Public Health Ontario
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2012 Locally Driven Collaborative Projects

Submission Form

For more information on this form, please refer to:

- 2012 LDCP Submission Guidelines
- 2012 LDCP Project Planning and Resource Guide
- 2012 LDCP Team Resource Binder

Part 1. General Information

PROJECT INFORMATION	
Project Title: Evidence-informed strategies and models of practice for Healthy Rural Built Environments	
Lay Title: Building Healthy Rural Communities	
Type of Project: Toolkit	
Total Amount Requested from Public Health Ontario: $63,195 over 2 years	
Project Start Date: October 1, 2012	**Project End Date:** September 30, 2014
Lead Health Unit: Chatham- Kent Public Health Unit	
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The purpose of the project is to identify evidence-informed strategies and models of practice for land use planning policies, procedures and designs for the built environment to improve population health outcomes in rural communities. It has been identified that these communities often have limited resources and minimal development. Through the use of a literature search, descriptive surveys, key informant interviews and focus groups this project will outline healthy land use planning policies and effective community design practices that are also feasible in rural communities.

The project will result in the development and distribution of a toolkit to advise public health professionals, land use planners, municipal staff and elected officials of effective strategies and models of practice. The toolkit will also identify rural land use policies that have successfully increased the capacity of the community to achieve positive health outcomes and prevented adverse health outcomes as a result of developments in the built environment.

B. BACKGROUND AND RATIONALE

Local and international best practice documents exist on how to influence and create healthy communities and neighbourhoods through land-use planning and appropriate policies. Research in the fields of public health and planning (Provincial Health Services Authority, 2009) show that these best practices can improve population health outcomes related to physical activity, nutrition, air quality, water quality, safety, and social cohesion, to name a few.

Most of the best practices and policies on land use planning in research are in context of the urban environment and have proven to be effective. These policies and best practices for urban land use planning are often not applicable to rural and small communities (Edwards, 2007). Not only does the built environment in rural settings differ dramatically from their urban counterparts, but there is also a difference in social norms, community and financial capacity, as well as resources. A large number of current policies and programs used in rural areas are based on those from urban areas, which are often not directly transferable (Black, 2008). Rural communities also differ significantly from urban areas related to population density, land use, livelihoods, culture and incomes. For this reason, this project will outline the best practices and successful models for community design in small towns, rural communities and areas with dispersed populations.

Part 2. Project Details (4 pages maximum)

A. LAY SUMMARY OF PROPOSAL (250 words maximum)

In general there is a lack of research for both public health and land use planners regarding best practices focused on rural environments. Healthy community design is often based on an urban context

and is not easily adaptable to a rural setting. For example, the use of separated bike paths may not be practical in rural areas that are sparsely populated with long distances between destinations.

Small towns, rural communities and areas with dispersed population often do not have the planning support to develop and implement healthy land use planning policies. Small rural health units also lack the resources required to adapt urban resources or access to the necessary research to support their advocacy towards the creation of a healthier community. Small health units traditionally have a smaller number of staff, a larger geographical area to cover and fewer community partners to work with. In addition small health units do not have dedicated research teams or evaluators and lack the capacity to initiate large community based research projects on their own or within their current budgets. Rural planning departments and rural municipalities often have the same limitations.

Rural health indicators demonstrate that many rural people have poorer health than their urban neighbours. This is particularly seen when rates of heart disease, diabetes, and obesity are examined—conditions that are often related to the rural lifestyle. According to the Heart and Stroke Foundation, rural residents are "half as likely to be as physically active as their urban counterparts and at an increased level of being overweight and obese" (Young, 2008). In addition to lifestyle factors, rural populations also face higher mortality rates due to circulatory diseases, respiratory diseases, injuries and suicide, and rural men have a significantly lower life expectancy than urban men (Canadian Institute for Health Information (CIHI), 2006).

C. RESEARCH QUESTION

What are the evidence-informed strategies and models of practice for land use planning policies, procedures and designs for the built environment to improve population health outcomes in rural communities?

D. OBJECTIVES OF PROJECT

The purpose of the project is to support the development of healthy land use planning policies and practices for rural communities in Ontario. In the context of this project, a rural community will refer to areas outside of large urban population centres (100,000 or more). This may include small population centres (1,000 -29,999), medium population centres (30,000 – 99,999), as well as areas outside of any population centre (less than 1,000) (Stats Canada, 2006 Census). The project will be crafted so that each of these population categories will be considered.

The intent of the objectives are to bring a "rural lens" to the topic of Healthy Communities and the built environment by capturing both innovative practices and tailored approaches as well as barriers and gaps in healthy communities design from diverse rural settings.

The objectives are:

- To identify existing effective land use planning policies and models of practice for healthy rural communities.
- To identify land use planning policies and practices that detract from creating a healthy rural community
- To identify barriers and gaps in healthy community design from diverse rural settings.

- To identify criteria that will help to evaluate the relative merits of individual actions or strategies within a rural context.
- To develop a toolkit that will include recommendations for effective land use planning policies and models of practice that can help lead the future implementation.

E. SIGNIFICANCE

Based on preliminary research conducted by the team including cursory scan of the literature, discussions with key opinion leaders in the area, an inventory of rural practices for creating healthy built environments does not exist. While much research has explored community and neighbourhood design and land-use planning policies as a means to improving health outcomes (physical activity, air quality, safety, social cohesion), the majority of available evidence seems to be focused on urban built environments. In addition, while it is beneficial for public health units to collaborate with municipalities and land-use planning officials to create healthy built environments, some municipalities do not have land use planners on staff or health units with the capacity to adapt the findings of urban research to meet their needs.

The project will fill an important gap by providing tools and research for decision makers and staff who implement healthy communities initiatives. It will also bring a rural voice to an issue that is currently not well represented in the research and create opportunities to integrate public health, land use planners, municipal staff and local elected officials in the identification and development of policies and practices. The toolkit has the potential to influence land use decisions and positive public health outcomes for decades to come.

Part 3. Review of the literature (3 pages maximum)

While a lot of research has explored community and neighbourhood design and land-use planning policies as a means to improving health outcomes (physical activity, air quality, safety, social cohesion), the majority of available research appears to be focused on urban built environments. Since the built environment often differs greatly in rural communities, different approaches are needed for the problems that rural communities face. A large number of current policies and programs used in rural areas are based on those from urban areas, which are often not directly transferable (Black, 2008).

Furthermore, many of the reports, protocols and programs that exist only address these issues from an urban planning perspective. Rural Ontario is left “in the dust” with no real rural framework in which to develop innovations which would address the increasing problems that impact its well-being. There are different foundations for the problems impacting rural communities; thus different approaches are needed. Many current rural programs and policy responses are based on an urban problem-resolution model and are not directly transferable to rural communities (The Social Planning Council of Cambridge and North, 2008).

Projects like Planning By Design which was initiated by the Ministry of Municipal Affairs and Housing and the Ontario Professional Planners Institute highlight the importance of and some general policy options related to obesity and related health problems, air quality in transportation corridors, air quality in

general, economic vitality and poverty, and social cohesion. There are a growing number of documents that summarize the types of policies/programs that exist generally with a bent towards the urban context. Many rural municipalities are attempting to respond to the issues affecting sustainable and healthy communities. Some focus on regulatory policy while others experiment with community-based processes or programs and the development of more innovative tools. Despite these initiatives there is often limited innovation and responsive action in addressing many of the issues which results in rural municipalities unable to deal with the problems (Frank, 2003).

Health units have a critical role of assuring the public's health. This includes ensuring that land use patterns do not compromise the health of their communities. Health units must become involved in their community's planning process and ensure that a health component is always considered in land use decisions. Establishing health coalitions and educating members of the community will also raise awareness of land use planning issues and concerns. Health units must become and remain involved in land use planning decisions in order to effectively fulfill their obligation to protect the public's health (Atlanta Regional Health Forum, 2006). There is currently a project underway called the Ontario Public Health Association's Public Health and Planning 101. The overall aim of this collaborative initiative is to help public health, planning and other related professionals to work together in order to more effectively influence public policy decisions related to health and the built environment.

The project will examine land use planning policies, practices and items under municipal control that have the potential to create or detract from creating a healthy community. Policies or practices that create barriers for individuals or groups to choose healthy lifestyle could include items such as limiting walkways, encouraging growth at the cost of prime agricultural lands or a lack of consideration for active transportations routes.

The Ontario Public Health Standards outline several areas where public health units are required to work with municipal governments. The following topic areas addressed by public health units will be considered:

1.) Active Transportation – Active transportation refers to any form of human-powered transportation, including walking, cycling, skating or skateboarding. Active modes of transportation have been linked to health, social, environmental and economic benefits for individuals and communities (Transport Canada, 2010).

    Rural Implications:

    There is a strong car culture in rural communities due to the spatial distribution of settlements (Young, 2008). The lower densities, and larger distances, between trip origins and destinations mean that a much greater distance covered by rural people is inevitable.

    It is assumed by many, including transportation planners, local governments, and other decision makers that rural residents generally have access to a personal vehicle. However, this is often not the case (Transport Canada, 2008). There are many people in rural areas that cannot afford to own a vehicle, or do not have access to one, making it harder to find jobs and get to any leisure activities (Nelson, 2010)

    Currently, sustainable transportation options, such as safe walking and cycling routes and public transit, are less present in rural communities (Transport Canada, 2008). Best practices in urban centres include the creation of separated bike lanes and off-street paths (Transport Canada,

2012). Due to dispersed population and geography, implementation of these kinds of facilities is often impractical. Separated bike lanes may also not be warranted given the potential for lower traffic volume. Therefore, a different suite of options are needed in rural communities in order to provide active transportation opportunities.

2.) Air Quality - The built environment impacts the natural environment which directly impacts human health. Land use planning decisions that situate sensitive populations within close proximity to industrial facilities and high traffic corridors increase exposure to air pollutants from these sources (Bhatia & Rivard, 2008).

Sprawling development and providing little or no public transportation or safe walking and biking routes foster greater reliance on motor vehicles (St. Albert, 2009). Dispersed development leads to more and longer vehicle trips. These increased trips create more air pollutants that impact local air quality, and greenhouse gas emissions that contribute to global climate change (U.S. Environmental Protection Agency, 2012).

Rural Implications: Sprawling and dispersed development and vehicle dependence are all characteristic of rural environments. While air quality is often identified as an urban issue, air pollution within small communities and at the neighbourhood street level can be a concern (University of California, 2006). Policies that encourage vehicle idling e.g. drive-thru's can increase local pollutant levels.

3.) Access to Affordable Healthy Foods - Access to a dependable and affordable supply of nutritious food contributes to people reaching their full physical and mental potential, leading productive lives and lowering their risk of many chronic diseases. Land use planning can have a profound impact on whether or not neighborhoods have ready access to grocery stores, farmer's markets, community gardens and other sources of fresh and healthy foods (Feldstein, 2007). Policies that enhance people's physical access to healthy foods and that support a healthy local food system that includes food production, processing, distribution, retail and consumption components contribute to the long term health and well-being of a community (Simcoe Muskoka District Health Unit, 2010). Local food production and procurement policies also decrease the distance that food travels and resulting emissions.

Rural implications: Rural communities frequently do not have direct access to grocery stores. Residents are often required to drive to neighbouring towns or cities for grocery stores. It is often noted that the quality of the produce and the cost at many of the smaller rural grocery stores is not comparable to their urban counterparts (Escala, 2011) (Landman, et al., 2009)

4.) Injury and Falls Prevention – Poorly designed and poorly maintained environments can lead to injuries. Preventing falls for children and the elderly, collisions between motor vehicles and cyclists/pedestrians and preventing motor vehicle crashes are areas where a significant difference can be made in reducing injuries. Community features that may increase the risk of injuries include high traffic volume, high density of curb parking, high vehicle speeds and high traffic speeds without adequate crossings, the number of street crossings during routine travel, the absence of a park or play areas near homes, poor street design and maintenance, and lack of curb cuts (Bergeron, 2010).

Rural implications: Rural communities often have highways or major roads that constitute their main street. Often there is significant on street parking and speeds of vehicles exceed the

posted limits as drivers have had to decelerate from the rural highway speeds. In rural areas, roads are often the only infrastructure available for pedestrians, cyclists, people in wheelchairs, etcto use for transportation or recreation activity.

5.) Water Quality – The impact of the built environment on water quality is significant. Where and how development occurs directly affects natural areas and wildlife habitat and replaces natural cover with impervious surfaces such as concrete or asphalt. Sprawled communities, lack of green space and paved surfaces are all contributors to contaminated run-off and degradation of watersheds and water sources (Williams & Wright, 2007). Groundwater contamination can also occur due to the overuse of septic systems in low-density suburban and rural residential developments (Jackson & Kochtitzky, 2010). Shoreline development and lake capacity are also important water quality issues facing rural communities.

Through the Clean Water Act, local Source Water Protection Committees (SPCs) have been established to guide the process to develop Source Protection Plans to protect municipal sources of drinking water. The Source Protection Plans will determine areas that are vulnerable, identify potential threats and develop plans to deal with the threats to our drinking water sources. Policies are being developed by each of the 19 SPCs in Ontario that will be implemented using a variety of tools including land use planning. The inclusion of source water protection in Official Plans will help support the development of by-laws to protect municipal drinking water.

Rural Implications: A large proportion of rural populations rely on private wells for their water supply. The ground water quality and volume can be impacted by planning decisions (industry/gravel pit/road salt/intensive farming). Private wells are especially vulnerable because they can be shallow dug wells, poorly situated and in disrepair and may not have treatment systems.

6.) Climate Change – The way communities are planned influences their level of greenhouse gas emissions and their resilience to the effects of climate change. Transportation planning and building design directly and indirectly contribute to greenhouse gas emissions. Community and infrastructure design influence our ability to adapt to climate change e.g. urban heat island, shade provision, storm-water protection, and insect-borne diseases. Significant impacts from climate change will place significant pressure on our economy and individual health.

Rural Implications: Climate change and anticipated changes in oil pricing are likely to significantly impact rural Ontario. Concurrently, these two issues have the potential to fundamentally change rural Ontario (transportation, employment, agriculture, etc.) (Caldwell, 2010). As outlined in the Air Quality section above, sprawling communities also contribute to climate change through vehicle emissions (greenhouse gases) (Gleeson, Nielson, & Parker, 2009).

7.) Safe and Affordable Housing –Safe housing is one of the foundations of human health as identified in Maslow's Hierarchy of Needs. Substandard housing has consequences for health outcomes that range from lead poisoning to respiratory disease to injuries. On the other hand, good housing promotes health and well-being in many ways. Providing shelter serves as the physical infrastructure for life, and provides a secure and rooted sense of home. Lower income

residents disproportionately reside in substandard housing and near environmental hazards such as high speed traffic corridors and industrial areas, demonstrating health inequities in the built environment. Substandard housing may involve several public health issues such as air quality, mould, sewage and pest infestations.

Rural Implications: The housing situation in rural areas presents some challenges. Many rural homes are older and maintenance, utilities and transportation can be costly for all rural residents, especially seniors. There is often a lack of housing choices with limited new supply, limited rental opportunities and new construction is often custom order and higher end due to a lack of spec building (Bruce, 2010). As residents age they can find it difficult to access the services they need, and the community may struggle to provide sufficient service to an aging population (Canadian Mortgage and Housing Corporation, 2003).

In rural communities the housing is often cheaper and reflects the fact that housing stock is older and more likely to be dilapidated. The rural poor are much more likely to live in mobile homes than are their urban counterparts often remaining at home means having no vehicle and very little money. In turn, lack of transportation and money limits the family members' ability to participate in community activities, which further isolates the rural poor (Slaunwhite, 2009). Possible best practice policies may include policies that allow for "granny flats" in single family dwellings.

7.) Resource Industries (i.e. agriculture, mining, forestry and fisheries) - In many ways we are a product of where we live. The health of the natural environment and the relationship between livelihoods and land use can have significant health implications.

Rural Implications: Many rural and small town communities rely heavily on one-factory or industry and can be vulnerable if the company closes and people lose their economic benefits. Diversity and sustainability of resource industries, balanced with other types of economic pursuits and assets, can contribute to local well-being of a small community. By virtue of being rural and largely agricultural in nature there are health implications including: water quality, air quality, particulates, noise, separation issues. One of the findings of this project may be to identify land use planning policies that support the need to design communities where people live and work in order to reduce commuting.

8.) Natural spaces (parks, public spaces) and the greening of communities- Research shows that parks, trees and natural spaces have health implications. Trees are important in carbon sequestration to reduce climate change impacts and improve air quality. Many cross-sectional studies show that certain characteristics of the built environment are associated with activity – including access to parks and open space; proximity to destinations; 'walkability' of a community; availability of sidewalks; aesthetics of a community (Robert Wood Johnson Foundation, 2007) . The green space connection with nature has been found to be especially important for mental health, [and] not just to de-stress and for relaxation: Research has shown that having accesible green space nearby can also play a role in warding off mental illness in the

first place (Ontario College of Family Physicians, 2005). There are many municipal policy implications associated with natural spaces (parks, public spaces) and the greening of communities including: tree cutting by-laws, land securement policies and parkland dedication policies. There is the regulator and non regulator role that municipalities play with respect to this body of work.

Rural Implications: One of the findings of this project is to identify any land use planning implications related to natural spaces and the greening of communities.

The issues related to creating a healthy community in small towns, rural communities and areas with dispersed populations are different than those experienced by their urban counterparts. Therefore the policies and design options that are needed in these settings must differ. There is very little published regarding the effective practices in rural areas and the research team is not aware of any specific tools that address the various topics included in our proposal in these settings.

Part 4. Methodology and Analysis Plan (4 pages maximum)

A. STUDY DESIGN

This research uses qualitative methods to help identify evidence-informed strategies and models of practice for land use planning policies, procedures and designs for the built environment to improve population health outcomes in rural communities. The study will also identify barriers and gaps, including policies that detract from healthy community design in rural settings. The key topic areas explored in this research will be: active transportation; air quality; access to affordable healthy foods; injury and falls prevention; water quality; climate change; safe and affordable housing; resource industries; and natural spaces and the greening of communities.

Key methods include the following:

1. Literature Review
2. Descriptive survey
3. Key Informant Interviews (semi-structured)
4. Focus Groups (to test the toolkit)

Phase 1 in the project methodology will be an in depth literature review to identify any effective models and or best practice for land use planning and policies that have been used or are in use. The literature search will include Canadian and International journals, grey literature and publications. It is anticipated that the literature review will provide limited examples of best practices in land use planning specifically for rural communities.
Phase 2 will be the implementation of a descriptive survey that allow the research team to search for innovative land use planning and design practices in rural communities.
Phase 3, key informant interviews will be used to create the context of the innovative practices stated in phase two. During phase 3 the team will connect with OPPI, OPHA and potentially beyond.

Phase 4, will produce a draft toolkit using data from the previous phases. Focus group discussions will test the toolkit, and will allow the research team to explore the ideas discussed in previous phases. This last phase will also allow the researchers the opportunity to build linkages, get further input, and gain buy in and champions for usage of the toolkit within their own rural settings.

B. POPULATION AND SAMPLE

The research identifies the current practices of municipalities and health units and works with related professionals in the development of best practises. Specifically:

Literature Review: The research will focus on recent literature within the last 5-10 years (including documents) in both the planning and public health field. The team will consider a wide range of relevant literature focused in the North American context. Additional international literature and examples will also be considered. Health databases will be reviewed including but not limited to: PubMed, Medline, JAMA, CPHA, and PHO. It is expected that much of the literature will need to be derived from the planning literature (Plan Canada, Journal of American Planning association, Journal of Rural studies etc.) with particular attention given to journals with a rural focus. The literature review will start with peer reviewed journal articles in English, full text, with special attention given to journals that are focused on rural areas. The research team will also include other sources and articles not within peer reviewed journals. In addition, the team's search will include grey literature from other credible sources such as government publications, professional bodies and accredited universities etc. Key terms that may be used, but are not limited to, include: best practices and land use planning, land use planning and rural communities, healthy design and rural communities, health and rural settings and each of the 8 topic areas (including: active transportation, air quality, access to affordable healthy foods, injury and falls prevention, water quality, climate change, safe and affordable housing, resource industries, and natural spaces and the greening of communities) etc. The research team will also review the findings from OPHA's Health and Planning 101 project and the 2011 LDCP Built Environment Measurement of Walkability and Environmental Exposure project to reduce any potential duplication.

Descriptive survey: The target for the descriptive survey will be municipal planning departments across Ontario's 400 municipalities that include rural communities. The research will also survey County/Regional Health Units where applicable. Surveys will be conducted using Survey Monkey or equivalent. The survey will be sent through planning, public health and municipal networks. The research team (representing 8 health units) will also encourage participation within their own regions and within the networks and committees they participate in. Specifically we are interested in current practices and innovative initiatives in rural settings that are considered effective by the community.

Key Informant Interviews (semi-structured): Key informants will be experts in healthy community design for rural settings both nationally and internationally. Key informants may be identified through survey results, using snowball effect and/or through literature search. Research team will include a minimum of 16 key informants interviews that will be conducted both in person and by phone when appropriate.

Focus Groups: Focus groups will be used to help refine and test the toolkit. Focus groups will be

scheduled following the completion of the literature review and the descriptive survey, and development of the draft toolkit. Invited participants will include planners, local elected officials and health unit staff and others where research identifies. Approximately, four to six focus groups are proposed and these will be selected based on a combination of geography, topic expertise and profession and will be representative of Ontario. Focus group participants will be asked to review draft tool kit for rural environments and land use planning and provide feedback on feasibility within in their own environments as well as within the greater Ontario context. This method of focus testing the tool kit will be essential for making changes and revisions that will ensure adoption and acceptance of practice tool.

C. DATA REQUIRED AND DATA COLLECTION

Literature Review: The research team will consider a wide range of relevant literature focused in North American context. Additional international literature and examples will also be considered. Common themes will be identified and effective policies and practices related to land use planning and healthy community design. Based on initial research it is anticipated that the peer reviewed literature will be limited in this area. The initial review will include peer reviewed articles from data sources such as PubMed, Medline, JAMA, CPHA, etc. It is expected that much of the literature will need to be derived from the planning literature (Plan Canada, Journal of American Planning association, Journal of Rural studies etc.) with particular attention given to journals with a rural focus. In addition search will include grey literature from other credible sources such as government publications, professional bodies and accredited universities etc.

Descriptive Survey: The research team will develop an online survey instrument to be applied using Survey Monkey or Fluid survey. The Research Team will pilot test the questionnaire. The survey will be predominantly qualitative in order to capture diverse and innovative methods utilized by rural communities that may not be known to the Research Team or reflected in the literature. It will be directed to all municipalities within Ontario using the publicly available Municipal Directory. Planners will be asked to respond and where a planning department does not exist, the questionnaire will be directed to the municipal CAO. The questionnaire will also be directed to each of the public health units in the province of Ontario that serve a rural community. The descriptive survey will help to identify current practices in Ontario in relation to healthy rural design as well as to identify barriers and gaps experienced in rural communities. To improve response rate and address potential respondent fatigue, an incentive for survey completion will be provided through a two dollar donation to provide a student scholarship for rural planning research.

Key Informant Interviews (semi-structured): Key Informants will be identified using the Descriptive Survey, literature review as well as through snowball effect. The format will be Semi-structured qualitative Interviews conducted either by phone or in person when possible. The interviews will be recorded following appropriate ethics protocols and will be conducted by the research team. The interview guide will be developed based on the findings of the descriptive survey and literature review. Key informant data will be used to further investigate innovative approaches and effective models indentified in the research and survey. Informant interview will give context and extensive description to challenges and key learning's around approach to healthy community design in a rural

setting.

Focus Groups: Focus groups allow for detailed discussions on the draft toolkit and help to provide understanding and explanation of complex issues. The focus groups will be distributed across Ontario and will include planners, public health professionals, local elected officials and other relevant municipal staff. In particular, they will help to refine and explore the practices that will contribute to the toolkit. Findings will be documented manually (observation notes, flip charts, ranking etc.) and may be recorded.

D. DATA ANALYSIS AND INTERPRETATION PLAN

Literature Review: The Literature Review will be organized reflecting a temporal, spatial and thematic structure. The literature will be reviewed and reflected against the research question. Examples most relevant (i.e. geography, population, demographics etc.) to rural Ontario will be identified and critically evaluated. Subsequent focus groups will be used to help validate the researchers' interpretation of the literature.

Descriptive survey: The data will help to create a narrative of current and best practices within Ontario. Frequency distributions and summary charts will be developed. The data will also be analyzed and presented reflecting different categories of rural and urban communities. The data will also be used to identify potential key informant interviews. SPSS will be used for analysis of quantitative data and Nvivo for analysis of qualitative data will be used where appropriate.

Key Informant Interviews (semi-structured). Key Informants will be approached using appropriate ethics protocols and the results used to help identify, inform and explain emergent and innovative best practices. Results will be coded and organized according to various themes, such as active transportation, food access, community design etc., reflective of emergent best practices. Codes will be based on information provided through the descriptive survey. Data will be analyzed using Nvivo qualitative software.

Focus Groups: Focus groups will provide commentary on research to date (draft best practice tool). In particular, they will reflect upon and discuss the emergent best practices. The results will be documented reflecting the emerging themes identified through earlier stages of the research. Those recommendations from the focus groups will be used to refine the tools that results from this project.

E. ETHICS AND PRIVACY CONSIDERATIONS

This research project poses minimal risk to the participants as it is an evaluation of the current protocols and practices in land use planning and public health.

The study will be conducted in accordance with the Tri-Council Policy Statement, "Ethical Conduct for Research Involving Humans" (link below). Prior to initiating the study, we will obtain ethics approval from University of Guelph, Research Ethics Board (REB). All participants will provide informed written consent for participation. All participants will receive an information letter outlining the purpose of the study,

expectations of participants, and benefits and risks. The Research Coordinator will obtain a signed consent form from each participant prior to each interview. In the case of the online survey, informed consent will be given prior to entry into the survey. If participants must check that they understand and agree to participate in survey prior to the survey beginning, therefore obtaining consent. All electronic records and data sets will be password protected and access will be limited to the Principal Investigator and the University of Guelph. Consents will be kept on file for seven years as per the International Review Board recommendations. Further information can be read at:
http://www.pre.ethics.gc.ca/pdf/eng/tcps2/TCPS_2_FINAL_Web.pdf

F. FEASIBILITY

There are thirteen health units involved in the project working group with both health promotion and health protection represented. There is strong support from those health units involved and willingness to provide in-kind support through staff time and expertise as well as epidemiological advice. The University of Guelph brings expertise in the area of planning, rural environments and implementing like research projects. We see no issues with completing the project as outlined.

G. LIMITATIONS

There is a limited body of research in this area. The project has been structured in a manner that recognizes this and allows effective and innovative practices from the field to be identified through survey, and key informant interviews.

To reduce potential respondent fatigue, an incentive for survey completion will be provided. In addition the team will utilize all networks and committees available to encourage participation.

There is a challenge associated with doing research across Ontario. The budget will reflect the cost of travel, for focus group to address this and technology will be used to increase collaboration and coordination.

There may be practices that are innovative and could have promising health impacts but due to limited resources, and other factors at the municipal/health unit level these practices may not be included in the toolkit. There may be a need to include new and innovative practices that are worth noting for further study.

Part 5. Knowledge Exchange Plan (1 page maximum)

Knowledge exchange is a critical component of this research. The transfer of this knowledge will occur throughout the two years of this project and beyond. The level of engagement and outreach will continue in the form of local and conference presentations and the public sharing of information. The following provides further details:

Target Audiences	**Involvement of Research**	**Knowledge Exchange**

The research is important to:	**Users in Project**	**Methods**
Municipalities (Planning, Engineers, Recreation Departments, CAO/Clerk's Offices, Housing)	- Municipal Survey - Focus groups - Key informant interviews	- meeting with and profile results with municipalities - conference presentations (e.g. Association of Municipalities of Ontario, Regional Municipal Conferences, Rural Ontario Municipal Association) -Professional Engineers Ontario - publications in appropriate venues (i.e. Municipal World; Ontario Planning Journal) - profile results on appropriate websites
Professional Planners	- Research Team - Focus groups - Key informant interviews	- meeting with and profile results with municipalities - conference presentations - publications in appropriate venues (Ontario Planning Journal, Plan Canada) - profile results on appropriate websites - Work with Ontario Professional Panning Institute
Public Health Professionals and Health Units	- Research Team - Focus groups - Key informant interviews	- meeting with and profile results with municipalities and Health Units - conference presentations - publications in appropriate venues -standard letters and presentations – for Boards of Health - profile results on

		appropriate websites
Provincial Staff	- Research Team - Key informant interviews	- on- going discussion with provincial staff (MMAH/OMAFRA) - presentations to staff
Relevant and parallel organizations (Rural Ontario Municipal Association (ROMA), County/Regional Planning Directors, Rural Ontario Institute (ROI), ALPHA, COMOH, OPHA etc)	- Conference presentations - Targeted publications and circulation of research results - Profile results on appropriate website	
General Public	- appropriate community presentations - profiled on website	
Beyond Ontario (academic and government)	- conferences outside of Ontario - National and international publications	
Beyond the two years of this project	- The University of Guelph partnership enables sustainability of the project beyond the two year mark. The Lead Researcher has made more than 200 conference presentations throughout his career. Local, national and international presentations on this topic will continue after the 2 years of the project.	

Part 6. Research Results (2 pages maximum)

A. EXPECTED OUTCOMES

The following are the expected outcomes:

- A compilation of existing effective land use planning policies and models of practice for healthy rural communities.
- The identification of land use planning policies and practices that detract from creating a healthy rural community
- A gap analysis, including barriers to healthy community design from diverse rural settings.
- A list of criteria that will help to evaluate the relative merits of individual actions or strategies within a rural context.
- A toolkit that identifies evidence-informed strategies and models of practice for effective land use planning policies in rural communities.

B. TIMELINE

Milestone or Deliverable:
Phase 1: Conduct literature review of academic and grey literature

Description of Activity:
The literature review will include the following activities:

- Develop literature review strategy as per part 4 of the submission
- Review the Health and Planning 101 project and the 2011 LDCP Built Environment Measurement of Walkability and Environmental Exposure project for rural context
- Implement the search strategy in the planning and public health fields
- Appraise the quality of the articles based on methodological strengths and weaknesses
- Interpret the findings of the literature review
- Write draft report

Duration in Weeks: 21 weeks **Completion Date: June 1, 2013**

Milestone or Deliverable:
Phase 2: To develop a descriptive survey and implementation plan to identify current and innovative practices within Ontario

Description of Activity:

- The purpose of this research method is to begin to identify what local level planners, municipal staff and public health staff feel is innovative effective practice in their community/field of practice and applicable to small towns, rural communities and areas with dispersed populations in Ontario. This information will help to create a narrative of current and effective models of practice within Ontario identified based on the population criteria. The data will also be used to identify potential key informants. The descriptive survey will include the following activities: Development of survey tool
- Identification of target population (municipal planning departments across Ontario's 400 municipalities and County/Regional Health Units)
- Development of strategy for sampling procedure
- Administration of survey tool
- Design of procedure for information collection
- Collection of data

Duration in Week 25 weeks **Completion Date: June 30, 2013**

Milestone or Deliverable:
Phase 3: To complete a minimum of 16 semi-structured key informant Interviews

Description of Activity:
The key informant interviews will be identified as a result of the descriptive survey. The purpose of these key informant interviews are to gain a more in-depth understanding of new or emerging best practices happening in the field. The number of key informant interviews reflects the fact that we anticipate that the bulk of our data and richness of information will come from this data source. Also, we have identified 9 key topic areas that we would like to explore and recognize that best practices may be slightly different in dispersed areas compared to rural communities and small towns. In addition, there is no standard of practice related to this broad topic and key informant interviews will be a mixture of professions from the planning field as well as public health. As such we want to keep doors open and not limit ourselves with too few key informant interviews. These interviews will identify existing effective practices and assist with the development of new land use planning policies and practices to help achieve healthy rural communities. These would shape the draft toolkit. The activities associated with the key informant activities include:

- Creation of research question(s)
- Identification of target population for key informant interviews
- Development of documentation methodology (i.e. Recorded, hand written observation)
- Development of interview guide & protocol (sample included) and process
- Creation of recruitment strategy for key informants
- Conduct key informant interviews

Duration in Weeks: 25 weeks **Completion Date: June 30, 2013**

Milestone or Deliverable:
Phases 2 and 3: Analysis of key informant interviews and descriptive survey.

Description of Activity:

- Transcribe all data
- Organize all data
- Identification of phrases, relationships between variables, patterns, themes and distinct difference between data, including literature review

Duration in Weeks: **Completion Date:**
16 weeks **July 15, 2013**

Milestone or Deliverable:
Phase 4: Creation of draft "Toolkit"

Description of Activity:

- The purpose of this deliverable is to develop a set of recommendations that can help lead the future implementation of best policies and practices for healthy rural communities. The activities will include:Writing of a draft "Toolkit" based on the analysis of the literature review, survey and key informant interviews

Duration in Weeks: 18 weeks **Completion Date: November 15, 2014**

Milestone or Deliverable:
Phase 4: Review draft "Toolkit"

Description of Activity:

- Provide initial draft of the "Toolkit" to the review team
- Make any necessary revisions
- Disseminate 2nd draft of the Toolkit for feedback and review from Ontario Healthy Communities Coalitions, Clean Air Partnership, OPHA Planning and Public Health 101, OPPI etc.
- Collate responses and prepare a prototype 'toolkit' for the focus groups

Duration in Weeks: 24 weeks **Completion Date: May, 2014**

Milestone or Deliverable:
Phase 4: To complete 4-6 focus groups to provide commentary on research to date, including the "Toolkit"

Description of Activity:
The purpose of the focus groups are to bring planners, engineers, municipal staff (CAOs elected officials etc), public health staff together to review the draft toolkit. We would be reviewing the findings and examining if the identified best practices are feasible, transferable and applicable to other settings. Based on willingness focus groups will be hosted all throughout Ontario to ensure feedback is representative of small towns, rural communities and areas with dispersed populations like Northern Ontario.

- Creation of focus group protocol
- Recruitment of focus group participants
- Focus group implementation
- Analysis and organization of data
- Interpretation of data

Duration in Weeks: 17 weeks **Completion Date: Aug 31, 2014**

Milestone or Deliverable:

Completion of final product – A Toolkit on Best Practices for Healthy Rural Built Environments

Description of Activity:
Based on all of the information received and feedback from focus groups a final Toolkit will be created. It will require the following activities:

- Interpretation of focus groups results
- Review of final product with the Research Team
- Publication of final product

Duration in Weeks: 26 weeks **Completion Date: Oct 30, 2014**

Milestone or Deliverable:
Knowledge exchange

Description of Activity:

- To engage stakeholders to contribute to the research of the project
- To develop and implement a strategy /sustainability plan consisting of a series of recommendations and strategies than can help ensure the adoption and long term implementation of the Toolkit.
- Final product disseminated through conference presentations, publications and websites, and all stakeholders
- Identification of possible additional funding sources to support ongoing knowledge translation for sustainability (e.g. CIHR – knowledge translation grants, Rural Social Enterprise)

Duration in Weeks: 12 weeks **Completion Date: December 2014**

Part 7. Project Team (1 page maximum)

Project Leads: Chatham-Kent will act as the Principal Investigator with Elgin St Thomas assisting with administrative tasks. The Principal Investigator will oversee and lead research activities. They will be supported by managers from their respective Health Units Nicole Dupuis and Jim Reffle. Chatham-Kent and Elgin St. Thomas will share administrative tasks and have overall decision making ability with input from Research Team. This group will receive acknowledgement or credits in the final project as project leads.

Research Team (all co-applicants/supporting organizations) – At a minimum this group will be asked to attend 1 face to face meeting per year and bi-monthly meetings via teleconference. They will be called

on to review tools and gain insight on steps as they progress. They will be asked to participate in focus groups, pilot test research instruments and bring confidence and consensus to the results. All members of this group will be acknowledged as a contributor. They will be asked to cover the costs for their staff to travel to the face to face meetings

Review Team (all collaborators, OMAFRA, MMAH) – This group will review draft products and provide feedback to the Research Team.

Dr. Wayne Caldwell will provide guidance and supervise the Graduate Student(s). Professor Caldwell is a Registered Professional Planner and Director of the School of Environmental Design and Rural Development. His research focus includes the relationship between the built environment, change within rural communities and community based responses to environmental and economic issues.

Part 8. Attachments

Please write YES to indicate you have attached the following items:

Resource Requirements (required): Yes

Letters of Support (optional): Yes

Tables and Figures (optional): Yes – please see the Gantt chart

Other (e.g., references, questionnaires, consent forms) – Please list: Draft Survey and Key Informant Interview Draft

Part 9. Signatures

LEAD HEALTH UNIT – AUTHORIZED REPRESENTATIVE

I warrant that the information in this submission form is complete and accurate to the best of my knowledge and that it reflects the collective intentions of the collaborative team. I acknowledge that as the lead health unit, my organization has the intention to enter into a Transfer Payment Agreement with Public Health Ontario that reflects the roles and responsibilities of lead health units as described by the Locally Driven Collaborative Projects and the 2012 LDCP Submission Guidelines.

Name:

Title:
Signature: **Date:**

Signatures to be sent via email as attachments including:

1. Lead – Chatham-Kent – signature above
    - Supporting - Nicole Dupuis
2. Co-Lead: Elgin St. Thomas Public Health
    - Supporting - Jim Reffle
3. Supporting
    - Jason Weppler – Grey Bruce
    - Helen Doyle – Public Health Branch York Region
        - Caitlyn Paget -Epidemiologist, Health Protection
          Mira Shnabel - Environmental Health Program Coordinator, Health Protection
    - Melanie Davis – North Bay Parry Sound District Health Unit
    - Alycia Collins – Huron Country Health Unit
    - HKPR District Health Unit for Sue Shikaze and Lisa Kaldeway
    - Wayne Caldwell – University of Guelph

Collaborators Letter of Support –

1. Susan Harding- Cruz – City of Hamilton Public Health & Social Services
2. Lorna Boratto – Oxford County Public Health
3. Fabio Cabarcas – The Regional Municipality of Halton Health Department
4. Wellington Dufferin Guelph Public Health
    a. Bo Cheyne
    b. Karen Armstrong
5. Michelle Crowley – Haldimand-Norfolk

Letters of Support – attached to email

1. Municipality of Chatham-Kent Planning Services
2. County of Bruce Planning and Economic Development Departments

DEADLINE

The 2012 LDCP Submission Form is due to Public Health Ontario on **July 13, 2012 at 4:00 pm EDT**. Please send ONE email with all of the submission documents to: LDCP@oahpp.ca

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