

REFERENCES

- 1 Centers for Disease Control and Prevention. (n.d.). Chronic diseases: The power to prevent, the call to control; at a glance 2009. Retrieved from <http://www.cdc.gov/chronicdisease/resources/publications/aag/chronic.htm>
- 2 California Conference of Local Health Officers and County Health Executives Associates of California. (2013). Chronic disease prevention framework.3-4. Retrieved from: <http://www.cdph.ca.gov/programs/cclho/Documents/ChronicDiseaseReportFINAL.pdf>
- 3 Centers for Disease Control and Prevention. Death and Mortality. Retrieved from <http://www.cdc.gov/nchs/fastats/deaths.htm>. Accessed July 14, 2017.
- 4 Chronic diseases: The power to prevent, the call to control; at a glance 2009. op. cit.
- 5 Ibid.
- 6 California Department of Public Health. (2013). The burden of chronic disease and injury. Retrieved from <http://www.cdph.ca.gov/programs/Documents/BurdenReportOnline%2004-04-13.pdf>
- 7 Joint Center for Political and Economic Studies. (2012). Place matter for health in the San Joaquin Valley: Ensuring opportunities for good health for all. Retrieved from <https://www.fresnostate.edu/chhs/cvhipi/documents/cvhipi-jointcenter-sanjoaquin.pdf>
- 8 California Department of Public Health. (2014). County health status profiles 2014. Retrieved from <http://www.cdph.ca.gov/programs/ohir/Documents/OHIRProfiles2014.pdf>
- 9 Centers for Disease Control and Prevention. (n.d.). National diabetes statistics report, 2014. Retrieved from <http://www.cdc.gov/diabetes/pubs/generall4.htm>
- 10 Go, A. S., Mozaffarian, D., Roger, V. L., Benjamin, E. J., Berry, J. D., Blaha, M. J., & Stroke, S. S. (2014). Heart disease and stroke statistics--2014 update: a report from the American Heart Association. *Circulation*, 129(3), e28.
- 11 American Heart Association. Heart Disease and Stroke Statistics—2014 Update. Retrieved from <http://circ.ahajournals.org/content/early/2013/12/18/01.cir.0000441139.02102.80.full.pdf>
- 12 Murphy, S.L., Xu, J.Q., & Kochanek, K.D. (2010). Deaths: Final data for 2010. *Natl Vital Stat Rep*. 2013;61(4). Retrieved from http://www.cdc.gov/nchs/data/nvsr/nvsr61/nvsr61_04.pdf
- 13 American College of Allergy, Asthma & Immunology. (n.d.). Asthma Facts. Retrieved from <http://www.acaai.org/press/Pages/asthma-facts.aspx>
- 14 World Health Organization. (n.d.). Obesity and overweight. Retrieved from <http://www.who.int/mediacentre/factsheets/fs311/en/>
- 15 U.S. Department of Health and Human Services. (2013) Health, United States, 2013. Retrieved from <http://www.cdc.gov/nchs/data/hus/hus13.pdf#064>
- 16 Obesity Society. (n.d.). What is obesity. Retrieved from <http://www.obesity.org/resources-for/what-is-obesity.htm>
- 17 The Henry J. Kaiser Family Foundation. (n.d.). Percent of adults who are overweight or obese. Retrieved from <http://kff.org/other/state-indicator/adult-overweightobesity-rate/>
- 18 Obesity Society op. cit.
- 19 Obesity Society op. cit.
- 20 Bengiamin, M., Capitman, J. A., & Chang, X. (2004). Healthy people 2010: A 2007 profile of health status in the San Joaquin Valley. Central Valley Health Policy Institute, California State University, Fresno. Retrieved from <https://www.fresnostate.edu/chhs/cvhipi/documents/healthy-people-2010-review-12-12-2011.pdf>
- 21 Ibid.
- 22 Place matter for health in the San Joaquin Valley. op. cit.
- 23 County health status profiles 2014 op. cit.
- 24 Chronic diseases: The power to prevent, the call to control; at a glance 2009 op. cit.
- 25 The Stroke Center at University Hospital. (n.d.). Economic costs of stroke. Retrieved from <http://www.uhnj.org/stroke/stats.htm>
- 26 Journal of Healthcare Contracting. (2005). Lifestyle disease prevention: Diabetes. Retrieved from <http://www.jhconline.com/lifestyle-disease-prevention-diabetes.html>
- 27 U.S. Census Bureau. (2013). Median income in the past 12 months (in inflation-adjusted dollars). Retrieved from http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_13_1YR_S1903&prodType=table
- 28 U.S. Census Bureau. (2013). Selected economic characteristics. Retrieved from http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_13_1YR_DP03&prodType=table
- 29 County health status profiles 2014 op. cit.
- 30 Yeung, B. (2012, March 9). Life expectancy varies by ZIP code in San Joaquin Valley. *California Watch*. Retrieved from <http://californiawatch.org/dailyreport/life-expectancy-varies-zip-code-san-joaquin-valley-15233>

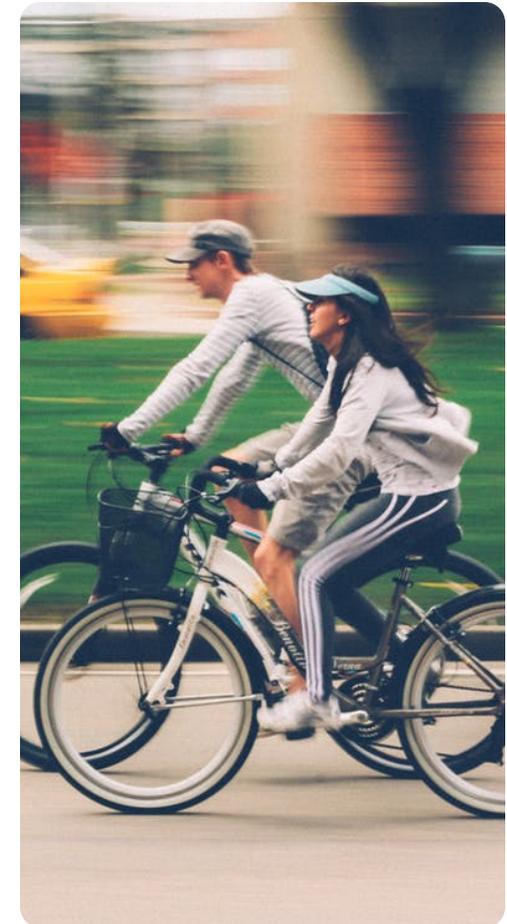
Signs of a Costly

epidemic

The Personal Health Risks and Economic of the
Chronic Disease Crisis



Health experts and government planning agencies are better understanding the relationship between public health and the planning policies that shape the built environment, realizing these decisions can play a larger role in impacting both the health and economic well-being of those living in our communities.



MAKING THE CONNECTION

How we invest in our transportation systems is essential to the welfare of all California residents.

Transportation investments and policies have a major impact on physical activity, traffic injuries and fatalities, environmental quality, and access to services and jobs. Our Metropolitan Planning Organizations (MPOs) have an influence on policy decisions that shape land use and transportation systems, where on a regional scale, the greatest benefits to health, equity and the environment can be realized.

UNDERSTANDING THE CURRENT HEALTH STATUS OF OUR RESIDENTS IS AN IMPORTANT INITIAL STEP TO ADDRESSING LARGE-SCALE ISSUES THAT CAN BE POSITIVELY IMPACTED BY PUBLIC POLICY.

Since 2008, the passage of Senate Bill 375 (SB 375) has required all MPOs to include an additional plan known as a Sustainable Communities Strategy (SCS) into its federally mandated Regional Transportation Plans (RTP). The primary goal of the SCS is to provide a regional land use and transportation plan that focuses on outcomes and target goals meant to lower greenhouse gas (GHG) emissions associated with transportation.

Through the SCS, MPOs are finding opportunities to advance policies and programming that can provide healthier and equitable outcomes. As an example, by working towards policy outcomes in the RTP that increase access to transit, it is possible to reduce household and transportation costs for low-income families, increase physical activity opportunities, reduce local air pollution, and cut GHGs.

San Joaquin Council of Governments is currently updating their 2018 RTP/SCS and deciding what the appropriate amount for Active Transportation Projects between 2018 and 2042 will need to be. Active Transportation Projects include means of getting around by human energy, i.e. bicycling or walking.

These projects include measures such as bike lanes, shared use paths, and streetscape enhancements such as lighting and street calming features. These features all serve practical purposes and provide an enhanced environment that allows for increased opportunities for the types of active living behaviors that can play a part in reducing the prevalence of chronic diseases in our region. In the recent 2017 survey results for the RTP/SCS, over 800 residents responded to questions related to transportation, including investments and active transportation. Many of the comments and survey answers indicated that residents are ready to see more Active Transportation Projects in San Joaquin County and are willing to utilize them if given the opportunity.

This report summarizes a growing consensus of opinion, based on research and data, that is recognizing the San Joaquin Valley, of which San Joaquin County is a part, is characterized by elevated rates of chronic diseases which can impact quality of life and lead to premature death. Understanding the current health status of our residents is an important initial step to addressing large-scale issues that can be positively impacted by public policy.

A Chronically Growing Problem

Prevalence rates for certain chronic diseases are higher in both the SJV and SJC than the state. These chronic health conditions can be immediately life threatening, such as heart attack and stroke. Others linger over time and need intensive management, such as diabetes.

AN EARLY ROAD TO DEATH

In both the SJV region and locally in SJC, an increasing number of the population are on track for premature death.²⁷

Where you live determines what you will be exposed to, what opportunities are available to you, and can factor in how long you can expect to live. In the San Joaquin Valley, life expectancy can vary by as much as 21 years depending on your zip code.²⁸ Barb Alberson, senior deputy director, policy & planning at San Joaquin County Public Health Services notes, "It is much more difficult to make healthy choices in an unhealthy neighborhood with limited job opportunities, low-quality housing, pollution, limited access to healthy food, and few safe places for everyday physical activity."

In San Joaquin County, residents are dying earlier and more often than most counties in the state, due, in large part, to the elevated prevalence of these illnesses.²⁹ Death rates in the region for stroke, heart disease, diabetes and asthma are outpacing statewide rates.³⁰

While the thought of premature death is sobering enough, chronic disease can severely affect the quality of life for those still living.

Those dealing with such health conditions typically suffer from a reduced ability to enjoy their lives due to limitations on their mobility and independence. As examples, the progression of diabetes can result in amputation of lower body extremities (toe, foot, lower leg), and asthma can limit a person's ability to participate in active living behaviors such as exercise, recreation and leisure.

These common scenarios have a compounding effect on the individual's health, as inactivity can accelerate the existing condition and lead to additional risk of developing other chronic conditions, as well as factor into an individual's overall mental wellness.

Raised occurrences of depressive disorders and anxiety have been associated with chronic disease, as the stress of coping with deteriorating personal health can dramatically affect an individual's mental health. Chronic illness can make it impossible to do the things once enjoyed, eroding away an individual's self-confidence and outlook on life.

Perhaps the most confounding aspect of this health epidemic is that the burden of these negative health outcomes is largely preventable and controllable with a healthy lifestyle and an environment that supports active living behaviors.

Place Matters

The consistently high rankings of these counties indicates where you live has a contributing influence on how long you'll live and may even predict what you may eventually die from. The counties which comprise the SJV region have some of the highest death rates attributed to chronic diseases in the state. Amongst the SJV counties, SJC ranks in the middle for the chronic disease discussed in this health profile.

CALIFORNIA COUNTY DEATH RATE* RANKINGS FOR CHRONIC/PREVENTABLE HEALTH CONDITIONS**

	San Joaquin		Kings		Fresno		Kern		Stanislaus		Madera		Merced		Tulare		
	Ranking amongst SJV counties*	Deaths per 100,000 people	State Ranking†	Deaths per 100,000 people	State Ranking												
Stroke	3 RD Highest	45	45th	38	27th	45	44th	41	37th	43	39th	43	40th	46	48th	49	53rd
Coronary Heart Diseases	6 th Highest	118	47th	113	43rd	115	44th	136	54th	153	57th	136	53rd	119	48th	137	55th
Diabetes	4 th Highest	29	53rd	29	54th	29	55th	33	57th	21	42nd	16	24th	27	51st	23	47th
Lower Respiratory Diseases	4 th Highest	45	34th	45	29th	36	22nd	52	53rd	44	42nd	44	32nd	44	33rd	48	38th

* PER 100,000 PEOPLE ** RANKING BASED ON COMPARISON WITH OTHER SAN JOAQUIN COUNTIES *** LUNG CANCER HAS BEEN INCLUDED DUE TO ITS RELEVANCE IN THE REGION † ORDINAL RANKING AMONG 58 CA COUNTIES; THE HIGHER THE RANKING, THE WORSE THE RELATIVE HEALTH STATUS OF THE COUNTY

IT WILL COST YOU

Chronic disease not only impacts personal health, but has economic consequences as well

Poor health increases direct medical costs such as those spent to cover emergency room visits, hospitalizations, testing, treatment, and other medical services. It also has indirect costs such as lowered productivity due to missed workdays, short- and long-term disability, workers' compensation, and job loss due to an inability to work, resulting in lost personal income.

More than three quarters of all health care spending is directed towards treating those with chronic health conditions,²² as chronically ill patients use the U.S. health care system with more frequency than any other group. This places a heavy burden on the overall health care system and economy.

For the individual, there are also additional personal costs to bear. The average cost of care for a patient up to 90 days after a stroke is \$15,000.²³ Diabetics can expect to pay \$13,000 to \$14,000 in medical costs annually, versus \$2,500 for non-diabetics.²⁴

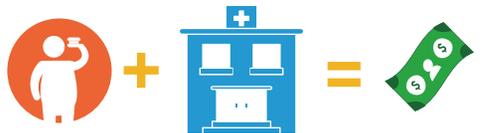
THOSE UNABLE TO PAY FOR HEALTH CARE ARE MORE LIKELY TO GO UNDIAGNOSED OR UNTREATED DUE TO AN INABILITY TO AFFORD MEDICAL ATTENTION AND PREVENTION SERVICES.

These added expenses are especially hard on impoverished families and individuals already living under or near the established federal poverty level. Unfortunately, this is a reality for many households in San Joaquin County, where on average both individual and household median income levels are below state rates,²⁵ and the percentage of people living below the poverty threshold is higher than the state.²⁶ Those unable to pay for health care are more likely to go undiagnosed or untreated due to an inability to afford medical attention and preventative services, as limited financial resources are typically spent on day-to-day necessities.

William Barrett, senior policy analyst at the American Lung Association of California summarizes why planning decisions are ultimately health equity decisions stating "Chronic diseases impact quality of life and take a heavy toll on family budgets, especially in our most vulnerable communities, where planning for clean air and healthy, connected neighborhoods is key to reversing rates of asthma and other preventable health conditions." Recent research has indicated prevalence rates for obesity, asthma, diabetes and chronic cardiovascular health conditions are higher in disadvantaged socioeconomic (SES) minority groups when compared to other SES populations. In SJC, asthma hospitalizations for African Americans is 3-4 times higher than for Whites, Asian and Hispanics. Both African American and Hispanic women in SJC have higher overweight and obese rates.

THE PRICE OF HEALTH

the economic burden of chronic disease



86%

Percentage of the nation's \$2.7 trillion annual health care that goes towards mental and chronic health conditions



Average healthcare costs for someone with one or more chronic diseases is **five times** greater than for someone with none.

Source: Centers for Disease Control and Prevention

Source: Partnerships for Solutions (2004)

A 2007 study released by the Milken Institute reported that treatment costs and lost economic output stemming from chronic disease totaled \$1.3 trillion in the U.S. in 2003; \$1.1 trillion was attributed to lost productivity, while another \$277 billion was spent annually on treatment. In 2014, the Institute released new findings predicting this number would increase by 42% in a 20 year span.

\$432 Billion Heart Disease & Stroke

\$245 Billion Diabetes

\$147 Billion Obesity

\$18 Billion Asthma

Source: Milken Institute, 2007 & 2014

DANGEROUS TRENDS

In the U.S., the top three leading causes of death are heart disease, cancer, and chronic lower respiratory disease¹

The Centers for Disease Control and Prevention (CDC) describes chronic diseases as "non-communicable illnesses that are prolonged in duration, do not resolve spontaneously and [...] are the most common and costly of all health problems."² Chronic diseases are considered health conditions which can either be prevented or controlled through modified personal behavior or environmental intervention.

STUDIES HAVE SHOWN THAT PLACE MATTERS WHERE YOU LIVE CAN HAVE A CONTRIBUTING INFLUENCE ON HOW LONG YOU LIVE.

Approximately half of all Americans reported having at least one chronic disease— 26% reported having two or more.³

At the state level, Californians have some of the highest life expectancy rates in the country. Yet, despite continuing treatment and medical advances which help to extend lives, the prevalence of chronic diseases remains high, affecting the quality of life of 14 million people in the state⁴

Studies have shown that place matters— where you live can have a contributing influence on how long you live. On average, people living in the San Joaquin Valley (SJV) can expect to have a shorter life when compared to other Californians and the rest of the nation.⁵

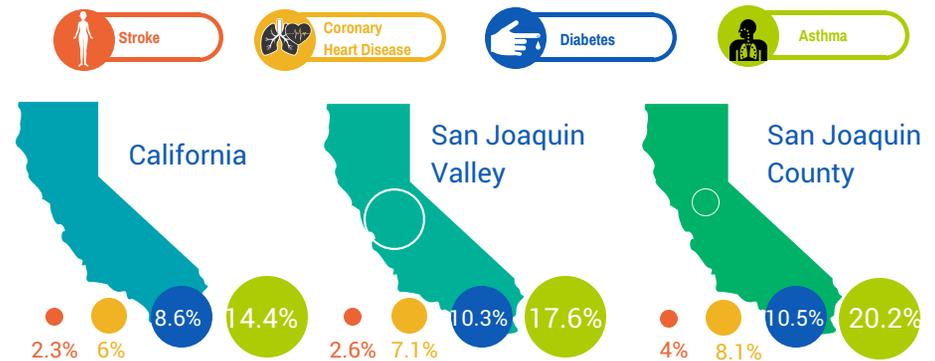
Recent data paints an especially grim picture for residents living in San Joaquin County (SJC). Of the state's 58 counties, SJC has some of the worst ranking health metrics in terms of chronic disease and obesity rates, as well as deaths attributed to chronic diseases in the entire state.⁶

While chronic diseases account for 70% of all deaths in the U.S., most types are preventable and can be effectively controlled through modified behavior or environmental intervention.

7 out of **10**
Deaths attributed to chronic disease in the U.S.

Source: Centers for Disease Control and Prevention

PREVALENCE RATES OF CHRONIC DISEASE



Source: California Health Interview Survey, Pooled 2011-2015 data; Stroke data 2011-2012 data

THE BIG FIVE

Five chronic diseases are significantly impacting SJV and SJC residents: diabetes, stroke, heart disease, asthma and obesity

The CDC defines diabetes (Type I & II) as “a group of diseases marked by high levels of blood glucose resulting from problems in how insulin is produced, how insulin works, or both.”⁷ People suffering from diabetes are prone to develop complications such as heart disease, stroke, kidney failure, blindness, and premature death.

Stroke affects the blood vessels supplying the brain. Nearly one million people were hospitalized for stroke in 2009. In the U.S., deaths caused by stroke have ranked as a leading cause of death and a leading cause of serious long-term disability.⁸

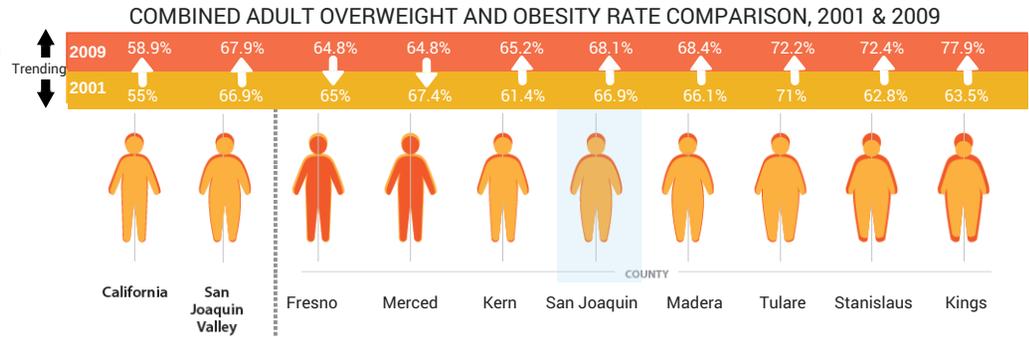
Heart disease is a disorder of the blood vessels supplying the heart and can lead to heart attack, angina, heart failure and arrhythmias. It has consistently been ranked as the leading cause of death in the U.S. during the past 60 years,⁹ attribute to 380,000 deaths annually.¹⁰

Asthma is chronic inflammation of the lung airways that can cause coughing, chest tightness, wheezing or shortness of breath. While asthma is not normally considered life-threatening, the condition can be debilitating, affecting an estimated 22 million Americans and resulting in 497,000 hospitalizations and 1.8 million emergency room visits annually.¹¹

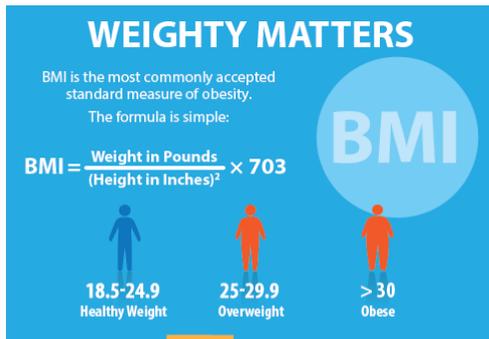
The World Health Organization (WHO) defines obesity as “abnormal or excessive fat accumulation that may impair health.”¹² In the U.S., 36.5% of all adults (ages 20 or older) are obese;¹³ approximately 200 million Americans are considered overweight or obese. These excess weight conditions have been associated with leading to Type II diabetes, high cholesterol, heart failure and many other health issues, as well as exacerbating existing chronic conditions.¹⁴

A Growing Trend

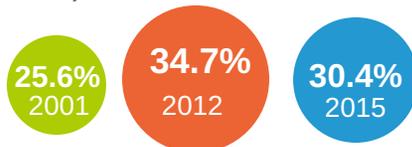
Approximately two-thirds of San Joaquin Valley residents ages 18 to 64, are either overweight or obese, a figure well-above the statewide rate. Some counties experienced a slight rate decrease between 2001 and 2009, while Stanislaus and Kings Counties had dramatic increases. San Joaquin County saw an incremental increase between the two years, while the region has experienced an upward trend overall.



Source: UCLA Center for Health Policy Research, 2003; 2009; Updated 2015



Though rates still remain high, obesity levels in California and the U.S. have leveled off since 2000. As of 2015, there have even been four states that have seen decreases. Yet, despite this larger trend, the rates in San Joaquin County remain higher than both state and nationwide figures. Although the general trend is still at an increase, from 2012-2015, there was a 4.3% decrease in obesity in San Joaquin County.



Source: Healthy People 2010 (2011); California Health Interview Survey (2001 & 2011-2012); Open Data Network, 2015; Community Health Needs Assessment 2016

HEAVY ISSUES

During the past 30+ years, American waistlines have continued to grow

Obesity rates in both adults and children have more than doubled since the 1970's, with nearly two two-thirds of all U.S. adults being overweight or obese.¹⁵

Although there are genetic and hormonal factors that influence body weight, obesity can occur when an individual's daily consumed calorie intake is more than what is burned through physical activity on a regular basis.

Being unhealthily overweight is a primary precursor to many serious health issues. Risks for developing chronic health conditions such as diabetes (Type II), hypertension, stroke and heart disease are increased in individuals that are obese.¹⁶

In addition, other serious health risks are closely associated with obesity. Both obese men and women are more likely than their non-obese counterparts to die from a variety of cancers.¹⁷

A troubling trend has emerged in the SJV and SJC, as obesity rates have steadily increased this past decade, overtaking both state and nationwide rates by a wide-margin.¹⁸As a result, the residing population in the region has some of the highest rates of diabetes, heart disease, stroke, and asthma, as well as deaths attributed to these chronic diseases in the state.

The correlation is clear. A glaring example is found in Stanislaus County, where an alarming 72.4% of adults are either overweight or obese, which likely serves as a primary contributing factor as to why the county has the second highest rate of deaths from heart disease in the state.^{19 20} In Kern County, the increase in obesity rates may be attributed to it having the second highest rate of deaths caused by diabetes, and the fourth highest for deaths caused by heart disease in California.²¹

The role of the built environment, which includes the land use patterns, transportation systems, and design features found in our communities, has been identified by practitioners in both urban planning and public health fields as a major influence on our living behaviors.

The health benefits of regular physical activity, even at moderate levels, are well-documented and established. Numerous studies have shown consistent physical activity serves as the best method to reduce the risk of adverse health conditions. Physically active lifestyles, among other benefits, can help regulate weight, reduce rates of chronic and preventable diseases, raise lung capacity, improve mental well-being and increase life expectancy.

The decisions we make regarding aspects of planning such as land use, vehicle circulation, zoning and street design are all elements that influence human behavior; the level of physical activity we receive; the amount of time we spend in our cars driving; the foods we consume; the quality of air we breathe—all act as contributing factors to our health.