOOD
ROAD CONDITIONS	GOOD
SIDEWALKS / DRIVEWAYS	YES / YES (EB) - NO / NO (WB)
STREET LIGHTING	YES
DRIVEWAY DENSITY	LIGHT (at Paseo De Valencia)
OTHER	"NO GOLF CARTS ON PED WALK (EB)" / RAISED MEDIAN ISLAND SHORT DISTANCE BTWN INTERSECTIONS - SURVEYED ON GREENS ONLY

ADJACENT LAND USE	RESIDENTIAL ON GOLF COURSE (NF) / COMMERCIAL
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RECOMMENDED SPEED LIMIT	40 MPH
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SPEED LIMIT CHANGE	INCREASE
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JUSTIFICATION:

This section of El Toro Road is a six lane divided roadway. The adjacent land uses are non-fronting residential gated communities and commercial at Paseo de Valencia. Field observations include a wide pedestrian walkway along south-side of the roadway, one driveway near intersection of Paseo de Valencia, "No Stopping Anytime" due to no shoulders on both sides of the roadway, and golf cart crossings at Avenida Sevilla. The speed survey resulted with an 85th percentile speed of 41.5 mph and a 10 mph pace range of 33 to 42 mph. With that, it is recommended that the existing 35 mph speed limit be increased to 40 mph.

RADAR SPEED DISTRIBUTION SHEET

HCI **CITY OF LAGUNA WOODS** **AVENIDA SEVILLA TO PASEO DE VALENCIA**
EL TORO ROAD
 DATE: 8/25/2017 SURVEY BY: HCI - C.BUENDIA
 TIME: 10:00 AM - 10:45 AM CHECKED BY: JERRY STOCK

SPEED	CUMMULATIVE PERCENT					
	20	40	60	80	100	
60					X	100.0%
59					X	100.0%
58					X	100.0%
57					X	100.0%
56					X	100.0%
55					X	100.0%
54					X	100.0%
53					X	100.0%
52					X	100.0%
51					X	100.0%
50					X	100.0%
49					X	100.0%
48					X	100.0%
47					X	99.5%
46					X	99.1%
45					X	98.6%
44						95.3%
43					X	91.0%
42				X		87.7% }PACE
41				X		82.0% }PACE ---85PCT
40				X		76.3% }PACE
39				X		70.6% }PACE
38			X			63.0% }PACE
37			X			56.9% }PACE
36			X			49.3% }PACE ---MEAN
35		X				42.2% }PACE
34		X				31.3% }PACE
33	X					24.2% }PACE
32	X					19.4%
31	X					13.7% ---15PCT
30	X					9.0%
29	X					4.7%
28	X					3.8%
27	X					1.9%
26	X					0.9%
25	X					0.5%
24	X					0.0%
23	X					0.0%
22	X					0.0%
21	X					0.0%
20	X					0.0%
19	X					0.0%
18	X					0.0%
17	X					0.0%
16	X					0.0%
15	X					0.0%

UPPER LIMIT 10 MPH PACE: 42 MPH	85th PERCENTILE SPEED: 41.5 MPH
LOWER LIMIT 10 MPH PACE: 33 MPH	MEDIAN SPEED: 36.1 MPH
PERCENT OVER PACE: 18.0 %	15th PERCENTILE SPEED: 31.2 MPH
PERCENT IN PACE: 68.2 %	
PERCENT UNDER PACE: 19.4 %	

HARTIG AND CABELL INC.
COUNTY ENGINEERS
10321 BONE RD, SUITE 102, BAKE CA, 94530
(916) 731-1442

Radar Speed Survey Field Sheet

WEATHER: SUNNY - HOT DATE: 8/25/17
 ROAD CONDITION: DRY START TIME: 10:00 AM
 OBSERVER: CATHY BUENDIA END TIME: 10:45 AM VAV

AGENCY: CITY OF LAGUNA WOODS
 STREET: EL TORO ROAD
 LOCATION: AVENIDA SEVILLA TO PASEO DE VALENCIA

DIRECTION: MPH	NUMBER OF VEHICLES				TOTAL
	5	10	15	20	
60					0
59					3
58					4
57					4
56					5
55					9
54					7
53					8
52					8
51					5
50					7
49					8
48					8
47					5
46					7
45					11
44					7
43					8
42					3
41					5
40					7
39					8
38					8
37					5
36					7
35					11
34					7
33					8
32					3
31					5
30					2
29					2
28					2
27					0
26					
25					
24					
23					
22					
21					
20					
19					
18					
17					
16					
15					

DIRECTION: MPH	NUMBER OF VEHICLES				TOTAL	CUMULATIVE TOTAL
	5	10	15	20		
60						60
59						59
58						58
57						57
56						56
55						55
54						54
53						53
52						52
51						51
50						50
49						49
48						48
47						47
46						46
45						45
44						44
43						43
42						42
41						41
40						40
39						39
38						38
37						37
36						36
35						35
34						34
33						33
32						32
31						31
30						30
29						29
28						28
27						27
26						26
25						25
24						24
23						23
22						22
21						21
20						20
19						19
18						18
17						17
16						16
15						15

AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____
 CUMULATIVE (BOTH DIRECTIONS) _____

AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____

ENGINEERING AND TRAFFIC SURVEY

CITY OF LAGUNA WOODS

HCI

MOULTON PARKWAY

SANTA MARIA AVE TO EL TORO RD

DATE: 8/25/2017

SURVEY BY: HCI - C.BUENDIA

TIME: 12:40 PM - 1:15 PM

CHECKED BY: JERRY STOCK

PREVAILING SPEED DATA	
LOCATION OF SURVEY	SOUTH OF SANTA MARIA
DATE OF SURVEY	8/25/2017
85th PERCENTILE	46.2 MPH
10 MPH PACE	37 - 46 MPH
PERCENT IN PACE	72.6 %
POSTED SPEED LIMIT	45 MPH

ACCIDENT HISTORY	
NO. OF MONTHS OBSERVED	36
SPEED-RELATED ACCIDENTS	8
TOTAL ACCIDENTS	15
ANNUAL ACCIDENT RATE	2.67 ACCIDENTS PER YEAR (SPEED RELATED ONLY)
ACC./MILLION VEH. MILES	0.35 ACCIDENTS PER MVM (SPEED RELATED ONLY)

TRAFFIC FACTORS	
AVERAGE DAILY TRAFFIC	32,000
LANE CONFIGURATION	3 LANES PER DIRECTION
TRAFFIC CONTROLS	SIGNAL - SANTA MARIA / GATE NO.12 + 16 / EL TORO
CROSSWALKS	AT SANTA MARIA / GATE NO.12+16 / EL TORO
PEDESTRIAN/BICYCLES	YES / FEW
TRUCK TRAFFIC	YES
ON-STREET PARKING	NO STOPPING ANYTIME
OTHER	NO SHOULDERS BUS STOPS / BIKE LANES

ROADWAY FACTORS	
LENGTH OF SEGMENT (MILES)	0.66
VERTICAL CURVE	GRADUAL-MODERATE UP/DOWNHILL GRADES
HORIZONTAL CURVE	MODERATE "S" CURVES
LATERAL VISIBILITY	LIMITED SIGHT DISTANCE (areas of)
ROAD CONDITIONS	GOOD
SIDEWALKS / DRIVEWAYS	YES / FEW
STREET LIGHTING	YES
DRIVEWAY DENSITY	NOMINAL
OTHER	RAISED MEDIAN ISLAND

ADJACENT LAND USE	GOLF COURSE / COMMERCAL
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RECOMMENDED SPEED LIMIT	45 MPH
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SPEED LIMIT CHANGE	NO CHANGE
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JUSTIFICATION:	
	The recommended speed is within 1.2 mph of the 85th percentile speed and meets CVC standards.

RADAR SPEED DISTRIBUTION SHEET

HCI CITY OF LAGUNA WOODS
 MOULTON PARKWAY SANTA MARIA AVE TO EL TORO RD
 DATE: 8/25/2017 SURVEY BY: HCI - C.BUENDIA
 TIME: 12:40 PM - 1:15 PM CHECKED BY: JERRY STOCK

SPEED	CUMMULATIVE PERCENT					
	20	40	60	80	100	
60						X 100.0%
59						X 100.0%
58						X 100.0%
57						X 100.0%
56						X 100.0%
55						X 100.0%
54						X 100.0%
53						X 100.0%
52						X 100.0%
51						X 99.0%
50						X 98.5%
49						X 95.5%
48						X 91.0%
47						X 88.1%
46						X 84.1% } PACE ---85PCT
45						X 77.6% } PACE
44						X 66.7% } PACE
43						X 56.7% } PACE
42						X 49.3% } PACE ---MEAN
41						X 40.8% } PACE
40						X 33.8% } PACE
39						X 23.9% } PACE
38						X 19.4% } PACE
37						X 17.4% } PACE
36						X 11.4% ---15PCT
35						X 8.5%
34						X 5.0%
33						X 5.0%
32						X 4.0%
31						X 2.0%
30						X 0.5%
29						X 0.0%
28						X 0.0%
27						X 0.0%
26						X 0.0%
25						X 0.0%
24						X 0.0%
23						X 0.0%
22						X 0.0%
21						X 0.0%
20						X 0.0%
19						X 0.0%
18						X 0.0%
17						X 0.0%
16						X 0.0%
15						X 0.0%

UPPER LIMIT 10 MPH PACE: 46 MPH
 LOWER LIMIT 10 MPH PACE: 37 MPH
 PERCENT OVER PACE: 15.9 %
 PERCENT IN PACE: 72.6 %
 PERCENT UNDER PACE: 11.4 %

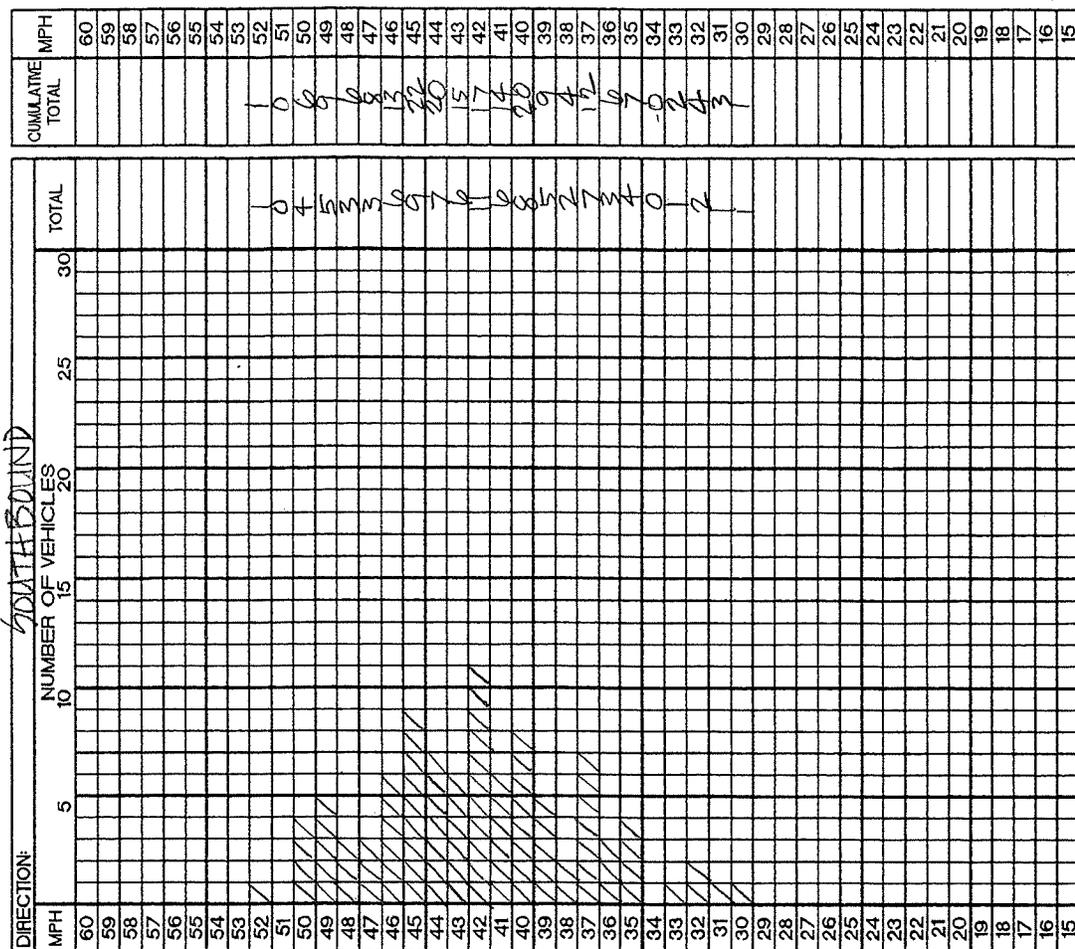
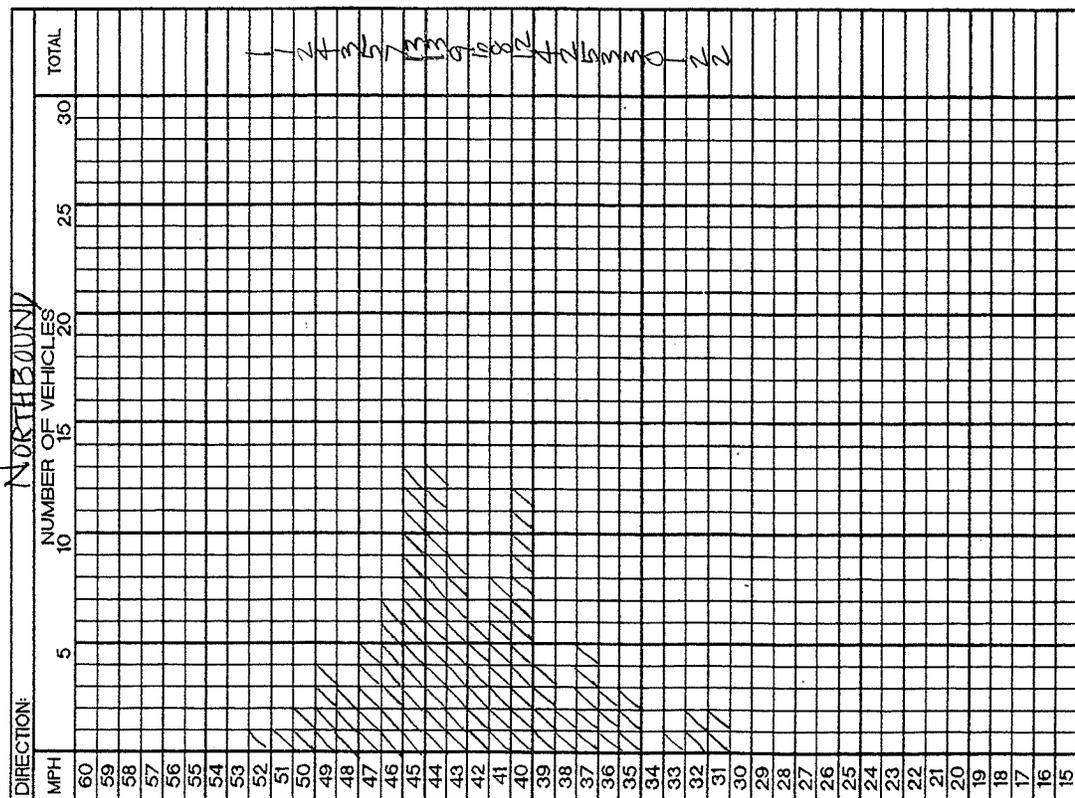
85th PERCENTILE SPEED: 46.2 MPH
 MEDIAN SPEED: 42.1 MPH
 15th PERCENTILE SPEED: 36.6 MPH

Radar Speed Survey Field Sheet

HARTZOG AND CRABELL INC.
 County Road 10, Suite 102, Lake Oka, CA 95230
 (916) 731-1552

AGENCY: CITY OF LAGUNA WOODS DATE: 08/25/17
 STREET: MOULTON PARKWAY ROAD CONDITION: DRY START TIME: 12:40 PM
 LOCATION: SANTA MARIA AVE TO EL TORO RD OBSERVER: CATHY BUENDIA END TIME: 1:15 PM V/L

WEATHER: SUNNY
 ROAD CONDITION: DRY
 OBSERVER: CATHY BUENDIA



AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____
 AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____
 CUMULATIVE (BOTH DIRECTIONS) _____

ENGINEERING AND TRAFFIC SURVEY

CITY OF LAGUNA WOODS

HCI**MOULTON PARKWAY****EL TORO RD TO CALLE CORTEZ**

DATE: 8/25/2017

SURVEY BY: HCI - C.BUENDIA

TIME: 11:45 AM - 12:30 PM

CHECKED BY: JERRY STOCK

PREVAILING SPEED DATA	
LOCATION OF SURVEY	NORTH OF CALLE CORTEZ
DATE OF SURVEY	8/25/2017
85th PERCENTILE	47.2 MPH
10 MPH PACE	39 - 48 MPH
PERCENT IN PACE	75.9 %
POSTED SPEED LIMIT	45 MPH

ACCIDENT HISTORY	
NO. OF MONTHS OBSERVED	36
SPEED-RELATED ACCIDENTS	3
TOTAL ACCIDENTS	11
ANNUAL ACCIDENT RATE	1.00 ACCIDENTS PER YEAR (SPEED RELATED ONLY)
ACC./MILLION VEH. MILES	0.14 ACCIDENTS PER MVM (SPEED RELATED ONLY)

TRAFFIC FACTORS	
AVERAGE DAILY TRAFFIC	34,000
LANE CONFIGURATION	3 LANES PER DIRECTION
TRAFFIC CONTROLS	SIGNAL - EL TORO / VIA CAMPO VERDE / CALLE CORTEZ
CROSSWALKS	AT EL TORO / VIA CAMPO VERDE / CALLE CORTEZ
PEDESTRIAN/BICYCLES	YES / FEW
TRUCK TRAFFIC	YES
ON-STREET PARKING	NO STOPPING ANYTIME
OTHER	PAINTED BIKE LANES BUS STOPS

ROADWAY FACTORS	
LENGTH OF SEGMENT (MILES)	0.56
VERTICAL CURVE	GRADUAL UP/DOWNHILL GRADES
HORIZONTAL CURVE	GRADUAL-MODERATE "S" CURVES
LATERAL VISIBILITY	LIMITED SIGHT DISTANCE (areas of)
ROAD CONDITIONS	GOOD
SIDEWALKS / DRIVEWAYS	YES / YES
STREET LIGHTING	YES
DRIVEWAY DENSITY	LIGHT
OTHER	RAISED MEDIAN ISLAND NARROW SHOULDERS

ADJACENT LAND USE	CHURCHES / BUSINESS / COMMERCIAL
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RECOMMENDED SPEED LIMIT	45 MPH
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SPEED LIMIT CHANGE	NO CHANGE
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JUSTIFICATION:	The recommended speed is within 2.2 mph of the 85th percentile speed and meets CVC standards.
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RADAR SPEED DISTRIBUTION SHEET



CITY OF LAGUNA WOODS

MOULTON PARKWAY

EL TORO RD TO CALLE CORTEZ

DATE: 8/25/2017

SURVEY BY: HCI - C.BUENDIA

TIME: 11:45 AM - 12:30 PM

CHECKED BY: JERRY STOCK

SPEED	CUMMULATIVE PERCENT					
	20	40	60	80	100	
60					X	100.0%
59					X	100.0%
58					X	100.0%
57					X	100.0%
56					X	100.0%
55					X	100.0%
54					X	100.0%
53					X	100.0%
52					X	99.5%
51					X	97.6%
50					X	95.8%
49					X	91.0%
48					X	88.7% }PACE
47				X	X	84.0% }PACE ---85PCT
46				X	X	79.2% }PACE
45				X	X	71.7% }PACE
44				X	X	62.7% }PACE
43			X	X	X	52.4% }PACE
42			X	X	X	42.5% }PACE ---MEAN
41		X	X	X	X	31.6% }PACE
40		X	X	X	X	23.1% }PACE
39		X	X	X	X	16.0% }PACE
38		X	X	X	X	12.7% ---15PCT
37	X	X	X	X	X	9.0%
36	X	X	X	X	X	6.6%
35	X	X	X	X	X	3.8%
34	X	X	X	X	X	2.8%
33	X	X	X	X	X	1.9%
32	X	X	X	X	X	1.4%
31	X	X	X	X	X	0.5%
30	X	X	X	X	X	0.5%
29	X	X	X	X	X	0.0%
28	X	X	X	X	X	0.0%
27	X	X	X	X	X	0.0%
26	X	X	X	X	X	0.0%
25	X	X	X	X	X	0.0%
24	X	X	X	X	X	0.0%
23	X	X	X	X	X	0.0%
22	X	X	X	X	X	0.0%
21	X	X	X	X	X	0.0%
20	X	X	X	X	X	0.0%
19	X	X	X	X	X	0.0%
18	X	X	X	X	X	0.0%
17	X	X	X	X	X	0.0%
16	X	X	X	X	X	0.0%
15	X	X	X	X	X	0.0%

UPPER LIMIT 10 MPH PACE: 48 MPH
 LOWER LIMIT 10 MPH PACE: 39 MPH
 PERCENT OVER PACE: 11.3 %
 PERCENT IN PACE: 75.9 %
 PERCENT UNDER PACE: 12.7 %

85th PERCENTILE SPEED: 47.2 MPH
 MEDIAN SPEED: 42.8 MPH
 15th PERCENTILE SPEED: 38.7 MPH

HARTZOG AND CRABILL INC.
Company Home Office
1032 N.W. Blvd., Suite 102, Jacksonville, FL 32219
(904) 751-5452

Radar Speed Survey Field Sheet

AGENCY: CITY OF LAGUNA WOODS
STREET: MOUNTAIN PARKWAY
LOCATION: EL IDRO RD TO CAULE CORTEZ

WEATHER: SUNNY
ROAD CONDITION: DRY
OBSERVER: CATHY BUENDIA

DATE: 08/25/17
START TIME: 11:45 AM
END TIME: 12:30 PM

VOL

DIRECTION	MPH	NORTHBOUND			TOTAL
		5	10	15	
60					
59					
58					
57					
56					
55					
54					
53					
52					
51					
50					
49					
48					
47					
46					
45					
44					
43					
42					
41					
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37					
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31					
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27					
26					
25					
24					
23					
22					
21					
20					
19					
18					
17					
16					
15					

DIRECTION	MPH	SOUTHBOUND			TOTAL	CUMULATIVE TOTAL	MPH
		5	10	15			
60						60	
59						59	
58						58	
57						57	
56						56	
55						55	
54						54	
53						53	
52						52	
51						51	
50						50	
49						49	
48						48	
47						47	
46						46	
45						45	
44						44	
43						43	
42						42	
41						41	
40						40	
39						39	
38						38	
37						37	
36						36	
35						35	
34						34	
33						33	
32						32	
31						31	
30						30	
29						29	
28						28	
27						27	
26						26	
25						25	
24						24	
23						23	
22						22	
21						21	
20						20	
19						19	
18						18	
17						17	
16						16	
15						15	

AVERAGE SPEED: _____
CRITICAL SPEED: _____
CUMULATIVE (BOTH DIRECTIONS) _____

AVERAGE SPEED: _____
CRITICAL SPEED: _____
PACE SPEED: _____

ENGINEERING AND TRAFFIC SURVEY

CITY OF LAGUNA WOODS

HCI**MOULTON PARKWAY****CALLE CORTEZ TO SOUTH CITY LIMITS**DATE: 8/25/2017
TIME: 11:00 AM - 11:35 AMSURVEY BY: HCI - C.BUENDIA
CHECKED BY: JERRY STOCK

PREVAILING SPEED DATA	
LOCATION OF SURVEY	NORTH OF CALLE CORTEZ
DATE OF SURVEY	8/25/2017
85th PERCENTILE	48.4 MPH
10 MPH PACE	40 - 49 MPH
PERCENT IN PACE	77.1 %
POSTED SPEED LIMIT	45 MPH

ACCIDENT HISTORY	
NO. OF MONTHS OBSERVED	36
SPEED-RELATED ACCIDENTS	2
TOTAL ACCIDENTS	10
ANNUAL ACCIDENT RATE	0.67 ACCIDENTS PER YEAR (SPEED RELATED ONLY)
ACC./MILLION VEH. MILES	0.12 ACCIDENTS PER MVM (SPEED RELATED ONLY)

TRAFFIC FACTORS	
AVERAGE DAILY TRAFFIC	31,000
LANE CONFIGURATION	3 LANES PER DIRECTION
TRAFFIC CONTROLS	SIGNAL - CALLE CORTEZ / VIA IGLESIA / CALLE ARAGON
CROSSWALKS	AT CALLE CORTEZ / VIA IGLESIA / CALLE ARAGON
PEDESTRIAN/BICYCLES	YES / YES
TRUCK TRAFFIC	YES
ON-STREET PARKING	NO STOPPING ANYTIME
OTHER	PAINTED BIKE LANES BUS STOPS

ROADWAY FACTORS	
LENGTH OF SEGMENT (MILES)	0.48
VERTICAL CURVE	SLIGHT UP/DOWNHILL GRADES
HORIZONTAL CURVE	GRADUAL "S" CURVES
LATERAL VISIBILITY	LIMITED SIGHT DISTANCE (areas of)
ROAD CONDITIONS	GOOD
SIDEWALKS / DRIVEWAYS	YES / FEW
STREET LIGHTING	YES
DRIVEWAY DENSITY	NOMINAL
OTHER	RAISED MEDIAN ISLAND NARROW SHOULDERS

ADJACENT LAND USE	RESIDENTIAL (NF) / GOLF COURSE / BUSINESS / COMMERCIAL
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RECOMMENDED SPEED LIMIT	45 MPH
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SPEED LIMIT CHANGE	NO CHANGE
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JUSTIFICATION:

The recommended speed is within 3.4 mph of the 85th percentile speed and meets CVC standards.

RADAR SPEED DISTRIBUTION SHEET

HCI **CITY OF LAGUNA WOODS**
MOULTON PARKWAY **CALLE CORTEZ TO SOUTH CITY LIMITS**
 DATE: 8/25/2017 SURVEY BY: HCI - C.BUENDIA
 TIME: 11:00 AM - 11:35 AM CHECKED BY: JERRY STOCK

SPEED	CUMMULATIVE PERCENT					
	20	40	60	80	100	
60					X	100.0%
59					X	100.0%
58					X	100.0%
57					X	99.5%
56					X	99.5%
55					X	99.1%
54					X	98.1%
53					X	97.7%
52					X	95.8%
51					X	93.9%
50					X	92.1%
49					X	87.9% }PACE
48				X	X	82.7% }PACE ---85PCT
47				X	X	76.6% }PACE
46				X	X	69.2% }PACE
45				X	X	60.7% }PACE
44			X	X	X	49.5% }PACE ---MEAN
43			X	X	X	41.6% }PACE
42		X	X	X	X	31.8% }PACE
41		X	X	X	X	22.4% }PACE
40		X	X	X	X	16.4% }PACE
39		X	X	X	X	10.7% ---15PCT
38	X	X	X	X	X	7.9%
37	X	X	X	X	X	7.0%
36	X	X	X	X	X	3.3%
35	X	X	X	X	X	2.8%
34	X	X	X	X	X	0.9%
33	X	X	X	X	X	0.5%
32	X	X	X	X	X	0.0%
31	X	X	X	X	X	0.0%
30	X	X	X	X	X	0.0%
29	X	X	X	X	X	0.0%
28	X	X	X	X	X	0.0%
27	X	X	X	X	X	0.0%
26	X	X	X	X	X	0.0%
25	X	X	X	X	X	0.0%
24	X	X	X	X	X	0.0%
23	X	X	X	X	X	0.0%
22	X	X	X	X	X	0.0%
21	X	X	X	X	X	0.0%
20	X	X	X	X	X	0.0%
19	X	X	X	X	X	0.0%
18	X	X	X	X	X	0.0%
17	X	X	X	X	X	0.0%
16	X	X	X	X	X	0.0%
15	X	X	X	X	X	0.0%

UPPER LIMIT 10 MPH PACE: 49 MPH
 LOWER LIMIT 10 MPH PACE: 40 MPH
 PERCENT OVER PACE: 12.1 %
 PERCENT IN PACE: 77.1 %
 PERCENT UNDER PACE: 10.7 %

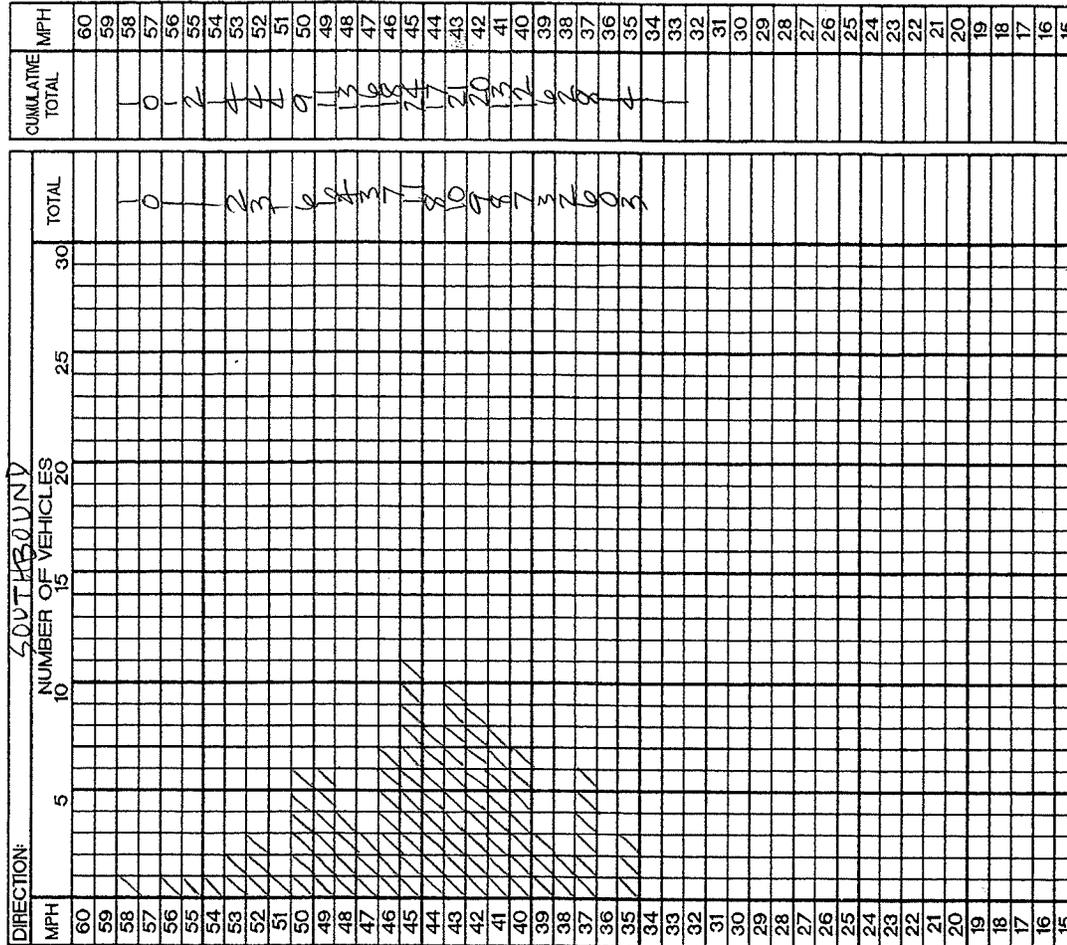
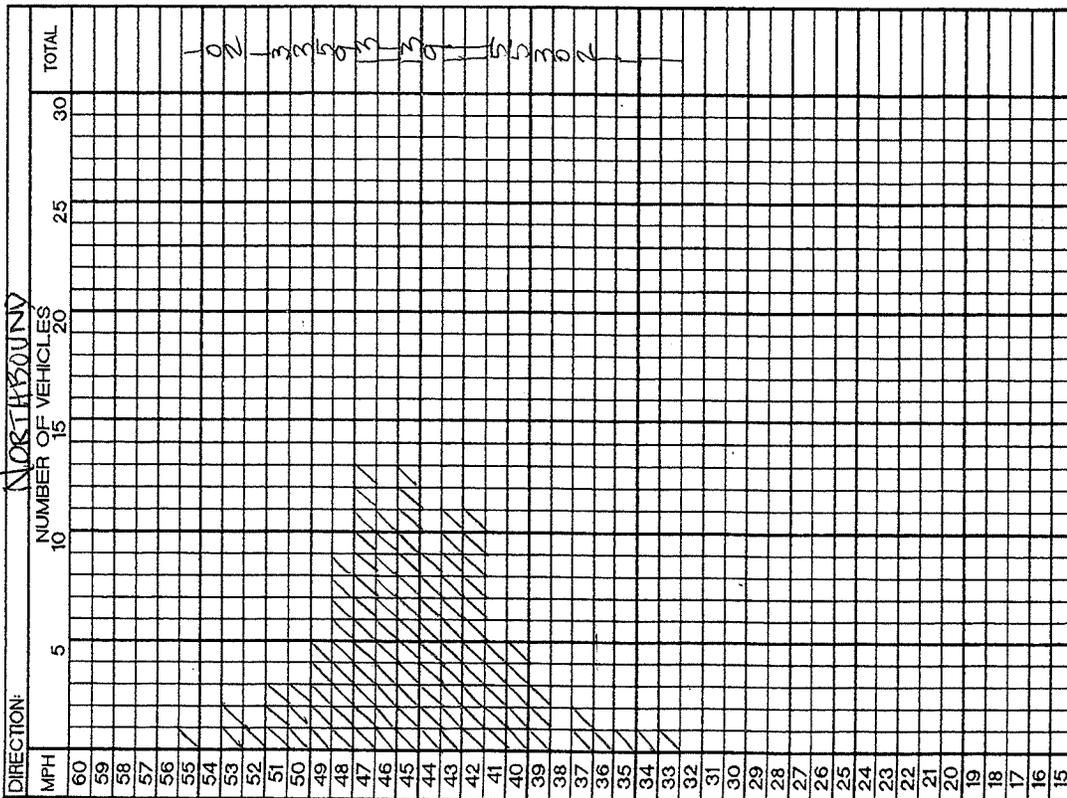
85th PERCENTILE SPEED: 48.4 MPH
 MEDIAN SPEED: 44.0 MPH
 15th PERCENTILE SPEED: 39.8 MPH

Radar Speed Survey Field Sheet

HARTZOG AND CRABELL INC.
Company, Traffic Engineers
 1931 4th St., Suite 102, Lake Park, GA 30135
 (770) 231-5425

AGENCY: CITY OF LAGUNA WOODS DATE: 8/25/17
 STREET: MOUNTAIN PARKWAY ROAD CONDITION: DRY START TIME: 11:00 AM
 LOCATION: CALLE COKTE TO SOUTH CITY LIMITS OBSERVER: CATHY BUENDIA END TIME: 11:35 AM VGL

WEATHER: SUNNY
 ROAD CONDITION: DRY
 OBSERVER: CATHY BUENDIA



AVERAGE SPEED: _____ PACE SPEED: _____
 CRITICAL SPEED: _____
 CUMULATIVE (BOTH DIRECTIONS) _____

AVERAGE SPEED: _____ PACE SPEED: _____
 CRITICAL SPEED: _____

ENGINEERING AND TRAFFIC SURVEY

CITY OF LAGUNA WOODS

HCI**RIDGE ROUTE DRIVE****MOULTON PKWY TO EAST CITY LIMITS**

DATE: 8/28/2017

SURVEY BY: HCI - C.BUENDIA

TIME: 1:30 PM - 2:20 PM

CHECKED BY: JERRY STOCK

PREVAILING SPEED DATA	
LOCATION OF SURVEY	WEST OF PERALTA
DATE OF SURVEY	8/28/2017
85th PERCENTILE	47.4 MPH
10 MPH PACE	39 - 48 MPH
PERCENT IN PACE	68.1 %
POSTED SPEED LIMIT	45 MPH

ACCIDENT HISTORY	
NO. OF MONTHS OBSERVED	36
SPEED-RELATED ACCIDENTS	1
TOTAL ACCIDENTS	2
ANNUAL ACCIDENT RATE	0.33 ACCIDENTS PER YEAR (SPEED RELATED ONLY)
ACC./MILLION VEH. MILES	0.17 ACCIDENTS PER MVM (SPEED RELATED ONLY)

TRAFFIC FACTORS	
AVERAGE DAILY TRAFFIC	7,000
LANE CONFIGURATION	1 LANE PER DIRECTION
TRAFFIC CONTROLS	SIGNAL - MOULTON / PERALTA
CROSSWALKS	AT MOULTON / PERALTA
PEDESTRIAN/BICYCLES	YES / YES
TRUCK TRAFFIC	FEW
ON-STREET PARKING	NO STOPPING ANYTIME ENTIRE BLOCK
OTHER	

ROADWAY FACTORS	
LENGTH OF SEGMENT (MILES)	0.77
VERTICAL CURVE	SLIGHT UP/DOWNHILL GRADES
HORIZONTAL CURVE	NONE
LATERAL VISIBILITY	GOOD
ROAD CONDITIONS	GOOD
SIDEWALKS / DRIVEWAYS	YES / NO (WB) - NO / NO (EB)
STREET LIGHTING	YES
DRIVEWAY DENSITY	NOMINAL
OTHER	SOLID DBL YELLOW CENTERLINE NO SHOULDERS (WB) / DIRT PEDESTRIAN TRAIL-DOG WALK (EB)

ADJACENT LAND USE	RESIDENTIAL (NF) / BUSINESS / COMMERCIAL
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RECOMMENDED SPEED LIMIT	45 MPH
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SPEED LIMIT CHANGE	NO CHANGE
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JUSTIFICATION:	The recommended speed is within 2.4 mph of the 85th percentile speed and meets CVC standards.
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RADAR SPEED DISTRIBUTION SHEET



CITY OF LAGUNA WOODS

RIDGE ROUTE DRIVE

DATE: 8/28/2017

TIME: 1:30 PM - 2:20 PM

MOULTON PKWY TO EAST CITY LIMITS

SURVEY BY: HCI - C.BUENDIA

CHECKED BY: JERRY STOCK

SPEED	CUMMULATIVE PERCENT					
	20	40	60	80	100	
60						X 100.0%
59						X 100.0%
58						X 100.0%
57						X 100.0%
56						X 100.0%
55						X 100.0%
54						X 100.0%
53						X 98.9%
52						X 97.3%
51						X 95.7%
50						X 94.1%
49						X 91.0%
48						X 88.8% }PACE
47						X 81.9% }PACE ---85PCT
46						X 78.2% }PACE
45						X 69.7% }PACE
44						X 61.2% }PACE
43						X 57.4% }PACE
42						X 51.1% }PACE
41						X 43.1% }PACE ---MEAN
40						X 35.1% }PACE
39						X 25.0% }PACE
38						X 20.7% }PACE
37						X 14.4% }PACE ---15PCT
36						X 10.6%
35						X 10.1%
34						X 6.4%
33						X 3.7%
32						X 3.7%
31						X 1.1%
30						X 1.1%
29						X 1.1%
28						X 0.5%
27						X 0.0%
26						X 0.0%
25						X 0.0%
24						X 0.0%
23						X 0.0%
22						X 0.0%
21						X 0.0%
20						X 0.0%
19						X 0.0%
18						X 0.0%
17						X 0.0%
16						X 0.0%
15						X 0.0%

UPPER LIMIT 10 MPH PACE:	48 MPH	85th PERCENTILE SPEED:	47.4 MPH
LOWER LIMIT 10 MPH PACE:	39 MPH	MEDIAN SPEED:	41.9 MPH
PERCENT OVER PACE:	11.2 %	15th PERCENTILE SPEED:	37.1 MPH
PERCENT IN PACE:	68.1 %		
PERCENT UNDER PACE:	20.7 %		

Radar Speed Survey Field Sheet

HARTZOG AND CRABILL INC.
Company Traffic Engineer
1939 Main Road, Suite 102, Irvine, CA 92614
(949) 238-5400

WEATHER: SUNNY DATE: 08/28/17
ROAD CONDITION: DRY START TIME: 1:30 PM
OBSERVER: CATHY BUENDIA END TIME: 2:20 PM ✓HC

AGENCY: CITY OF LAGUNA WOODS
STREET: RIDGE ROUTE DRIVE
LOCATION: MOULTON PKWY TO EAST CITY LIMITS

DIRECTION: MPH	EAST BOUND				TOTAL
	5	10	15	20	
60					
59					
58					
57					
56					
55					
54					
53					
52					
51					
50					
49					
48					
47					
46					
45					
44					
43					
42					
41					
40					
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38					
37					
36					
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22					
21					
20					
19					
18					
17					
16					
15					

DIRECTION: MPH	WEST				TOTAL	CUMULATIVE TOTAL	MPH
	5	10	15	20			
60							60
59							59
58							58
57							57
56							56
55							55
54							54
53							53
52							52
51							51
50							50
49							49
48							48
47							47
46							46
45							45
44							44
43							43
42							42
41							41
40							40
39							39
38							38
37							37
36							36
35							35
34							34
33							33
32							32
31							31
30							30
29							29
28							28
27							27
26							26
25							25
24							24
23							23
22							22
21							21
20							20
19							19
18							18
17							17
16							16
15							15

AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____
CUMULATIVE (BOTH DIRECTIONS) _____

AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____

ENGINEERING AND TRAFFIC SURVEY

CITY OF LAGUNA WOODS

HCI**SANTA MARIA AVENUE****MOULTON PKWY TO VIA VISTA**

DATE: 8/28/2017

SURVEY BY: HCI - C.BUENDIA

TIME: 2:30 PM - 3:40 PM

CHECKED BY: JERRY STOCK

PREVAILING SPEED DATA	
LOCATION OF SURVEY	EAST OF SAN REMO
DATE OF SURVEY	0/28/2017
85th PERCENTILE	43.9 MPH
10 MPH PACE	36 - 45 MPH
PERCENT IN PACE	80.6 %
POSTED SPEED LIMIT	40 MPH

ACCIDENT HISTORY	
NO. OF MONTHS OBSERVED	36
SPEED-RELATED ACCIDENTS	0
TOTAL ACCIDENTS	7
ANNUAL ACCIDENT RATE	0.00 ACCIDENTS PER YEAR (SPEED RELATED ONLY)
ACC./MILLION VEH. MILES	0.00 ACCIDENTS PER MVM (SPEED RELATED ONLY)

TRAFFIC FACTORS	
AVERAGE DAILY TRAFFIC	7,000
LANE CONFIGURATION	2 LANES PER DIRECTION
TRAFFIC CONTROLS	SIGNAL - MOULTON / STOP - VIA VISTA
CROSSWALKS	AT MOULTON / VIA VISTA
PEDESTRIAN/BICYCLES	FEW / FEW
TRUCK TRAFFIC	NO
ON-STREET PARKING	NO STOPPING ANYTIME
OTHER	NO SHOULDERS

ROADWAY FACTORS	
LENGTH OF SEGMENT (MILES)	0.42
VERTICAL CURVE	SLIGHT-GRADUAL UP/DOWNHILL GRADES
HORIZONTAL CURVE	GRADUAL "S" CURVES
LATERAL VISIBILITY	LIMITED SIGHT DISTANCE (areas of)
ROAD CONDITIONS	GOOD
SIDEWALKS / DRIVEWAYS	YES / NO
STREET LIGHTING	YES
DRIVEWAY DENSITY	NONE
OTHER	RAISED MEDIAN ISLAND NO SHOULDERS

ADJACENT LAND USE	RESIDENTIAL (NF) / COMMERCIAL (at Moulton)
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RECOMMENDED SPEED LIMIT	40 MPH
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SPEED LIMIT CHANGE	NO CHANGE
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JUSTIFICATION:

The recommended speed limit is within 3.9 mph of the 85th percentile speed and meets CVC standards.

NF = NON FRONTING TO ROADWAY

File: Santa Maria 2017-10

Note: Santa Maria Avenue has shared jurisdiction with the City of Laguna Hills and speed limit is 40 mph.

RADAR SPEED DISTRIBUTION SHEET

HCI CITY OF LAGUNA WOODS
 SANTA MARIA AVENUE

MOULTON PKWY TO VIA VISTA
 SURVEY BY: HCI - C.BUENDIA
 CHECKED BY: JERRY STOCK

DATE: 0/28/2017
 TIME: 2:30 PM - 3:40 PM

SPEED	CUMMULATIVE PERCENT					
	20	40	60	80	100	
60						X 100.0%
59						X 100.0%
58						X 100.0%
57						X 100.0%
56						X 100.0%
55						X 100.0%
54						X 100.0%
53						X 100.0%
52						X 100.0%
51						X 100.0%
50						X 99.4%
49						X 98.8%
48						X 98.8%
47						X 97.0%
46						X 95.2%
45						X 91.5% }PACE
44						X 85.5% }PACE
43						X 80.0% }PACE ---85PCT
42						X 74.5% }PACE
41						X 67.9% }PACE
40						X 61.2% }PACE
39						X 49.1% }PACE ---MEAN
38						X 37.6% }PACE
37						X 28.5% }PACE
36						X 21.8% }PACE
35						X 10.9% ---15PCT
34						X 5.5%
33						X 2.4%
32						X 1.2%
31						X 0.6%
30						X 0.0%
29						X 0.0%
28						X 0.0%
27						X 0.0%
26						X 0.0%
25						X 0.0%
24						X 0.0%
23						X 0.0%
22						X 0.0%
21						X 0.0%
20						X 0.0%
19						X 0.0%
18						X 0.0%
17						X 0.0%
16						X 0.0%
15						X 0.0%

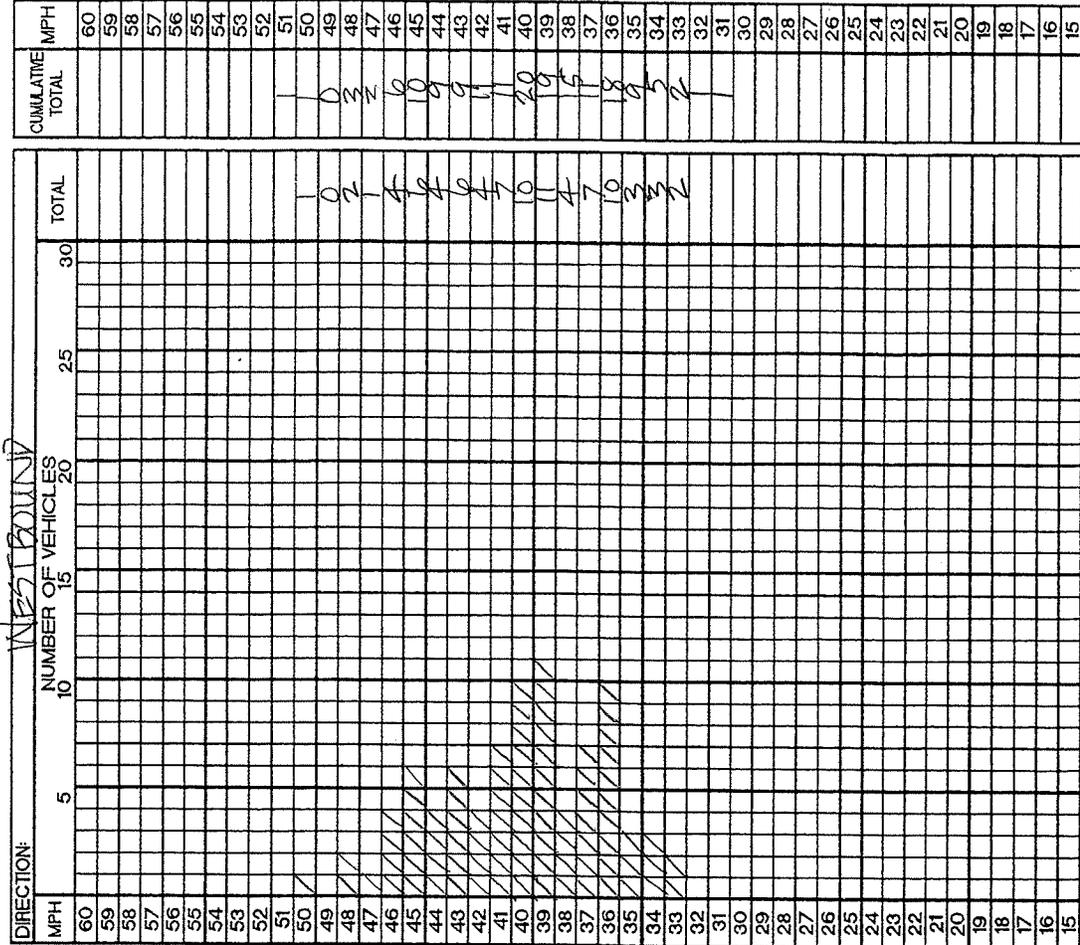
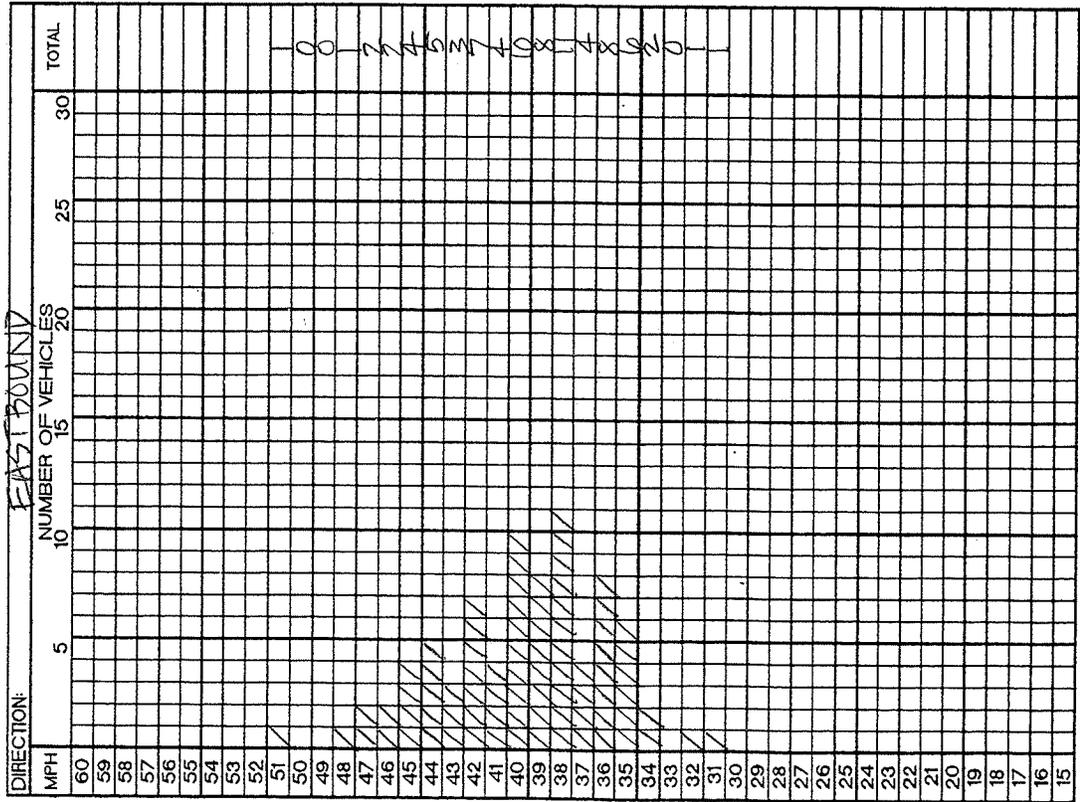
UPPER LIMIT 10 MPH PACE:	45 MPH	85th PERCENTILE SPEED:	43.9 MPH
LOWER LIMIT 10 MPH PACE:	36 MPH	MEDIAN SPEED:	39.1 MPH
PERCENT OVER PACE:	8.5 %	15th PERCENTILE SPEED:	35.4 MPH
PERCENT IN PACE:	80.6 %		
PERCENT UNDER PACE:	10.9 %		

Radar Speed Survey Field Sheet

HARTZOG and CRABILL INC.
Company, Traffic Engineers
1054 New Blvd, Suite 102, Irvine, CA 92618
(949) 251-5402

AGENCY: CITY OF LAGUNA WOODS
STREET: SANTA MARIA AVENUE
LOCATION: MOUNTAIN PKWY TO VIA VISTA

WEATHER: SUNNY
ROAD CONDITION: DRY
OBSERVER: CATHY BUENDIA
DATE: 08/28/17
START TIME: 2:30 PM
END TIME: 3:40 PM VUL



AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____
CUMULATIVE (BOTH DIRECTIONS) _____

AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____

ENGINEERING AND TRAFFIC SURVEY

CITY OF LAGUNA WOODS

HCI**SANTA MARIA AVENUE****SANTA VITTORIA TO AVENIDA SOSIEGA**

DATE: 8/25/2017

SURVEY BY: HCI - C.BUENDIA

TIME: 1:30 PM - 2:30 PM

CHECKED BY: JERRY STOCK

PREVAILING SPEED DATA	
LOCATION OF SURVEY	WEST OF MOULTON
DATE OF SURVEY	8/25/2017
85th PERCENTILE	41.2 MPH
10 MPH PACE	32 - 41 MPH
PERCENT IN PACE	75.0 %
POSTED SPEED LIMIT	40 MPH

ACCIDENT HISTORY	
NO. OF MONTHS OBSERVED	36
SPEED-RELATED ACCIDENTS	0
TOTAL ACCIDENTS	0
ANNUAL ACCIDENT RATE	0.00 ACCIDENTS PER YEAR (SPEED RELATED ONLY)
ACC./MILLION VEH. MILES	0.00 ACCIDENTS PER MVM (SPEED RELATED ONLY)

TRAFFIC FACTORS	
AVERAGE DAILY TRAFFIC	7,000
LANE CONFIGURATION	2 LANES PER DIRECTION
TRAFFIC CONTROLS	STOP - AVENIDA SOSIEGA
CROSSWALKS	AT AVENIDA SOSIEGA
PEDESTRIAN/BICYCLES	FEW / FEW
TRUCK TRAFFIC	NO
ON-STREET PARKING	NO STOPPING ANYTIME
OTHER	NO SHOULDERS

ROADWAY FACTORS	
LENGTH OF SEGMENT (MILES)	0.14
VERTICAL CURVE	SLIGHT UP/DOWNHILL GRADES
HORIZONTAL CURVE	VERY SLIGHT CURVE
LATERAL VISIBILITY	GOOD
ROAD CONDITIONS	GOOD
SIDEWALKS / DRIVEWAYS	YES / NO
STREET LIGHTING	YES
DRIVEWAY DENSITY	NONE
OTHER	RAISED MEDIAN ISLAND NO SHOULDERS

ADJACENT LAND USE	RESIDENTIAL (NF) / ELEMENTARY SCHOOL / COMMERCIAL (at Moulton)
--------------------------	--

RECOMMENDED SPEED LIMIT	40 MPH
--------------------------------	--------

SPEED LIMIT CHANGE	NO CHANGE
---------------------------	-----------

JUSTIFICATION:	The recommended 40 mph is within 1.2 mph of the 85th percentile speed and meets CVC standards.
-----------------------	--

NF = NON FRONTING TO ROADWAY

File: Santa Maria 2017-11

Note: Santa Maria Avenue has shared jurisdiction with the City of Laguna Hills

RADAR SPEED DISTRIBUTION SHEET



CITY OF LAGUNA WOODS

SANTA MARIA AVENUE

DATE: 8/25/2017

TIME: 1:30 PM - 2:30 PM

SANTA VITTORIA TO AVENIDA SOSIEGA

SURVEY BY: HCI - C.BUENDIA

CHECKED BY: JERRY STOCK

SPEED	CUMMULATIVE PERCENT					
	20	40	60	80	100	
60						X 100.0%
59						X 100.0%
58						X 100.0%
57						X 100.0%
56						X 100.0%
55						X 100.0%
54						X 100.0%
53						X 100.0%
52						X 100.0%
51						X 100.0%
50						X 100.0%
49						X 99.4%
48						X 99.4%
47						X 98.8%
46						X 98.3%
45						X 95.3%
44						X 92.4%
43						X 90.1%
42						X 89.5%
41						X 83.7% } PACE ---85PCT
40						X 76.7% } PACE
39						X 66.9% } PACE
38						X 61.6% } PACE
37						X 48.8% } PACE ---MEAN
36						X 43.0% } PACE
35						X 38.4% } PACE
34						X 27.3% } PACE
33						X 18.0% } PACE
32						X 15.1% } PACE
31						X 8.7% ---15PCT
30						X 7.0%
29						X 2.9%
28						X 2.3%
27						X 0.6%
26						X 0.0%
25						X 0.0%
24						X 0.0%
23						X 0.0%
22						X 0.0%
21						X 0.0%
20						X 0.0%
19						X 0.0%
18						X 0.0%
17						X 0.0%
16						X 0.0%
15						X 0.0%

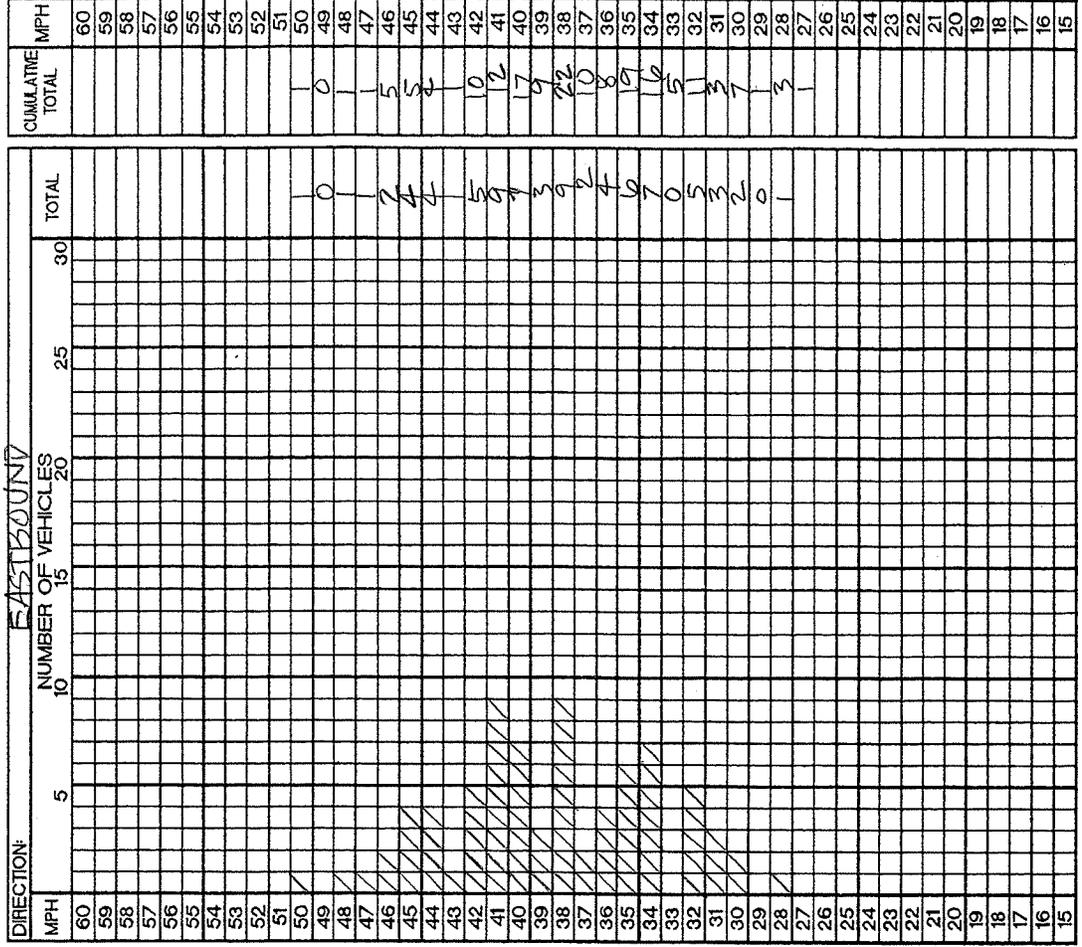
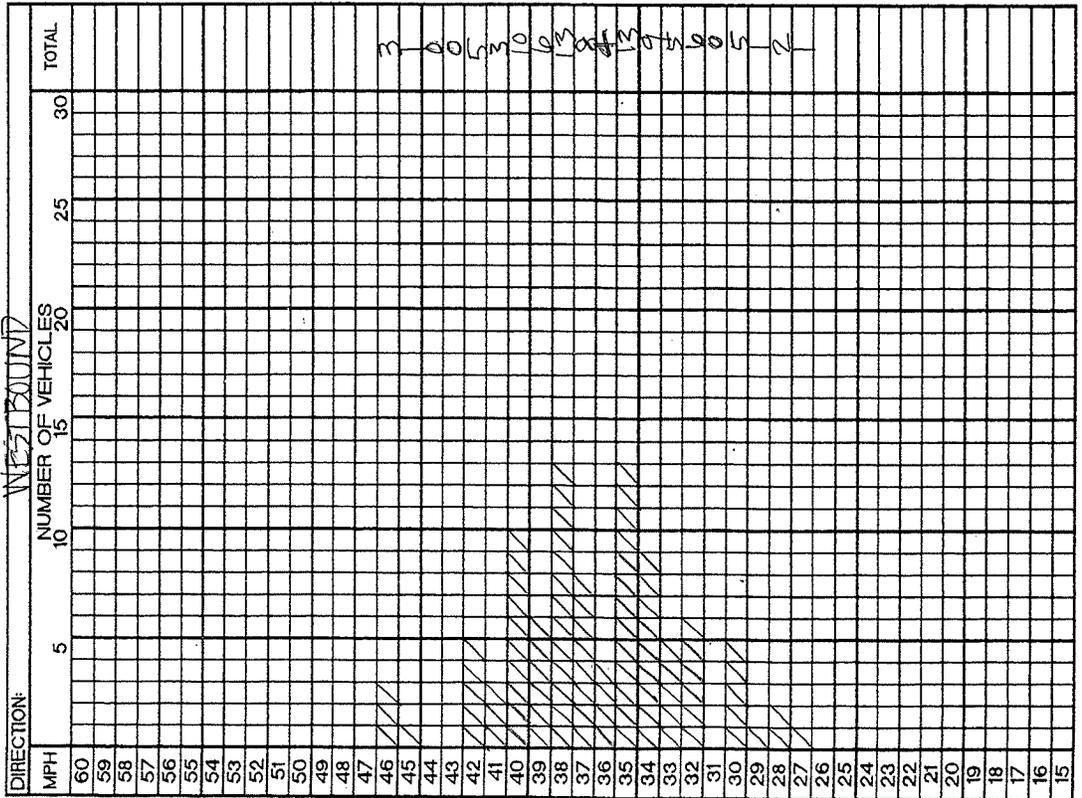
UPPER LIMIT 10 MPH PACE:	41	MPH		85th PERCENTILE SPEED:	41.2	MPH
LOWER LIMIT 10 MPH PACE:	32	MPH		MEDIAN SPEED:	37.1	MPH
PERCENT OVER PACE:	16.3	%		15th PERCENTILE SPEED:	32.0	MPH
PERCENT IN PACE:	75.0	%				
PERCENT UNDER PACE:	8.7	%				

Radar Speed Survey Field Sheet

HARTZOG AND CRABILL INC.
Company, Traffic Engineers
1030 New Reg. Bldg. Suite 102, Los Angeles, CA 90015
(310) 231-5125

AGENCY: CITY OF LAGUNA WOODS DATE: 8/25/17
STREET: SANTA MARIA AVENUE ROAD CONDITION: DRY START TIME: 1:30 PM
LOCATION: SANTA VICTORIA DR TO AVENIDA SOSIEGA OBSERVER: CATHY BUENDIA END TIME: 2:30 PM / all

WEATHER: SUNNY
ROAD CONDITION: DRY
OBSERVER: CATHY BUENDIA



AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____
CUMULATIVE (BOTH DIRECTIONS) _____

AVERAGE SPEED: _____ CRITICAL SPEED: _____ PACE SPEED: _____

APPENDIX B



TRAFFIC RADAR CERTIFICATION

TESTED TO NHTSA SPECIFICATIONS / IACP CRITICAL PERFORMANCE STANDARDS
(NHTSA) National Highway and Traffic Safety Administration.
(IACP) International Association of Chiefs of Police.

16202 Keats Circle
Westminster, Calif. 92683

R.H.F. is a certified independent testing and repair facility.

1	TEST ID	Date Received 11-18-16	Certification Number 71142						
2	DEVICE ID	Manufacturer MPH	Model: K-15	Type (I-IV) III	Directional radar <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Same direction <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
		Counting unit S/N 12145	Antenna-1 S/N N/A		Antenna-2 S/N N/A				
3	§ 2.4 / § 5.4 TUNING FORK CALIBRATION	Low speed fork S/N 25560	Last date calib.	Freq. (Hz)	Speed (mph) 35	Measured (Hz) 2525	PASS	FAIL	
		High speed fork S/N	Last date calib.	Freq. (Hz)	Speed (mph)	Measured (Hz)			
4	§ 2.5 / § 5.5 RADAR DEVICE TUNING FORK TESTS			Lo fork	High fork		PASS	FAIL	
		Stationary mode	Fork speed (mph)	35		65			
			Disp. Speed (mph)	35		65			
		Moving mode Opposite Direction	TARGET SPEED (Hi fork - Lo fork)	Expected. (mph) N/A	Displayed. (mph) N/A				
Moving mode Same Direction	TARGET SPEED (Hi fork + Lo fork Ho fork - Lo fork)	Expected. (mph) N/A	Displayed. (mph) N/A						
5	§ 2.6.1 / § 5.6.1 TRANSMISSION FREQUENCY STABILITY	Standard supply Voltage (V) 13.6 V	Antenna 1 Freq. GHz 24.160	Antenna 2 Freq. GHz N/A		PASS	FAIL		
		Standard supply Voltage - 20% (V) 10.8 V	Antenna 1 Freq. GHz 24.160	Antenna 2 Freq. GHz N/A					
		Standard supply voltage + 20% (V) 16.3 V	Antenna 1 Freq. GHz 24.160	Antenna 2 Freq. GHz N/A					
6	§ 2.6.5 / § 5.6.5 POWER DENSITY	Mfg. Spec. (max mW/cm) ≤ 5	Antenna 1 Power (mW/cm) .6	Antenna 2 Power (mW/cm) N/A		PASS	FAIL		
7	§ 2.8 / § 5.8 LOW VOLTAGE	Mfg. spec. (V) ≤ 10.8V	LVA activates (V) N/A	LVA deactivates (V) N/A		PASS	FAIL		
8	§ 2.9.1 / § 5.9.1 DOPPLER AUDIO	A. Audio tone correlates with received Doppler signal <input type="checkbox"/> Yes <input type="checkbox"/> No			B. Functioning audio volume-adjustment control <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		PASS	FAIL	
9	§ 2.12.4 / § 5.12.4 INTERNAL CIRCUIT	Mfg. Spec. 32	Test results 32		PASS	FAIL			
10	§ 2.12.6.5 / § 5.12.6.5 DIRECTIONAL	A. Selects only targets moving towards radar <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N.A.			B. Selects only targets moving away from radar <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N.A.		PASS	FAIL	
11	§ 2.12.7 / § 2.12.8 / 5.12.7 / 5.12.8 LOW AND HIGH SPEED DISPLAY TEST	Stationary mode: target channel (mph)	Low speed spec. 20	Lo speed disp. 20		PASS	FAIL		
			Hi speed spec. 199	Hi speed disp. 199					
		Moving Mode target channel (mph)	Low speed spec. N/A	Lo speed disp. N/A					
			Hi speed spec. N/A	Hi speed disp. N/A					
Moving Mode: patrol channel (mph)	Low speed spec. N/A	Lo speed disp. N/A							
	Hi speed spec. N/A	Hi speed disp. N/A							
12	§ 2.13 / § 5.13 RFI TEST	N/A					PASS	FAIL	
13	LABORATORY COMMENTS								
14	NHTSA/IACP CERTIFICATION	<p><i>This radar device meets or exceeds the minimal operational standards of the National Traffic Highway Safety Administration. California Vehicle Code Section 40802</i> <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL</p> <p>Certified by: <u>Ford Bertram</u> Date: <u>11-18-16</u></p>							
15	INVENTORY	<input type="checkbox"/> Fork Cert <input type="checkbox"/> Manual <input type="checkbox"/> 2 nd Ant. <input type="checkbox"/> Remote <input type="checkbox"/> Bat. <input type="checkbox"/> Carrying Case <input type="checkbox"/> Other: (please list)							



16202 Keats Circle
Westminster, Calif. 92683

TRAFFIC RADAR CERTIFICATION

TESTED TO NHTSA SPECIFICATIONS / IACP CRITICAL PERFORMANCE STANDARDS
(NHTSA) National Highway and Traffic Safety Administration.
(IACP) International Association of Chiefs of Police.

R.H.F. is a certified independent testing and repair facility.

1	TEST ID	Date Received <i>11-18-16</i>	Certification Number <i>71143</i>				
2	DEVICE ID	Make: Kustom Electronics	Model: KR-10SP	Type (I-IV) IV	Directional radar <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Same direction <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
		Counting unit S/N <i>EE 8364</i>	Antenna-1 S/N <i>CC 9108</i>	Antenna-2 S/N			
3	§ 2.4 / § 5.4 TUNING FORK CALIBRATION	Low speed fork S/N <i>6359</i>	Last date calib.	Freq. (Hz)	Speed (mph) <i>35</i>	Measured (Hz) <i>2343</i>	PASS FAIL
		High speed fork S/N <i>15751</i>	Last date calib.	Freq. (Hz)	Speed (mph) <i>65</i>	Measured (Hz) <i>4732</i>	
4	§ 2.5 / § 5.5 RADAR DEVICE TUNING FORK TESTS	Stationary mode		Lo fork	High fork		PASS FAIL
		Fork speed (mph)		35	65		
		Disp. Speed (mph)		35	65		
		Moving mode Opposite Direction	TARGET SPEED (Hi fork - Lo fork)	Expected. (mph) 30	Displayed. (mph) 30		
Moving mode Same Direction	TARGET SPEED Hi fork + Lo fork Ho fork - Lo fork	Expected. (mph) N/A	Displayed. (mph) N/A				
5	§ 2.6.1. / § 5.6.1 TRANSMISSION FREQUENCY STABILITY	Standard supply Voltage (V) 13.6 V	Antenna 1 Freq. GHz <i>24.166</i>	Antenna 2 Freq. GHz		PASS FAIL	
		Standard supply Voltage - 20% (V) 10.8 V	Antenna 1 Freq. GHz <i>24.166</i>	Antenna 2 Freq. GHz			
		Standard supply voltage + 20% (V) 16.3 V	Antenna 1 Freq. GHz <i>24.166</i>	Antenna 2 Freq. GHz			
6	§ 2.6.5 / § 5.6.5 POWER DENSITY	Mfg. Spec. (max mW/cm) ≤ 5	Antenna 1 Power (mW/cm) <i>0.9</i>	Antenna 2 Power (mW/cm)		PASS FAIL	
7	§ 2.8 / § 5.8 LOW VOLTAGE	Mfg. spec. (V) ≤ 10.8 V	LVA activates (V) <i>9.9</i>	LVA deactivates (V) <i>10.6</i>		PASS FAIL	
8	§ 2.9.1 / § 5.9.1 DOPPLER AUDIO	A. Audio tone correlates with received Doppler signal B. Functioning audio volume-adjustment control		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		PASS FAIL	
9	§ 2.12.4 / § 5.12.4 INTERNAL CIRCUIT	Mfg. Spec. 32	Test results <i>32</i>		PASS FAIL		
10	§ 2.12.6.5 / § 5.12.6.5 DIRECTIONAL	A. Selects only targets moving towards radar B. Selects only targets moving away from radar		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N.A. <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N.A.		PASS FAIL	
11	§ 2.12.7 / § 2.12.8 / 5.12.7 / 5.12.8 LOW AND HIGH SPEED DISPLAY TEST	Stationary mode: target channel (mph)		Low speed spec. 15	Lo speed disp. <i>15</i>		PASS FAIL
		Hi speed spec. 175		Hi speed disp. <i>175</i>			
		Moving Mode target channel (mph)		Low speed spec. 20	Lo speed disp. <i>20</i>		
		Hi speed spec. 155		Hi speed disp. <i>155</i>			
Moving Mode: patrol channel (mph)		Low speed spec. 20	Lo speed disp. <i>20</i>		Hi speed spec. 80		Hi speed disp. <i>80</i>
12	§ 2.13 / § 5.13 RFI TEST						PASS FAIL
13	LABORATORY COMMENTS						
14	NHTSA/IACP CERTIFICATION	This radar device meets or exceeds the minimal operational standards of the National Traffic Highway Safety Administration. California Vehicle Code Section 40802 <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL					
Certified by: <i>Fred Bauman</i>		Date: <i>11-18-16</i>					
15	INVENTORY	<input type="checkbox"/> Fork Cert <input type="checkbox"/> Manual <input type="checkbox"/> 2 nd Ant. <input type="checkbox"/> Remote <input type="checkbox"/> Bat. <input type="checkbox"/> Carrying Case <input type="checkbox"/> Other: (please list)					

Radar Certification

Certificate of Completion and Competency
DOPPLER RADAR OPERATION

Name & Title Cathy Buendia
Technician

Department Transportation

has successfully completed a course of instruction in the operation of Moving Car and Stationary Doppler Radar and is deemed competent to utilize the same Doppler Radar to determine the velocity of motor vehicles.

7/23/91 Date [Signature] Instructor

EMPI 316 East Ninth Street
Subsidiaries of MPD, Inc. Owensboro, KY 42301
(502) 605-6200

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8.3

LOCAL HAZARD MITIGATION PLAN UPDATE

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City of Laguna Woods

Agenda Report

TO: Honorable Mayor and City Councilmembers

FROM: Christopher Macon, City Manager

FOR: October 18, 2017 Regular Meeting

SUBJECT: Local Hazard Mitigation Plan Update

Recommendation

Provide input to staff regarding the Local Hazard Mitigation Plan Update significant work plan item.

Background

The Fiscal Years 2017-19 Budget & Work Plan includes the following significant work plan item:

- **Local Hazard Mitigation Plan Update** – Review and update the City’s local hazard mitigation plan in order to support the City’s long-term strategy to reduce disaster losses. This item will also fulfill requirements of federal law. The planning period for this update is calendar years 2018 through 2022.

The City’s existing Local Hazard Mitigation Plan (“Plan”) was initially adopted by the City Council in 2012 and is approved by FEMA for use through May 26, 2018.

The purpose of the Plan is to form the foundation for the City’s long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage. Specifically, the Plan:

- Identifies and evaluates local hazards and associated risk;
- Documents the resources available for hazard risk and loss reduction;
- Strategizes to reduce local hazard risk and potential future disaster losses;

- Involves diverse stakeholders in the planning process;
- Provides a mechanism for continual development of the Plan; and
- Increases public awareness and understanding of local hazards.

The Plan fulfills the requirements of Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. 5165, as amended by the Disaster Mitigation Act of 2000 (P.L. 106-390), which requires cities to undertake a risk-based approach to reducing risks to natural hazards through mitigation planning. The Plan exceeds those same requirements by also addressing manmade hazards.

44 CFR 201.6 requires cities to have a Federal Emergency Management Agency (“FEMA”)-approved local hazard mitigation plan as a prerequisite for applying for and/or receiving grants from several pre-disaster federal assistance programs.

Discussion

Today’s meeting is an opportunity for the City Council and public to provide input to staff prior to their making recommendations to the City Council regarding the update of the Local Hazard Mitigation Plan (“Plan”). At this point, no decisions have been made regarding those recommendations and, ultimately, City Council action would be required prior to implementing any such recommendations. The City Council will not be asked to take any formal action at today’s meeting.

The following preliminary discussion questions have been formulated based on a review of best practices for local hazard mitigation planning, the City’s experience implementing the existing Plan, plans that the City has adopted subsequent to the adoption of the existing Plan (e.g., the Climate Adaptation Plan), and outreach that staff has conducted with local stakeholder groups. The questions are intended to help start today’s discussion, but in no way limit potential topics or inquiries.

Local Hazards

The existing Plan addresses the following 14 hazard types:

Table 1: Existing Local Hazards Addressed

Airplane Accidents	Landslides
Civil Disturbances	Natural Gas Pipeline Failures
Earthquakes	Public Health Crises
Energy Shortages	Radiological Accidents

Extreme Heat	Terrorism
Floods and Storms	Water Shortages
Hazardous Materials Accidents	Wildfires and Urban Conflagrations

At this point, staff is considering modifying the hazard title “Water Shortages” to read “Drought and Water Shortages,” in the interest of clarity.

- Are there additional hazards that should be addressed in the Plan?

Risk Assessment

The existing Plan includes the following risk assessment categorization matrix:

Table 2: Existing Risk Assessment Categorization Matrix

		Impact		
		High	Medium	Low
Probability	High	Wildfires and Urban Conflagrations Earthquakes	Floods and Storms	
	Medium	Energy Shortages Public Health Crises	Extreme Heat Water Shortages	Hazardous Materials Accidents Landslides
	Low	Radiological Accidents Terrorism		Airplane Accidents Civil Disturbances Natural Gas Pipeline Failures

LEGEND

Probability

- **High** – High probability hazards are thought to be likely to occur as evidenced by continuing conditions that have adversely impacted the City more than once in the past 10 years and/or other compelling evidence.
- **Medium** – Medium probability hazards are thought to have the potential to occur as evidenced by continuing conditions that have adversely impacted the City at least once in recorded history and/or other compelling evidence.
- **Low** – Low probability hazards are thought to be unlikely to occur as evidenced by the absence of continuing conditions that have adversely impacted the City in recorded history and/or other compelling evidence.

Impact

- **High** – High impact hazards are thought to be highly significant or catastrophic in terms of loss of life, personal injury, economic injury, and property damage. They generally affect at least a majority of the City’s residents and/or land area.
- **Medium** – Medium impact hazards are thought to be modest in terms of loss of life, personal injury, economic injury, and property damage. They generally affect between 25% and 50% of the City’s residents and/or land area.
- **Low** – Low impact hazards are thought to be negligible or minor in terms of loss of life, personal injury, economic injury, and property damage. They generally affect less than 25% of the City’s residents and/or land area.

At this point, staff is considering modifying the impact assessment for Energy Shortages from “high” to “medium,” based on the potential for loss of life, personal injury, economic injury, and property damage.

- Should modifications be made to the risk assessment categorization matrix?

Fiscal Impact

Funds to support this project are included in the City’s budget.

8.4
CITY COUNCIL MEETING SCHEDULE

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City of Laguna Woods Agenda Report

TO: Honorable Mayor and City Councilmembers

FROM: Christopher Macon, City Manager

FOR: October 18, 2017 Regular Meeting

SUBJECT: City Council Meeting Schedule

Recommendation

Approve modifications to the City Council meeting schedule for Fiscal Year 2017-18.

Discussion

Staff is recommending the following changes to the City Council meeting schedule for Fiscal Year 2017-18. Specific proposed scheduling and accompanying notes are included as Attachment A.

- Scheduling of an adjourned regular meeting on December 13, 2017 at 2 p.m. regarding the Comprehensive Annual Financial Report, City Council appointments, and other business

All proposed meetings would occur at Laguna Woods City Hall, 24264 El Toro Road, Laguna Woods, CA 92637, unless otherwise noticed.

Fiscal Impact

Sufficient funds to support the proposed City Council meeting schedule are included in the Fiscal Year 2017-18 Budget. Aside from noticing and reproduction expenses, recurring out-of-pocket expenses for City Council meetings are generally limited to \$100 per hour for closed captioning services.

Attachment: A – Proposed City Council Meeting Schedule for Fiscal Year 2017-18

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**CITY OF LAGUNA WOODS
CITY COUNCIL MEETING SCHEDULE
FISCAL YEAR 2017-18**

Updated on XX

MEETING DATE/TIME & TYPE	NOTES
Wednesday, July 19, 2017 at 2 p.m. Regular Meeting	
Wednesday, August 16, 2017 at 2 p.m. Regular Meeting	
Wednesday, September 20, 2017 at 2 p.m. Regular Meeting	
Wednesday, October 18, 2017 at 2 p.m. Regular Meeting	
Wednesday, November 15, 2017 at 2 p.m. Regular Meeting	
Wednesday, December 13, 2017 at 2 p.m. Adjourned Regular Meeting	Comprehensive Annual Financial Report for Fiscal Year 2016-17, City Council appointments, and other business
Wednesday, December 20, 2017 at 2 p.m. Regular Meeting Cancelled	December 20, 2017 regular meeting cancelled
Wednesday, January 17, 2018 at 2 p.m. Regular Meeting	
Wednesday, February 21, 2018 at 2 p.m. Regular Meeting	
Wednesday, March 21, 2018 at 2 p.m. Regular Meeting Cancelled	March 21, 2018 regular meeting cancelled
Wednesday, April 18, 2018 at 2 p.m. Regular Meeting	
Wednesday, April 25, 2018 at 2 p.m. Adjourned Regular Meeting	Budget/work plan workshop and other business
Wednesday, May 16, 2018 at 2 p.m. Regular Meeting	
Wednesday, June 20, 2018 at 2 p.m. Regular Meeting	

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