Setting the Pace:

Safe Routes to a Sustainable Lawrence

Acknowledgements

A special thanks to the following individuals, for sharing their perspectives, knowledge, and technical expertise:

Charlie Bryan
Planner, Lawrence-Douglas County Health Department

Rebecca Garza
Health Promotion Specialist, Lawrence-Douglas County Health Department

Dr. Rick Doll
Superintendent, Unified School District 497

Jessica Mortinger
Transportation Planner,
City of Lawrence

Contributors

This report is compiled by the students of the University of Kansas, Masters in Urban Planning, Sustainable Land Use and Transportation Implementation class for the benefit of the City of Lawrence, the Lawrence-Douglas County Health Department, and for all residents, regardless of age or ability.

Project Editors
Jonathan Curth and Clifton Hall

Ecology Recommendations
Jillian Ogden; Subdivision *Regulations and Design Guidelines*
Yushan Jiang, *Vehicle Idling Policy*
Melissa DeBoer, *Stakeholder Environmental Steering Committee*
Ashton Martin, *After School Bike Club*

Economy Recommendations
Nick Dropinski, *Local Sales Tax*
Trey Maevers, *Sidewalk Utility Fee*
Hao, *Sidewalk Improvement District*
Hilary Hershner, *Public-Private Partnership*

Equity Recommendations
Kelly Heiman, *Community Definition of Equity*
Sam Lobby, *Inclusive and Informed Programming*
Chunlei Li, *Persons with Disabilities*
Profirio Xavier, *Community Gardens and Food Security*

Course Instructor
Dr. Stacey Swearingen White, *Department Chair, Department of Urban Planning, University of Kansas*

Cover image source: Lawrence Journal-World

Executive Summary

As national interest grows regarding active lifestyles and mitigating health issues associated with an increasingly sedentary life, many communities are working to facilitate alternative forms of transportation. Among these is Lawrence, Kansas, which seeks to implement policy and programs which will create 'Safe Routes for All.' As an extension of the national and local Safe Routes to Schools programs, Lawrence is applying those tenets and policies to the entire community. To facilitate a sustainable Safe Routes for All, urban planning graduate students at the University of Kansas reviewed dozens of municipalities and school districts nationwide in to produce recommendations that are both suitable and feasible for Lawrence. These recommendations are categorized with respect to the three basic tenets of sustainability: Ecology, Economy, and Equity.

I. Background

Since its introduction in Odense, Denmark during the 1970s, the concept of providing an institutionalized framework to ensure a safe passage for children to school has spread internationally. The idea achieved federal recognition in 2000, when the first two efforts in the United States received funding in Florida. Within the next decade a federal Safe Routes Program was created, with thousands of schools in hundreds of communities nationwide subsequently receiving support. As a national program, Safe Routes to School (SRTS) is aimed at promoting active and safe transportation at the same time that automobile trips are reduced to elementary and middle schools. The framework of SRTS is founded on five basic tenets, commonly abbreviated as the "5 E's."

- **Evaluation:** Monitoring and documenting program implementation and outcomes;
- **Engineering:** Creating operational and physical environments that are conducive to non-motorized transportation;
- **Education:** Raising awareness about, and safe practice of the full range of transportation choices;
- **Encouragement:** Planning and employing techniques that promote an enthusiasm for walking and biking as alternatives to motorized transportation; and
- **Enforcement:** Creating partnerships with community leaders, law enforcement and other stakeholders to ensure laws pertaining to pedestrian and cyclist safety are being applied.

On a local level, Lawrence, Kansas and the Unified School District 497 that serves the City have incorporated many of the concepts found within the national SRTS framework. Additionally, communitywide endeavors are responsible for creating a long-term vision that includes an emphasis on increased mobility for all residents. With a priority on public involvement, both the Transportation 2040 and Horizon 2020 plans were established through consensus-building among stakeholders that include viable transportation alternatives as not just important issues, but community goals.

Building upon these foundations, the Lawrence-Douglas County Health Department is in the midst of expanding the principles of SRTS into a "Safe Routes for All" program for the entire population of the city and county as a whole. Following on the successful adoption of a Complete Streets Policy in March of 2012, the Health Department is working with residents and consultants to establish the priority needs facing pedestrians, cyclists, and transit users. Combined with technical assessments of city sidewalks, data on vehicle-pedestrian and vehicle-cyclist accidents, and other transportation and land use information, the barriers to alternative transportation are being identified along with the tools with which to overcome them.

As with school districts and communities throughout the U.S., Lawrence, Kansas and its pedestrian and cyclist programs face several challenges. Prominent among these is the variability and uncertainty of funding. Although Lawrence has leveraged funding from both the Kansas Department of Transportation and the Kansas Department of Health and Environment, neither of these sources represent viable long-term partners for supporting a long-term vision for alternative transportation in Lawrence. Another significant obstacle is implementing a program that works with, rather than against ecological principles. Decades of viewing urban topography and ecology as a challenge to development rather than an opportunity has created a city landscape of channelized rivers and streams, low-density construction, and the accommodation of automobile travel. Lastly, implementation of policies and programs to promote mobility and accessibility through alternative forms of transportation can fall short if there is a perception that they will not benefit the community, or that they are not in fact the will of residents. Often the individuals that stand to gain the most by investment in pedestrian, bicycle, and public transportation policy are those with the least political influence: children, minorities, people with disabilities, and any other underrepresented group. This report seeks to address these challenges, and turn them in to a unique opportunity for the Lawrence community to become a place that facilitates all forms of transportation for all residents.

Purpose and Methodology

"To use the foundation created by Safe Routes to School and the best practices of communities nationwide to establish a sustainable, integrated, and accessible multimodal transportation network for Lawrence, Kansas."

In an effort to complement the Safe Routes for All program in Lawrence, urban planning masters students from the University of Kansas set out to identify, evaluate, and ultimately recommend a set of policies, programs, and practices from school districts and communities nationwide. Recommendations were based on several criteria. Foremost is whether a program or policy is appropriate for Lawrence. What works in another city may not be as effective, or even applicable in Lawrence. Also important is whether a recommendation has a viable mechanism for evaluation. Without the ability to assess the effectiveness of a given policy or investment, it is difficult, if not impossible to attribute any successes or failures, and thereby choose to proceed or desist. Finally, and possibly of greatest importance, is whether a recommendation will contribute to program's sustainability.

The principle of sustainability was chosen as a framework upon which to propose recommendations to supplement the Lawrence Safe Routes for three reasons: Ecology, Economy, and Equity. These principles are encapsulated in the prism of sustainability concept, which proposes the interaction of environmental, economic, and social dimensions along with an institutional dimension that concerns the interactions of society. Ecology involves consideration for natural capital, and decisions that can adversely affect future use of resources. Economy refers to all man-made material assets, such as roads and sidewalks, and how they are financed. Equity is more difficult to define or assess, and generally encompasses the awareness of others and their needs.

These three concepts became the foundation upon which this report and its recommendations were built. Utilizing as sustainable framework the first stage of this process involved the identification of subject communities. These ranged in size from Omro, Wisconsin (pop. 3,517) to Portland, Oregon (pop. 1,849,898), and included college towns, wealthy suburbs, entire counties, to inner city enclaves. A sample of these can be found in Table 1.

Evaluated Communities		
Community	**State**	**Population***
Bellevue	WA	133,992
Boulder	CO	103,166
Chagrin Falls	OH	4,056
Chula Vista	CA	256,780
Decatur	GA	20,086
Edina	MN	49,376
Fort Collins	CO	152,061
Hamtramck	MI	22,423
Madison	WI	401,661
Marin County	CA	252,409
Miami-Dade County	FL	2,617,176
Minneapolis	MN	400,070
Omro	WI	3,517
Portland	OR	1,849,898
Santa Clara County	CA	1,781,642
Seattle/King County	WA	2,079,967
Washginton D.C.	n/a	5,949,859

*All population figures sourced from the United States Census Bureau

Table 1: Examples of communities evaluated and their populations.

Upon reviewing and evaluating the selected communities, a series of recommendations were selected by each student and submitted in both memo and presentation format. From these, students chose to pursue further research in groups based on personal interest in one of the three aspects of sustainability. Each group assessed all of the recommendations for feasibility in Lawrence, and submitted them for selection by all students. The selected recommendations were then subjected to more investigation and exploration for inclusion in this report.

II. Ecology

"To reduce vehicle miles traveled, improve air quality, and encourage active modes of transportation through policy and program."

Human ecology theory aims to understand the interaction of humans and their environment. Applying this approach to Safe Routes to School helps understand policy and programming needed to provide a healthy, safe, and equitable environment for students walking and biking to school. A multi-faceted approach is recommended to improve environmental design, reduce exhaust emissions around schools, and increase students safely walking and biking to school.

i. Subdivision Regulations and Design Guidelines

In order to foster and encourage a pedestrian/bicyclist-friendly environment, the subdivision and zoning regulations as well as the design standards written for a community should incorporate specific ordinances addressing these issues. These guidelines should include different requirements for developers specifically around school zones, including:

- Installation of sidewalks, crosswalks, and school zone flashers;
- Donation of green space;
- Connection to existing trails; and
- Installation of bicycle lanes and community bicycle area.

Design guidelines should address the following:

- Addition of trees between pedestrians and motorized vehicles;
- Integration of landscaping in school zones and heavily-traveled roadways; and
- Installation of medians.

For Lawrence, these guidelines can be changed to require improvements in existing subdivisions since much of the land surrounding Lawrence's schools is developed.

In order to improve safety specifically in school zones, developers should be required to install sidewalks on both sides of the street within 1000 feet of a school building. Within 2.5 miles of a school zone, developers should be required to install sidewalks on at least one side of the street along every interior subdivision road. Additionally, crosswalks and school zone flashers would be required where new subdivisions abut existing school property.

The subdivision guidelines should also address incentives. In order to further encourage multi-modal transportation, incentives should be offered for the donation of green space. This would create spatial points between transitional paths of movement and improve the experience of walking or bicycling to and from school. Additionally, developers should be responsible for connecting new trails to existing ones to incorporate new development within an existing neighborhood. Lastly, the installation of bicycle lanes and community bicycle areas should be incentivized in order to keep bicyclists away from motorized traffic.

Design-specific guidelines could be easier than the regulations above to incorporate in existing subdivisions and neighborhoods. Landscaping in particular should be addressed. For example, trees should be planted between sidewalks and roadways. This will offer a sense of separation between the two different modes of transportation. Additionally, other landscaping should be incorporated in

school zones to improve the overall environment and encourage walking and biking. This can also improve the perception of safety in the area. Also, medians should be installed in the roadway where applicable to slow traffic and create a landscaped safety area between different directions of traffic for pedestrians and bicyclists.

These regulations and guidelines would not only aid Lawrence in the cause to encourage walking and biking to school but also influence every citizen and their daily habits. By incorporating Safe Routes to School objectives into a city code, planners, city leaders, and citizens are all acknowledging that this is a city-wide effort that would improve everyone's livelihood.

ii. Idling Policy

Idling while waiting is a drivers' common bad habit, for which many people only see the convenience, while ignoring its disadvantages, including:.

- Wasting fuel;
- Causing excessive wear on engine;
- Endangering people's health; and
- Damaging the atmosphere

Research says that it would cost the same amount of gas to restart your car as when you let your car idle for only 10 seconds. What's more, the gas you waste for idling two minutes equals that of a one-mile drive. Your car can expend 0.2 to 0.7 gallons of fuel per hour when idling.[1][2] By operating longer, idling actually increases your general engine wear. Additionally, the added engine wear from turning an engine on and off will cost you no more than $10 per year and it might save you up to $650 per year due in fuel costs, depending on your idling habits and vehicle type.

Another important consideration is by operating longer, idling actually increases your general engine wear. While the added engine wear from turning an engine on and off will cost you no more than $10 per year and it might save you up to $650 per year due in fuel costs, depending on your idling habits, and vehicle type.

On the other hand, a gasoline engine pollutes approximately the same amount when idling and driving, and a diesel engine generally pollutes more when idling. Emissions can contribute to several serious diseases, including asthma, heart disease, chronic bronchitis, and cancer. Due to the weaker constitutions of children and elderly people, such groups will likely suffer more from these illnesses. Research shows that vehicle pollution might also lead to childhood respiratory complications and lower IQ levels.[3] What is also noteworthy is that such noxious emissions not only pollute the surrounding area, but also the interior of the automobile cabin.

Last but not least, a major gas emitted from idling engines is CO2, which is the main greenhouse gas contributing to climate change. Research says that in New York City alone, idling vehicles discharge 130,000 tons of carbon dioxide per year. To offset such a large amount of emissions, 34 square miles of trees would have to be planted every year.

---

1 EDF. (2015, 4 21). *Attention drivers! Turn off your idling engines.* Retrieved from EDF:

http://www.edf.org/transportation/reports/idling

2 Ibid.

3 Burgess, E., Peffers, M., & Silverman, I. (2009, 2). *Idling Gets You Nowhere.* EDF.

For Lawrence, we could adapt the policy to make it apply not only within school districts, but also the entire city. The EPA has provided a sample idling policy for city's school districts that we could revise it to make it fits Lawrence's situation. (See Appendix A: Sample Idling Policy)

iii. Stakeholder Environmental Steering Committee

In order to encourage walking and bicycling to school, Lawrence Safe Routes to School should look into developing a Stakeholder Environmental Steering Committee. This committee would ideally be made up of school administration, parents, teachers, and community representatives from other local organizations. The main responsibility of the Stakeholder Environmental Steering Committee should be to focus on developing policies for the schools and raising awareness of the effects of transportation on the environment. This committee will be responsible for organizing activities and programs that promote walking and biking to school. The following are activities or programs that could help raise awareness and promote walking and bicycling to school:

- Walk and bike to school days
- Classroom contests
- Walking school buses
- Bike trains

Based on one notable case study, Marin County, California's Safe Routes to Schools program has been able to be so successful because of their "Green Teams" – a team similar to this committee that is proposed. Per the Marin County Safe Routes to Schools website[4], the basic steps for a "Green Team" are the following: identify an ecological goal, study broad issues related to that concern, evaluate existing conditions at the school, brainstorm ideas and develop a short-term action plan to raise awareness, propose a long-term proposal to ensure future reductions, and measure the success of the program.

The Stakeholder Environmental Steering Committee should consider unique and fun ways to get Lawrence students wanting to use active transportation as a means of getting to and from school. These activities could include organized walk and bike to school days, classroom contests, and neighborhood "walking school buses"[5] or "bike trains"[6]. Lawrence's Stakeholder Environmental Steering Committee should promote walking and biking to school throughout the community at least one day a month using an organized walk and bike to school day activity, sometimes on a weekly basis, in order to have the greatest impact on the behavior of both children and parents. Walk and bike to school days are a great way to raise awareness, get students and parents involved, and promote active transportation as a means of getting students to school. Children typically enjoy these events because they are able to spend time with their friends, siblings, and parents that they might not get to experience on a regular basis. This activity promotes regular use of walking and biking.

Lawrence's Stakeholder Environmental Steering Committee should consider different contests that can be implemented in the students' classrooms. These contests can include frequency of walking or biking trips to school, miles of walking or biking to school, or, for the children that live too far away

---

[4] Safe Routes to Schools Marin County. (2012). Retrieved February 15, 2015, from http://www.saferoutestoschools.org/activities.html

[5] A **walking school bus** is an organized group of children and parents who meet in a specified location in order to walk in a group to school.

[6] A **bike train** is an organized group of children and parents who meet in a specified location in order to bike in a group to school.

to walk or bike, the frequency of using carpooling or bus methods of getting to school. Prizes or rewards can be given away to the children or classroom with the most trips or miles.

Lawrence's Stakeholder Environmental Steering Committee could the use of neighborhood walking school buses and bike trains. These are great methods of getting both the students and their parents involved in using active transportation. Walking school buses and bike trains are also great for the parents that feel it unsafe for their children to walk to school. With these programs, there is always a parent or adult accompanying the children on their walk or bike ride to school. Overall, the Lawrence Stakeholder Environmental Steering Committee's main goal should be to focus on making it both fun and safe for children to walk and bike to school.

iv. After School Bike Club

Biking to school offers students an opportunity to embrace a healthy, rewarding, and life-long passion. Unfortunately, there are several barriers to overcome before parents and students are prepared to take off on two wheels. Bicycling safety is an issue that all ages are faced with, and ultimately the biggest concern. Students interested in biking to school also have to acquire the necessary components, and this can be difficult for some families facing tight budgets. Understanding how to maintain a bike is yet another obstacle to overcome when aiming to bike for years, not just months.

To address these barriers, we are recommending consideration of After School Bike Clubs. We believe that through this program, students will practice proper bicycling safety, learn how to maintain their bikes, and potentially learn how to build a bike.

Other communities have already instituted after school bike clubs with great success. Tulsa Hub is a volunteer organization that provides education and support to citizens of all ages in pursuit of a healthier life on two-wheels. Their After School Bike Clubs offer training and refurbished bicycles to low-income students through 4-8 week programs that meet 1-2 times a week for 1-3 hours. Over 700 students have participated in the After School Bike Clubs, and another 1,000 students have benefited from Bike Rodeos and other events coordinated by Tulsa Hub. Links to more successful programs around the country are listed at the bottom of the page.

Lawrence has demonstrated a commitment to multimodal transportation opportunities. City staff, local advocacy groups, and concerned citizens have already made great strides promoting alternative transportation options. Now the question becomes how to continue this momentum. The After School Bike Clubs offer a great opportunity to leverage the social capital that exists in our community. The following action steps are recommendations for implementing this great program in Lawrence.

- Identify interested stakeholders willing to dedicate time and resources to an After School Bike Club.
- Create a collaborative working group with stakeholders to design a pilot program. The working group will meet on a regular basis to evaluate progress and take steps to overcome barriers.
- Secure funding, materials, and volunteers necessary to operate pilot program.

- Distribute a Request for Qualifications to USD 497 schools to identify a local school dedicated to facilitating an After School Bike Club.
- Run pilot After School Bike Club for 2-3 sessions.
- Meet with working group to identify strengths and weaknesses of the program.
- Improve program design, secure additional funding, and expand to more schools.

There are no guarantees that this type of program will be successful, but it offers a unique opportunity to engage students and community advocates in a program providing the training and resources needed to facilitate safe biking opportunities.

After School Bike Clubs: Case Studies:
Tulsa Hub, Tulsa, OK
Community Cycling Center, Portland, OR
Field Institute of Taos, Taos, NM
Norte! Youth Cycling, Traverse City, MI

III. Economy

"To create a an economically sustainable alternative transportation network that uses innovative financing strategies that allow for funding independent of outside sources"

The legal and fiscal impact of broken or displaced sidewalks and the responsibility for their repair has been a constant, if inconspicuous, issue in many communities. The City of Lawrence municipal code places the responsibility for sidewalk repair on property owners to repair all sidewalks and driveway approaches existing in front of, along, or abutting upon their respective lots or parcels of land. Also, the owners are legally liable for all damages to anybody resulting from their negligence in not complying with the requirement to repair the sidewalk. The City enforces this requirement by notifying the property owner of the request to repair that portion of the sidewalk. This process is solely complaint-driven as opposed to being assessed by formal or informal/opportunistic inspections. This process has proven ineffective in increasing compliance. As seen in the diagram below, using the singular approach of property owners to maintain the sidewalks actually degrades the quality of sidewalks and ultimately the walkability of the community. Therefore, some communities across the county have used a variety of innovative strategies to finance sidewalk networks. The most successful communities do not depend on one funding source, but use a variety of tools and approaches depending on their needs and budgets.

i. Sidewalk Utility Fees

The sidewalk utility/maintenance fee is a one of the tools that have developed into an innovative approach to fill the gaps both financially and physically for both pedestrian and bicycle networks. Typically the utility fee that individual households pays is relatively small, but the steady funding source enables municipalities to plan and execute maintenance activities in a systematic way. Utility fees may be specific line items, such as a sidewalk maintenance fee collected directly by the municipality, or may be a tax on electric or natural gas service collected by the utility.

The fee is a monthly charge to a City's utility customers to generate revenue to pay for repairs and portion of new public sidewalks and paths. The sidewalk utility is a discretionary fund. Therefore, the money raised can only be devoted to sidewalks and cannot be used for any other purpose. Most communities that have sidewalk utility fees calculate these fees by taking the average annual cost to repair and connect pre-determined sidewalk gaps which would be shown through a "sidewalk inventory" or "sidewalk master plan", then divides that amount by the number of utility customers divided by 12 for a monthly amount. Below is an example of the fee structure that Lawrence would adopt:

$$\$150{,}000/37{,}342/\ 12\ (months) = \$0.334\ (rounded\ to\ \$0.33)$$

The $150,000 is the annual cost associated with sidewalk maintenance and repair according to the sidewalk inventory taking by the City of Lawrence in 2014. The 37,342 amount, is the estimated amount of households in Lawrence according to the American Community Survey's 2013 5-year estimates. This $0.33 additional fee is put only on the utility bill, because the City is able to reduce the administrative costs of processing and printing invoices over what it would cost to have each charge on a separate bill. The biggest challenge for effective sidewalk management is the unwillingness or inability of property owners to comply with sidewalk repair request and the administrative cost of condemnation proceedings. This fee is beneficial because it provides a comprehensive approach to fix sidewalks compared to the old approach that requires property owners to pay.

Image: http://nasscc-2013.chem.oregonstate.edu/content/2013nasscc

The City of Corvallis, Oregon applied a utility fee for sidewalk repairs in October 2010. Since then the fee has had success in maintaining the pedestrian and bicyclists network and also has helped alleviate the costs associated with the local bus system.

Annette Mills of the Corvallis Sustainability Coalition said the fees are helping the city live up to some of the goals laid out in the Vision 2020 Statement and other community planning documents.

"The city's sustainability fees are helping to move Corvallis toward becoming a more livable, sustainable community by providing a stable bus system, increased bus ridership, a safer urban forest and safer, more walkable

ii. Local Sales Tax

Continue the local sales tax measure for funding infrastructure and increase the rate from 3/10-cent per dollar to 1/2-cent per dollar.

In an effort to find new revenues for funding transportation infrastructure, local governments across the country have asked voters to approve additional sales tax measures in recent years. These measures have shown to be popular among residents as a means of funding street improvements, sidewalks, and trails. According to a report published by the Alliance for Biking & Walking and League of American Bicyclists, voter-approved sale tax measures experienced a 79 percent passage rate in 2012 alone.[7]

Lawrence citizens approved an additional 3/10-cent sales tax increase in 2008 by a margin of 73 to 27 percent. The revenues raised through this sales tax were to fund public infrastructure and capital investments for streets, trails, and storm sewers, as well as fire trucks and sidewalk projects. Every year since 2009, this sale tax generated more revenue that initially projected and continues to receive the support of the City Commission. This popular and effective sales tax is scheduled to expire via a sunset clause in 2019. [8]

Performance of the 3/10-cent Infrastructure Sale Tax

Year	Budget Projection	Actual Collected	% of Budget
2009	2,255,925	2,389,133	105.9%
2010	3,944,646	3,999,351	101.4%
2011	4,155,675	4,221,761	101.6%
2012	4,164,079	4,433,609	106.5%
2013	4,502,250	4,518,866	100.4%
2014	4,619,139	4,766,228	103.2%

The City of Lawrence must continue the 3/10-cent sales tax and should strongly consider increasing the rate to 1/2-cent increment. In 2008, voters displayed their overwhelming support for the self-imposed sales tax increase. This shows that Lawrence citizens want to prioritize street and sidewalk infrastructure, which is a clear opportunity to expand the reach of the SRTS Program throughout the city. [9][10]

Before drafting a renewal to the sales tax measure for the 2018 ballot, city officials and staff should analyze the impact of a 2/10-cent increase to the infrastructure sales tax. A portion of the revenue should be dedicated specifically towards supporting SRTS infrastructure improvements and the expansion of the bicycle and pedestrian network in Lawrence.

---

[7] Alliance for Biking & Walking and League of American. Success at the Ballot Box: Winning Bicycle-Pedestrian Ballot Measures. Advocacy Advance: Retrieved from http://www.advocacyadvance.org/site_images/content/ ballot_measures_report_web_copy_2.pdf

[8] City of Lawrence Sales Tax, Retrieved from https://www.lawrenceks.org/sales_tax

[9] Lawrence Sales Tax Proposal, Retrieved from https://www.lawrenceks.org/sales_tax_proposal

[10] Lawrence Sales Tax Results, Retrieved from https://www.lawrenceks.org/sales_tax_proposals/results

iii. Sidewalk Improvement District

The City of Ithaca, New York passed a new sidewalk policy that went into effect January 2014. The new city sidewalk policy designated five Sidewalk Improvement Districts (SID) funded by an annual sidewalk assessment fee in property tax from whole property owners within the districts[11] Lawrence, Kansas and Ithaca, New York, despite being hundreds of miles apart, are both small college towns with many similarities. As Lawrence wants to build a sustainable long-term Safe Routes to School program, seeking sustainable funding and revenue resources for infrastructure and maintenance of sidewalk and facilities will be key to successful SRTS implementation.

Comparison	Area	Population	Per Capita Income	University
Lawrence	34.26 sq. mi.	88,921	25,322	The University of Kansas
Ithaca	6.1 sq. mi.	30,225	16,545	Cornell University

Source: U.S. Census Bureau, 2009-2013 5-Year American Community Survey

Lawrence can create several sidewalk improvement districts, which can potentially include all properties in the city to get involve all property owners. When creating and dividing the SID, equity should be adjusted by demography income, condition, and demand of sidewalk, so that assessment fees can be assessed equitably within and between SIDs.
All lots in the districts will be subject to the assessments. In SIDs, a special annual assessment fee can be added in property tax in order to raise funds for sidewalk construction, improvement and maintenance. The assessments fee raised in each district must be used solely for work performed in that district. Thus, while the amount raised in each district will vary, the property owners in each district will be assessed proportionately to the scope and cost of work occurring in that district. The formula adapted from Ithaca is:

$$Annual\ Maintenance\ Fee\ for\ Lot\ +\ Square\ Footage\ of\ Improvements + Frontage\ Length\ of\ Front\ Sidewalk\ =\ Total\ Assessment\ Fee$$[12]

Administratively the City Council would approve the funding and the Public Works Department would recommend a budget and schedule of work to the Council while managing the fund. The Council should also hold public hearings regarding management and use of the fund and receive public recommendation and suggestions year-round to refine the policy. Once the Council approves the formula and assessments, the assessments could act as liens on the properties assessed, administered by the Douglas County Treasurer's Office, and collected with City property taxes.

iv. Public-Private Partnership

The National Council for Public-Private Partnerships defines a public-private partnership as, "A contractual agreement between a public agency (federal, state, or local) and a private sector entity. Through this agreement, the skills and assets of each sector (public and private) are shared in delivering a service or facility for the use of the general public."

[11] City of Ithaca, New York, 2014
[12] Ithaca Sidewalk Program Legislation, 2013

The National Council for Public-Private Partnerships found seven keys to a public-private partnership. First, the partnership needs a public sector champion. This person should be an easily recognizable figure in the area. The public sector champion needs to be the spokesperson and advocate for the project or use of the partnership, as they help play a crucial role of minimizing misperceptions about the value of the partnership to the community. A successful public-private partnership also needs a statutory environment, i.e. a contract or some sort of legal foundation. This needs to be in place for the implementation phase of the partnership's project or program. While some unsolicited proposals may work, and have positive change and spark innovative approaches, however they should be approached with caution. Third, the public sector partner needs to have an organized structure; there needs to be a team in place that's dedicated to the partnership from start to finish, and beyond. Fourth, a detailed contract or business plan is key to a successful partnership. To be effective, the contract needs to be detailed and include a thorough description of the responsibilities, risks, and benefits to the public and private partner. A clearly defined revenue stream is another key to a successful partnership. Since the private sector partner is likely to provide all or some of the funding for capital improvements, there needs to be an identifiable revenue stream that is sufficient in providing a good rate of return on the private partner's investment. Stakeholder support is necessary to a public-private partnership. There needs to be open communication with the public, which will lessen the chance for resistance to establishing a partnership. Lastly, you need to pick your partner carefully. It's best to choose a partner that is the "best value," such as providing the fiscal capacity or the know-how. This is critical in maintaining a long-term, successful partnership

The following action steps are recommended for implementing this great program in Lawrence. First, they need to bring together a variety of organizations. The more diverse your network, the more influential the program. Look to businesses that are local, near schools, or sell outdoor equipment. It is in a business' interest to gain more customers. By supporting SRTS, and improved pedestrian and bicycle infrastructure, they will be more likely achieve that goal. It's also important to realize that you also have to build strong partnerships with individuals. Elected officials or influential residents are key people to have on your team supporting SRTS in Lawrence. Lastly, and previously identified above, a successful SRTS program in Lawrence would have a "champion" leading the way in the SRTS initiative. This person can be a parent volunteer, local elected official, school administrator, or be a part of another group. The important thing is that this person is dedicated to spending their time promoting and advocating for SRTS.

IV. Equity

"To prioritize equity in our planning, programming, decision-making processes, and policies"

Sustainability is composed of the concepts of ecology, economy, and equity. Of these three aspects, equity is often cited as the most difficult to achieve. While there are many opinions regarding the effective implementation of this aspect, it is universally accepted that appropriate evaluation tools must be used to inform decision-making. There are a number of tools that can be used to help evaluate concerns related to equity in the City of Lawrence, most of which would be useful for addressing other concerns as well.

i. Establish Community Definition of Equity

- Construct and update Equity Plans to provide a more inclusive definition of equity
- Integrate Safe Routes to School into our Equity Plan
- Establish clear strategies to enable implementation and evaluation.

Although equity should be integrated into every city plan, the City of Lawrence could strengthen its equity approach by constructing a city equity plan with a clear, and inclusive definition of equity. This could be achieved through conscious, equitable promotion of public participation offering translations on information packets, flyers and surveys, offering meeting times that accommodate a variety of different schedules, and communicating with the public through a variety of different channels.

In addition to establishing a community-wide Equity Plan, USD 497 should update its current educational Equity and Excellence Plan (2011) to feature a more inclusive understanding of equity in the classroom. The district's current equity plan provides the district's mission, vision, beliefs, and expectations for providing an equitable learning environment, but it does not offer a clear definition of what equity means to USD-497. The document focuses on racial and cultural diversity, which are important components of any equity dialogue, but the issue of equity goes deeper than this. USD-497 must consider the intersection of race, gender, income, housing, and disability services as part of a broader and more inclusive understanding of equity.

In addition to expanding the definition of equity in the Educational Equity and Excellence Plan, USD 497 should consider developing additional content, and framing our equity vision according to areas of need. Advocacy, access to resources, equity in the workplace, and family support are important components of any equity vision, and by framing our vision in these terms, administrators and teachers can begin to evaluate the success of different policies and projects.

Safe Routes to School should be an important component of any update to the Equity Plan. One of the challenges Lawrence SRTS may face is communication. Parent surveys, information about projects and policies are a large component of the SRTS process, and if these materials are not distributed equitably, then the outcomes are not likely to serve the population equitably. Therefore, any SRTS strategies should be connected to communication and distribution of information. Strategies could include diversifying modes of communication to reach a larger segment of the population, using school meetings and community advocacy programs to disseminate information, sending home information packets in a variety of translations, and providing translations on our websites and parent surveys. This will help SRTS fill the gaps in communication. If these policies were integrated into an updated Equity Plan, USD 497 would demonstrate its dedication to a truly inclusive SRTS program.

The most important but also most problematic aspect of equity is determining how we can evaluate our success. Equity is not easily quantifiable, and it is a messy problem without clear solutions. Because of these problems, equity is often left outside of the sustainability dialogue. By clearly defining equity, organizing our equity strategies into key frameworks, and integrating SRTS into a set of clear policies and goals, we can turn a vision of equity into a reality in USD 497.

Action Steps

- The City of Lawrence constructs an Equity Plan that features a broad understanding that encompasses race, gender, income, housing, and disability services.
- USD 497 updates its plan to coordinate with the City's plan.
- Utilize translations in both information packets and surveys, hold meetings at a variety of times, and consider a variety of communication methods to increase public participation
- Frame our equity vision according to areas of need, including: advocacy, access to resources, equity in the workplace, and family support.
- Include Lawrence Safe Routes to School as an active stakeholder in the construction/update of these plans, and utilize translated parent surveys to help inform the plan construction.

ii. Inclusive and Informed Programming

- Create tools to evaluate how resources are being distributed and inform planners on specific needs
- Involve the public throughout the entire process and make it clear in the plan
- Evaluate every school in the community to address specific localized needs

Public participation is often regarded as a critical aspect to maintain transparency as well as a means for various stakeholders to include their input. While this may seem straightforward, it is often the case that only certain demographics respond to public participation, which may provide misleading results. To help ensure a comprehensive examination of public opinion, efforts must be made to reach those that might otherwise be left out. For example, in Lawrence there are certain areas where more children and parents are non-English speakers. In this case, it is important to provide multi-lingual surveys to help reach these demographics. Additionally, it is important to use a variety of media to help get the word out. Although this can take many forms, examples include surveys provided to children to bring home, phone calls to parents, signs in front of schools, internet websites, PTA meetings, and town hall meetings.

While public participation and transparency is critical in implementing a sustainable SRTS program, other information is also important which can serve the dual benefit of informing planners about various city conditions, as well as helping to provide the basis for justification of certain equity based projects. For example, traffic counts around each school would be important to show the volume of vehicle movement in certain areas. This might help to identify areas where crossing guards are needed and help to address safety and equity concerns for a given location. Rates of walking or biking to school might also be helpful. In general, lower income students tend to walk and bike more out of necessity – showing how a lower income neighborhood has a high rate of walking and biking may help to justify infrastructural changes in areas that have a high amount of child pedestrians.

Other tools, such as the sidewalk map already in place in Lawrence, can be useful for identifying areas of infrastructural need. Drawing on successful case studies can be an effective means of justifying an equity-based practice, given that the benevolent ideology of helping those in

need may not be enough to garner public support for a specific project. Finally, Lawrence may also benefit from evaluating each school in the community. Identifying specific concerns for every school can help planners to prioritize what needs to be done. To bolster these evaluations, it can be useful to include pictures of specific sites to help show the need for improvements. It might also be useful to ask school faculty, children, and neighborhood residents what their concerns are for the area to help bolster public participation and to inform planners on specific needs.

Equity can be a hard aspect of sustainability to address, and arguably there is not a "right" way to do it. However, if specific actions are informed by the public and supported by empirical data, it may help to encourage the long term sustainability of a SRTS program.

Action Steps

- Involve all public stakeholders through surveys, meetings, signage, internet websites, or phone calls.
- Use existing resources such as sidewalk maps, traffic studies, or maps showing distances to school to inform equitable decisions
- Make evaluations for each school to show specific needs. Include pictures to show visually what is needed and help show what needs the most work.

iii. School Gardens

- Work with the local farmers on how to supply their harvest to schools for lunch program.
- Establish a garden-based education program in schools to educate kids to plant, cook and eat healthy foods.
- Encourage schools by providing organic foods purchase funds.
- Encourage students to stay active in the summer by participating in a school garden project.

Health inequality related to food and active transportation is evidenced in several studies. A study by Bristol-Mayer Squibb shows people with income below $ 15,000 are more likely to suffer from heart disease, diabetes, asthma, and obesity. These low income individuals bear the agony of inequality multiple times that of others. Counterproductively, if eat well, but do not exercise, they will not get the full benefit of the healthy foods. Therefore, the important thing is that SRTS should integrate nutritional goals into exercise objectives.

The number of school children qualified for the Free and Reduced-price Lunch program is one of the most widely used indicators to identify if a school district needs helps to improve kids' health by feeding them nutritious foods. The federal government requires each participating school to provide healthy foods. The healthy foods defined in the provision are grain-rich food, fruits, and vegetables, low fat and non-fat milk.

Many meals served in U.S. school cafeterias are processed foods that must meet the health and nutrition standard. Beyond these foods, fresh, organic produce could be a nutritious addition to the diets of Lawrence school children. The co-benefit of implementing school garden program is feeding kids both from poor and rich families. For free and reduced cost participants, healthy foods from garden will be directly served in their lunch meal menu as supplement foods. At the same time, participation in a garden program would be open to all members of a school community.

Portland has its 40 schools participated in the school gardening program[13]. Bringing the garden grown foods to kids in school lunch program could be done in various ways. One way is that the school districts that participated in the program could apply for school lunch related grants from the state government. The grants were given to the schools to buy just the locally produced organic foods from the state farmers. Eighty percent of the grant would be used to purchase fresh foods that are locally grown within the state, while, the other would be used to support on-school garden education that the results could be used occasionally to feed students[14]. The small portion funds allocated for on-school garden education could also be harnessed to fill the gaps. This type is also useful in Portland, as some schools have implemented small scale gardening that its results were also helpful to be complementary. To draw the link more clearly between school gardens and SRTS, a gardening program could encourage ongoing active transportation choices for students and families during the summer months.

Action Steps

- The city of Lawrence should identify the schools that are implementing free and reduced-cost lunch program. In addition, conduct survey to know which schools that are interested to consume organic food supply program.
- The city can then identify local organic food growers chain in Lawrence to see if they are willing to supply their harvest to schools.
- The city then should subsidize schools and food growers to participate.
- The city should establish school garden based program in schools so that kids can practice or experience on how to produce, process, and eat healthy foods. Moreover, these students and their families can continue their active transportation choices between home and school during the summer months.

iv. Equity Considerations for Persons with Disabilities

- Increase awareness and build relationships with people who represent interests of disabilities
- Integrate training and activities into special education
- Ensure proper supervision and support when implementing activities for persons with disabilities

It is important for people to know the classification of disabilities because it will help people to design a variety of appropriate and feasible SRTS activities and events. There are four basic disabilities including: Physical Disabilities, Sensory Disabilities, Cognitive/Developmental Disabilities, and Mental/Emotional/Behavioral Disabilities. In other words, the programs should be modified to include children with a diverse array of disabilities.

Strategies and suggestions for the successful inclusion of children with disabilities in to the SRTS program include: First, we can increase awareness for SRTS and build relationships with people who can impact program success, such as parents, parent advocacy groups, school administration, and personnel representing interests of students with disabilities. A major reason for this is to build

[13] Portland Public Schools, 2010
[14] Milholland, 2013

credibility and support for the SRTS program. In order for parents to see these programs will benefit their children with disabilities, and for school administrators and educators to readily include students with disabilities in SRTS activities, we must let them not only improve their understanding of the program, but also support the equity-related goals that create and encourage safe walking and bicycling opportunities for all students.

Second, it is important to have more education and training about involving children with disabilities in SRTS. For example, include SRTS activities into a student's Individual Education Plan, which are special educational plans for children with disabilities, and provide guidance to teachers and staff for how students with special needs will achieve their goals.

Third, we have to ensure the proper supervision and support is present when implementing SRTS activities. Proper supervision will greatly help to address and minimize bullying concerns among educators and parents of children with disabilities. To be specific, parents can walk with their children either a portion or the entire route to school as part of a daily exercise routine, or walk with a group of neighborhood children supervised by parents and adults, and using a walking route that takes advantage of existing crossing guards.

By making more efforts and paying more attention to children with disabilities, we can gain multiple benefits. First, it can reduce obesity rates and mitigate the symptoms of some disabilities. In the past, many thought that physical activity could harm a child with a disability, but many studies have shown that it has direct benefits for the child. Second, the SRTS program will enhance the independence of children with disabilities. To be specific, continued and regular involvement in SRTS activities and education may allow children with disabilities to gain more independence in the future by teaching them life skills that will help prepare them for adulthood. Third, children with disabilities will have more opportunities to make connections with their peers. Usually, children with disabilities are less likely to socialize with friends, relatives, or neighbors, however, the SRTS program can help children to engage, work, and play together, which in turn can foster relationships.

Action Steps

- Design specific programs for children with disabilities based on four classifications: Physical Disabilities, Sensory disabilities, Cognitive/Developmental Disabilities, and Mental/Emotional/Behavioral Disabilities. This will help people to design a variety of appropriate and feasible SRTS activities and events.
- Consider the unique capabilities of each child based on the classification above. By using strategies that are effective in the classroom, providing a predictable schedule, providing choices and incorporating music and visual aids in the education. Integrate relevant material into students' existing IEPs.
- Build relationship and find some supports through the special education for children with disabilities. On the other hand, SRTS program leaders also need to develop relationships with teachers and child study teams to inform them of the potential benefits of SRTS participation.
- Select volunteers to supervise the activities, or choose the leaders among students who have similar routes to school and can assist fellow classmates. It will make sure Lawrence SRTS can provide adequate supervision to guarantee the safety and quality of the activities among students with disabilities.

Conclusion

Lawrence is a vibrant community with a respected school system. It is an exciting time for area residents and students as they embark on envisioning what Safe Routes will look like for their city. It is the authors' hope that the information and case studies presented in this report will serve as inspiration for what Safe Routes to School can be in Lawrence, and that the progress made in the community is both creative and individualized to the needs and personalities of the eclectic community of Lawrence.

The goals of Safe Routes to School, such as health, transportation choice, and community are also ideal goals for the city of Lawrence as a whole. If every community school in Lawrence was able to implement a neighborhood-specific, effective Safe Routes plan, it could mean all of Lawrence is a more walkable, bikeable, and safe place. The goals set by Lawrence Safe Routes for All can challenge the status quo of non-motorized transportation in the entire city. The innovations and progress made from Safe Routes to school can easily serve as a catalyst for greater change in the Lawrence-Douglas County metropolitan area.

While the impacts of Safe Routes are a benefit to the larger community, the most effective Safe Routes programs have more than just a passing interest from the community. Cities that champion their schools' Safe Routes program help give importance, and perhaps even more so, sustainability. If Lawrence comprehensive and transportation planning adopts Safe Routes and its support as a part of their vision, it will ensure not only better performance by the program, but also be of a greater mutual benefit to the community at large. Safe Routes to School will definitely open new doors and provide new opportunities for healthy transportation choices, but it also provides the community an opportunity to support these changes directly, and not just with Safe Routes funding.

Equity in Safe Routes implementation will make sure residents of Lawrence from all different backgrounds will have ample opportunity for healthy walking and biking activities. Minimizing the ecological impact of one of the most important daily trips for families will provide cleaner air and more sustainable transportation practices. Ensuring economic viability for new Safe Routes initiatives allows for funding for bicycle and pedestrian infrastructure to become a cornerstone of recreation and public health in Lawrence. All of these important attributes for Safe Routes to School are also important attributes for a sustainable community. By following the ideas and visions of other communities, Lawrence is positioning itself for a bright, vibrant future where its citizens can enjoy the physical activity and natural aesthetic of walking or biking to school, work, or play.

In compiling the profiles, narratives, and best practices of this report, the study team found these were the unifying themes of successful Safe Routes to School programs. Many of the communities featured in this report are extremely similar to Lawrence. Many are home to bustling university campuses. Some are home to vibrant and unique arts communities that draw citizens and new residents from across the region and country. A few have launched Safe Routes programs that are championed by the community as a priority for their school, neighborhood, and children's' futures. One thing many hold in common that Lawrence is on the pinnacle of achieving: their vision for their community and their vision for their school were the same—better access to healthy, active transportation for all. Our desire in compiling this report was that Lawrence would adopt this view too. Hopefully we will look back on the seminal years of Safe Routes and be thankful that the small steps the community of Lawrence took for Safe Routes turned into ongoing success for the community as a whole.

Appendix A: Sample Idling Policy (Adapted from the EPA)[15]:

1. Vehicles should never be left idling when unmanned.
2. At bus depots, limit the idling time during early morning warm-up to what is recommended by the manufacturer (generally 3-5 minutes) in all but the coldest weather.
3. For small motor vehicles, the engine warm-up periods should not exceed one minute except the coldest weather.
4. Under normal condition, all vehicles should be shut off within the city area whenever idling time is expected to exceed one minute.
5. When drivers arrive at loading or unloading areas to drop off or pick up passenger(s), they should turn off their vehicles as soon as possible to eliminate idling time and reduce emit air toxins. The school bus should not be restarted until it is ready to depart and there is a clear path to exit the pick-up area. Exceptions include conditions that would compromise passenger safety, such as extreme weather or idling in traffic.
6. All service delivery vehicles shall turn off the engines while making deliveries to buildings.
7. All the vehicles should not idle while waiting for students during field trips, extracurricular activities or other events where students are transported off school grounds.
8. In colder weather, schools are directed to provide a space inside the school where drivers who arrive early can wait.
9. In colder weather, if the warmth of the vehicle is an issue, idling is to be at a very minimum and occur outside the school zone. The "warmed" vehicle is to enter the school zone as close to pick-up time as possible to maintain warmth and then shut down.
10. Transportation Operations staff are directed to revise bus schedules so that school bus caravanning can be avoided and the cleanest buses assigned to the longest routes.
11. All drivers shall receive a copy of this policy at the beginning of every school year.

15 United States Environmental Protection Agency (EPA). (2015, 4 21). *National Clean Diesel Campaign (NCDC).* Retrieved from United States Environmental Protection Agency (EPA): http://www.epa.gov/cleandiesel/documents/csb-policy.doc