Goodhue County A3 Urban Fringe District Health Impact Assessment



Acknowledgements

This report plays an important part in building capacity and knowledge of HIA in Goodhue County. We hope it will become influential not only through its relevance to the Goodhue County A-3 Urban Fringe District decision making process, but also through demonstrating how HIA can inform other decisions so as to achieve health outcomes for all communities in Goodhue County.

Over the course of the project, the Goodhue County A-3 Urban Fringe District HIA Research Team received valuable input and participation from a variety of stakeholders. We thank them for dedicating their time, energy and expertise to the project.

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Executive Summary

EXECUTIVE SUMMARY

Goodhue County A3 Urban Fringe District Health Impact Assessment

Goodhue County is in the process of changing the land use zone around the incorporated city limits of Red Wing, Goodhue, Zumbrota, Wanamingo, Pine Island, Kenyon, Cannon Falls, Lake City and Dennison from an Urban Fringe District to one of two types of Agricultural Districts. The differences between the Urban Fringe Zoning District and the Agricultural Districts are housing density, and some conditionally permitted activities.

Health was not being considered as a factor for this proposed zoning change, even though different types of land use could result in different potential health impacts.

Goodhue County Health and Human Services, in collaboration with Goodhue County Land Use Management, conducted a health impact assessment (HIA) to inform which health impacts to consider when deciding zoning district changes. The HIA brought light to some of the health impacts of these decisions and helped identify ways to mitigate potential negative impacts.

Steps of Health Impact Assessment

Populations impacted by the Project

Residents living in the A-3 Urban Fringe District.

Health determinants impacted by the Project

Mental Well-being; Physical Activity; Physical Health

Decision Makers

The Planning Advisory Commission makes recommendations to the County Board of Commissioners. The County Board of Commissioners will make the final decision about land use.

Natural Resources

Succession Planning

Steering Committee: A steering committee was created in January, 2014 to help guide the HIA process. Committee members included representatives from the townships and cities that would be impacted, as well as representatives from county agencies for Soil and Water Conservation, Land Use Management, and Health and Human Services. The steering committee identified key areas of study, which helped create preliminary pathway diagrams. The HIA team narrowed suggestions down to three final pathway diagrams based on available time and resources. From the pathways, the HIA team created research questions. The steering committee met in April 2014 and finalized the scope of the project by going through the final pathways, amending them slightly and adding some research questions and survey questions.

Methods

Literature Review: A literature review was conducted to understand the relationships between the zoning decision, certain social determinants of health, and specific health outcomes. The health outcomes associated with this Health Impact Assessment are physical activity, well-being, and physical health.

Survey: Six hundred sixty-three surveys were mailed out to the A-3 Zoning District landowners to inform land owners of the proposed change and ask their opinions about the research questions of interest. Three hundred thirty-eight surveys were returned by the deadline, yielding a response rate of 51%.

Focus Groups: One hundred forty-six survey respondents indicated that they were interested in participating in a focus group. A sampling approach was used to identify participants with particular opinions on succession planning and land use development, supplemented by an attempt to reflect the overall demographic characteristics of the survey respondents. A total of 29 people participated in the three focus groups - one in Cannon Falls, one in Red Wing, and one in Zumbrota.

Key Informant Interviews: Alliance Bank was contacted to inform the HIA about access to home loans in the rural area. A personal banker answered questions regarding the difference between agricultural loans and conventional mortgages.

Geographic Information Systems (GIS) Analysis: GIS analysis was used to map data for the area such as soils/prime farmland, dwellings, natural resources, split properties, and land sales analyzed.

Major Findings

Natural Resources

Dwelling Density and Access to Natural Resources and Recreation:

Although survey and focus group findings differed on this topic, an overall review of the findings suggests that there will be limited change in dwelling density, which means there will be no change in utilization of property for natural resources. Survey findings show that Goodhue County residents use their property for recreational activities such as hiking/walking, bird watching, hunting, riding ATVs, and horseback riding. If people are using their property for these activities today, it is anticipated they will continue to do so after the zoning change.

Well-Being:

The focus groups confirmed being able to utilize property for recreation lowers stress levels and enhances well-being. Adversely, other people using their property can lead to stress. Neighbors can use each other's property when it is requested of them, however when non-neighbors impose on property owners it is stressful.

Succession Planning

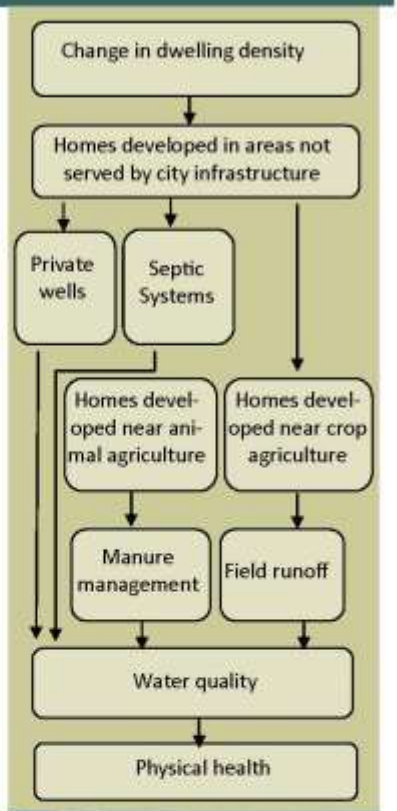
Succession Planning:

Survey responses indicated that the zoning change would improve the ability to transfer property to someone else, that transferring property to a family member is important, and that not being able to transfer to family would impact the overall sense of community. A sense of community has a positive impact on the well-being of those who live in the area. The steering committee also confirmed the desire to keep Goodhue County agricultural in nature and preserve the existing sense of community in the rural area.

Dwelling Density and Preservation of Agricultural Land:

There were mixed reviews on whether the proposed changes would make it easier or harder to sell land. Some stated that the smaller lot size will make it easier to sell land and obtain loans. Others stated that the proposed zoning changes would take away from the rural aspect of their property which would then make it harder to sell their land. The prediction is that allowing dwellings to be sited on two acres would allow for more options to divest property. The perception was that allowing smaller tax parcels would lead to more homes being built than what are there currently.

Housing Development



Major Findings cont.

Housing Development

Homes Developed in Areas Not Served by City Infrastructure: Survey respondents indicated that they were unlikely to sell their property for profit today, and nearly the same percentage reported being unlikely to sell their land for profit if the zoning were to change. This would not support the theory that there could be an increase in houses built. However follow up with the focus group challenged this finding.

Private Wells and Septic Systems: The prediction is that the proposed zoning change will lead to more people building homes in the study area which could lead to an increase in the amount of wells and septic systems. An increase in the amount of wells and septic systems means an increase in the potential for water pollution. Research found that many household products have the potential to pollute ground water. Pollution from these products often occurs from faulty septic tanks and septic leaching fields. Septic systems must be carefully managed to prevent pollution.

Animal Agriculture: Homes developing near animal agriculture may also be at risk for water pollution. Fecal coliform resides in the intestinal tracts of warm-blooded animals including humans. The presence of fecal coliform in drinking water indicates that human or animal waste has been or is present. Fecal coliform in drinking water is a serious concern and appropriate actions should be taken.

Crop Agriculture: Agricultural water is water abstracted from surface and ground water. "Drinking water is vulnerable to pollution by agricultural chemicals, including pesticides, herbicides, fungicides, and fertilizers, as well as their metabolites" (Mott, Fore, Curtis, & Solomon, 1997). In areas where nitrogen-based fertilizers are used, Nitrate can frequently be found in the water.

Recommendations

Natural Resources

- Education to the cities, townships and residents to clarify what the zoning change would mean to residents and landowners. There is a disconnect between what people perceive could happen with what the zoning district would actually allow.
- Maintaining and enforcing zoning ordinances that require setbacks that establish boundaries between neighbors.

Succession Planning

- Maintain agricultural protection standards in the zoning ordinance and the Goodhue County Comprehensive Plan.
- Ensuring that density standards are abided by will protect the agricultural districts from becoming over populated.

Housing Development

- Use caution in increasing density in the agricultural sections. Make sure to talk to townships and citizens during the process and attempt to gain consensus prior to increasing density limits. If density limits are increased, enact other measures to preserve agricultural land such as transfer of development rights and encouraging conservation based subdivisions.
- More should be done to increase awareness for property well and septic maintenance. One way could be to create an informative brochure to be given with septic and well permits that advises on proper maintenance techniques and best management practices and to keep such brochure up to date indefinitely. Ensure that animal feedlots are utilizing best management practices and adhering to prescribed setbacks when spreading and handling manure.
- Enforcing the required 50 foot buffer on protected waterways will aid in protecting and improving water quality in Goodhue County.

Overall Recommendation

- When deciding what zoning district to apply to the study area decision makers can utilize Appendix G and get recommendations about it from the townships effected.
- Furthermore, a landowner may have the right to build a dwelling under the current zoning district and may lose that if the section if full when the zoning is changed. The County will need to make a decision on how to address this potential down zoning so the zoning change is not perceived as a "takings."

What is a Health Impact Assessment

The Society of Practitioners of Health Impact Assessment (SOPHIA) defines a Health Impact Assessment in the following way. Health Impact Assessment is a process used to identify how a project, policy or program might influence health.

Health Impact Assessment (HIA) uses a combination of procedures, methods and tools to systematically judge the potential–and sometimes unintended–effects of a proposed project, plan or policy on the health of a population and the distribution of those effects within the population.

The HIA also produces recommendations to enhance the health benefits of the project/policy/program and to mitigate potential harms.

HIA is a practical tool that can:

- provide a structured process to determine a policy or project's impact on health;
- bring both immediate and long-term health benefits;
- ensure that policy and project dollars are used efficiently to provide the greatest benefit.

http://www.azhip2.org/health-impact-asse 1

Background on the Goodhue County Urban Fringe District.

Goodhue County is in the process of changing the land use zone around the incorporated city limits of Red Wing, Goodhue, Zumbrota, Wanamingo, Pine Island, Kenyon, Cannon Falls, Lake City and Dennison from an Urban Fringe District to one of two types of Agricultural Districts: A-1 Agricultural Protection District, and A-2 Agricultural District. The differences between the Urban Fringe Zoning District and the Agricultural Districts are lot size, housing density, and some conditionally permitted activities. The A-1 district allows for 4 dwellings per section while the A-2 district allows for 12 dwellings per section, one dwelling per quarter of a quarter section (approximately forty acres), see Figure 1 below.

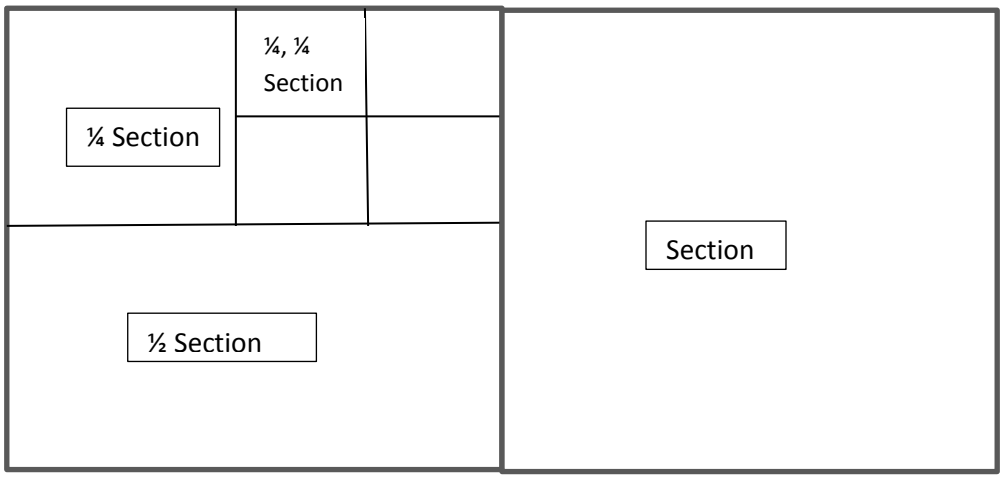


Figure 1- A Diagram of the breakdown of a Section

Currently the Urban Fringe District surrounds the incorporated areas of the county. Homes are typically built on larger lots of land (minimum of 35 acres). The Goodhue County Zoning Ordinance states that it is preserved for agricultural and open space purposes to allow for the future growth of the adjacent city. If the Urban Fringe District becomes an agricultural zone, the number of homes allowed in the area could be reduced (significantly if zoned) and other uses previously prohibited such as mining or feedlots may be allowed (subject to setbacks). However, there are also conditionally permitted uses that are called out in the Urban Fringe district that are not allowed now in either of the Agricultural districts. By eliminating this zone and not specifically allowing those uses, some forms of development could be discouraged beyond current city limits but subsequently encouraged within city limits.

Health was not being considered as a factor for which agricultural zoning district should replace the Urban Fringe District, even though each type of land use could result in different potential health impacts.

Goodhue County Health and Human Services, in collaboration with Goodhue County Land Use Management, conducted an HIA to inform what, if any, health impacts to consider when deciding zoning district changes. The HIA can bring to light some of the health impacts of these decisions and help shape the Comprehensive Plan and the Zoning Ordinance to address ways to mitigate potential negative impacts and enhance potential positive impacts.

Figure 2- Photo of Current landscape of A-3 district

Screening: Decision-Makers and Decision-Making Process

The decision about changing the Urban Fringe District zoning to Agricultural District zoning in Goodhue County will be made by the Goodhue County Commissioners. The HIA was conducted to inform this decision. The decision could potentially have the most influence on residents living on the edge of town where mixed-use agriculture and residential uses intersect. Goodhue County Commissioners, city and township officials can utilize the HIA to inform them of the predicted impacts with the potential change in land use.

The decisions that the Goodhue County Commissioners will make about zoning changes will affect everyone that the current A-3 district borders. Township Boards and City Councils will be affected by the zoning decisions because the future land uses that they may have designated in a long term plan call for housing developments or parks in the locations that border the zoning changes. Therefore, a city may want to provide input to influence with the county's decision on zoning.

When the county changes zoning districts, zoning ordinance text, or the comprehensive plan, two public hearings are required. The first public hearing is held with the Planning Advisory Commission, which then makes a recommendation to the County Board of Commissioners. Land Use staff is anticipating beginning conversations with the townships and cities regarding the Urban Fringe elimination beginning in December 2014 to early part of 2015. Landowners in these sections will be notified of potential changes and invited to meetings regarding what the future zoning district should be. Land Use staff is anticipating receiving the approval of the County Board of Commissioners to officially change the zoning districts one year after the dialogues have started with the townships, cities, and landowners.

At the end of the research period Land Use Management expects there to be a decision by the Planning Advisory and the County Board of Commissioners to change the sections currently zoned A-3 to either an A-1 or A-2 zoning district. The HIA will be utilized to help inform the A-3 decision that is expected to be completed early 2015. The A-3 district change was not anticipated to be controversial.

Screening: Potential Impact of Eliminating the Urban Fringe District on Health

The HIA team researched whether vulnerable populations, those who have lower incomes, children and elderly, and those with existing health problems, might be more affected by these zoning changes. These populations may not have the resources to mitigate negative impacts, because of existing health challenges, or because of age-related vulnerabilities. Vulnerable populations such as children and elderly were considered, but research found that no specific demographic or health related vulnerabilities were deemed relevant to this A-3 Zoning District decision.

Training sessions were held January 13th and 14th, 2014 (Figure 3). Input from stakeholders at the training sessions helped determine what health issues might be affected by a zoning change. For example, if a campground was already approved in the Urban Fringe District, would the air and water quality change if it were rezoned to an Agricultural District? Stakeholders also indicated that the current minimum lot size of 35 acres is a factor considered in banks' lending criteria for those looking to purchase, build, renovate, or refinance a home in the A-3 district. Stakeholder's mentioned; if the district were rezoned to an Agricultural District, and the minimum lot size changed, how would that affect farmers' succession planning and subsequently their stress and mental health? Another issue relates to the dwelling density allowed for future homes developed in the study area, outside of city infrastructure like city sewer and water. Would the zoning change increase or decrease the number of homes relying on private septic systems and private wells in agricultural areas, and would the water quality change?

Figure 3-January 14 training session

Figure 4-January 14 brainstorming

The main health issues originally considered for analysis during the HIA were: housing; living conditions; potential for air, water, and soil quality changes; access to parks, exercise, and health care; transportation needs; and economic health. After input from stakeholders from the training session (Figure 4), the main health issues considered for analysis were: physical health; mental well being; and physical activity.

Stakeholder Engagement During the Screening Phase

Engagement of key stakeholders during the screening step of the HIA was critical to assess whether an HIA was feasible and whether an HIA would add value to the decision-making process. The following stakeholder groups were identified.

- Goodhue County Board of Commissioners (County Board) – The County Board is the decision maker for the County.
- Goodhue County Planning Advisory Commission – The Goodhue County Planning Advisory Commission is comprised of 8 members appointed by the Goodhue County Board and one representative from the County Board. The Planning Commission will host public hearings for applicants. They also are the first of two public hearings for zoning changes. Their role in the HIA is that of making a recommendation to the decision makers.
- Goodhue County Soil and Water Conservation District (SWCD) – The SWCD consists of a Soil and Water Conservation District Board and staff. The Board is comprised of citizens of the area. They are not decision makers regarding the Urban Fringe District. They represent the people of the County affected by the zoning change. Also the staff can bring the perspective of changes to the agricultural opportunities such as feedlots.
- County Health and Human Services Board – The HHS Board would be interested in the findings of the HIA, but have little influence over the decision about the Urban Fringe District itself.
- Township Boards– The Township boards represent the citizens of the townships. Based on the rural character of the Urban Fringe Districts, there are no clear advocacy groups that represent the people. Therefore the Township Boards were the citizen representatives.
- City staff- City staff brought a unique perspective of the plan of the city for the area of the Urban Fringe District. They represented the perspective of the city throughout the process.

- Land Use Management (LUM) & Health and Human Services (HHS) Supervisors and select staff- The partnership of the LUM and HHS departments are a building block for future HIA endeavors. The purpose of the involvement of those outside of the HIA support staff is for training on the process so it could be brought forward again in the future. These departments will offer support throughout the HIA.
- Farmers/Landowners/Residents – This group is the impacted residents. These people were a resource group for information necessary to conduct the HIA.

Training attendees were invited based on the categories listed above. The landowners involved were the largest group affected, and they were best represented by the Township Boards and the SWCD. Both boards are elected positions viewed to be representatives of the citizens. Training started by introducing Health Impact Assessments to the attendees. The HIA process was then discussed and the HIA team presented the screening summary and introduced the scoping phase. The second day was a more advanced training that had more in depth research into scoping and highlighted the key interests for the project. The steering committee was formed from those who attended the training sessions.

Reasons for Selecting the Urban Fringe District

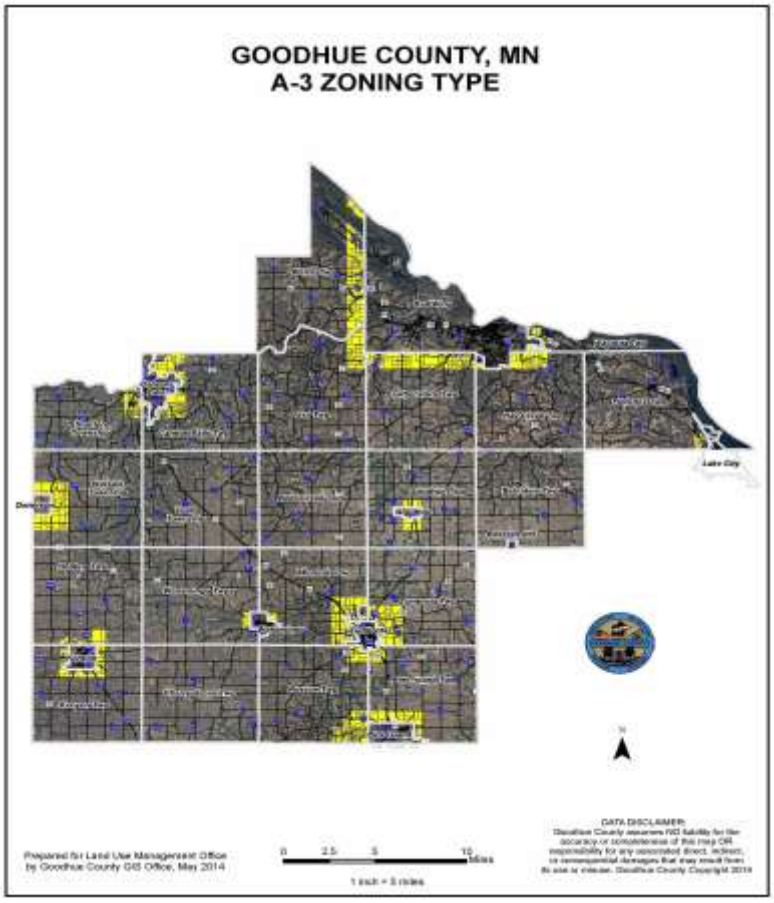
The HIA on the Urban Fringe District was selected primarily because of the timing. There was an understanding that the County would be studying the Urban Fringe District for some time before making a decision on what should happen to it. The potential outcomes of what could happen to the Urban Fringe District are fairly clear - either the zone will remain unchanged or it will change to either A-1 or A-2. Furthermore the Urban Fringe District affects a large area: 18 of 21 townships contain urban fringe districts, and 9 of 10 cities have an Urban Fringe District in some form. It was also determined that the decision to change the Urban Fringe District could have an impact on health. There is national push to have health considered in all policies. Over more venues, planners and health professionals are teaming up to see what health impacts are in planning endeavors. The intent of this exercise was to build a capacity between the Land Use Management Department and the Health and Human Services Department to conduct more Health Impact Assessments in the future.

Scoping Summary

The scoping summary is essentially the work plan for the HIA. It includes an identification of the population likely to be affected by the HIA with a description of the health issues that will be addressed and a summary of any health issues that were considered but will not be analyzed in depth in the HIA. It will also show how the stakeholders were involved in developing the scope.

Geographic Scope:

The A-3, Urban Fringe District is a zoning district that is approximately one mile around a city. Goodhue County contains ten incorporated cities, nine of which have some form of A-3 zoning surrounding. Goodhue County has twenty one townships; eighteen of those townships contain the A3 district. Some townships in Goodhue County have their own zoning ordinance and zoning maps that may be different than the county's maps or ordinances. Not all townships recognize the A3 district. State Statute allows for townships to be more restrictive, but not less restrictive, than the county. Therefore, if the township does not recognize the A3 district, the more restrictive rule would apply. However, the county only enforces county ordinances—townships with a more restrictive rule are responsible for enforcement of that rule (see Appendix A).



Map #1 (Appendix 1) shows the A-3 districts on a county-wide scale.

Methods for determining the Scope

The preliminary scope of the project stemmed from a training session held in January of 2014. The training participants (described in the stakeholder engagement plan) identified key areas of study, which helped the partnership create preliminary pathway diagrams. The partnership team narrowed suggestions down to three final pathway diagrams based on available time and resources. From the pathways, the partnership created research questions. The steering committee met in April 2014 and finalized the scope of the project by going through the final pathways (shown later in the report), amending them slightly and adding some research questions and survey questions.

Scope of Urban Fringe HIA

Natural Resources

The theoretical assumption for the natural resources pathway is that there with be a reduction in potential dwelling density in the area of study, which will lead to an increased preservation of the natural environment. Furthermore, an increase in the preservation of the natural environment will lead to increased access to natural resources. Our hypothesis is that increased access to natural resources will lead to increased recreation and/or lifestyle satisfaction from living on rural land. Increased opportunities for recreation will lead to increased physical activity, which can lead to improved health and well-being.

Succession Planning

The theoretical assumption behind the succession planning pathway is that a change in parcel sizes will lead to a change in options to divest property. Furthermore, change in options to divest property will lead to increased access to home loans which will lead to increased options for succession planning. The hypothesis is that increased options for succession planning will preserve and strengthen the community identity, which will positively affect individuals' well-being. At the same time, the change in potential dwelling density would lead to preservation of agricultural land, which also preserves and strengthens the community identity of agricultural areas.

Housing Development

This pathway focuses on the ability to build dwellings outside of areas served by city water and sewer. The hypothesis is that an increase in wells and septic systems creates more opportunity for negative impacts on water quality, which could increase physical health problems. Furthermore, the change in the potential housing density will lead to an overall preservation of agricultural land. Agricultural practices including chemical pesticides, herbicides, and fertilizers as well as manure management, have the potential to negatively impact water quality. Research in this pathway will take into account the existing regulations that limit the risks wells, septic systems, and agricultural practices pose to the water supply, as well as the potential health implications of water contamination, in order to underscore the importance of protecting water sources new housing developments may rely on.

Stakeholder Engagement

Purpose of the Stakeholder Engagement Plan

The purpose of the Stakeholder Engagement Plan is to articulate efforts for engaging stakeholders and community members at each stage of the Goodhue County A-3 Urban Fringe District Health Impact Assessment (HIA). The plan describes the various engagement strategies, how the strategies will be used and the timing for employing the strategies. A well-defined and strategically executed plan will result in meaningful engagement of community members and coordinated incorporation of community input into the HIA recommendations and final HIA report.

Identification of Stakeholders

Goodhue County Health and Human Services has collaborated with the Goodhue County Land Use Management Department (the partnership) to undergo the HIA. Together they have identified stakeholders during the screening phase (see Table 1). The first initiated contact with the stakeholders was during the scoping phase.

Opportunities and Challenges for Engagement

The A-3 District covers eighteen townships and surrounds nine cities of Goodhue County. Each township and city holds board meetings that were envisioned to be utilized to engage townships and cities on an individual level. After the creation of the steering committee other avenues for engagement were utilized such as the survey and focus groups. The survey was a great tool for outreach many citizens that received the survey call the land use department to ask questions about the HIA process and the potential zoning change. A training was held during the scoping phase of the project in which we invited all township officials and city representatives. From our attendees at the training we created our steering committee. The steering committee will help us shape and guide the partnership through the HIA process.

Based on the rural nature of the County there are no representative organizations for the citizens that were interested in participating in the HIA. Therefore we have engaged the Soil and Water Conservation District and township board representatives to help be the voice of the farmers.

Methods of Stakeholder Engagement

The partnership will use the following engagement strategies to incorporate stakeholder input into various stages of the HIA. The timing and schedule of engagement can be viewed in Table 2.

Steering Committee– The Steering Committee was selected from attendees of a training session conducted early in the scoping phase of the project. The stakeholder meetings occurred during each phase of the HIA process, with more emphasis on scoping to identify the primary focus of the HIA. The first scoping meeting crafted the pathways for which the partnership has focused to determine the scope of the project. The final scope and pathway for the project was approved by the steering committee prior to the assessment beginning. During the assessment phase the steering committee was brought up to speed on the research findings. They were

utilized to help draft recommendations from the findings. They also reviewed the full report prior to distribution to the Planning Commission.

Urban Fringe District Landowner Assessments – The HIA team mailed surveys to landowners in the A-3 District. Participants were selected for a focus group to follow up with survey findings.

Focus Group – The HIA team conducted focus group meetings to provide information about the HIA and so that citizen participants could provide feedback regarding survey findings.

Presentations to Decision Makers and Townships – The partnership utilized formal presentations to inform and gain feedback during the scoping and reporting stages of the HIA. The presentations were designed and scaled based on the anticipated audience. The HIA team presented the HIA report findings and recommendations to the Planning Commission and County Board.

Website – A website was developed that contained resources regarding what is an HIA and the initial scope of the HIA. The final report will be uploaded there as well.

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Stakeholder Identification Matrix Table 1

Stakeholder group/key contact	Why are they interested in the HIA or related decision?	Power to influence the decision (high, medium, low)	How and when (what stage) to engage?	Potential role in/contribution to HIA (Advisory Committee member, team member, audience, information resource, etc)
Planning Commission	Make recommendations to Decision makers	High	Scoping, Reporting	Steering Committee, Presentations, Decision Maker
County Commissioners	Decision makers	High	Scoping, Reporting	Decision Maker
County Health Board	Health information or Health impact	Low	Scoping, Reporting, Assessment	Information and Resources
Townships and Cities (As effected)	Representatives of impacted community	Medium	Scoping, Assessment, Recommendations, Reporting	Information and resources, Steering Committee, Community Meetings
Land Use Management & HHS Supervisors and selected staff	Outcomes, future potential, relationship building, capacity building	Medium	Screening, Scoping, Assessment, Recommendations, Reporting, Monitoring/Evaluating	Partnership Staff, Presentations, Steering Committee
Farmers/Landowners/Residents	Impacted community	Medium	Assessment, Reporting, Monitoring/Evaluating	Landowner Assessment
Goodhue Soil and Water Conservation District	Representatives of impacted community	High	Scoping, Assessment, Recommendations, Reporting	Steering Committee

Stakeholder Engagement Matrix Table 2

	Health Impact Assessment Steps					
	Screening	Scoping	Assessment	Recommendations	Reporting	Evaluation and Monitoring
Landowner Assessment			X			
Community Meetings			X	X		
Presentations to Decision Makers	X	X			X	
Steering Committee Meetings	X	X		X	X	
Website			X	X	X	X

X=Employing the engagement method

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Assessment Methods

Literature review

A literature review was conducted to identify relationships between existing conditions, proposed impacts and specific health outcomes. The health outcomes associated with this Health Impact Assessment are physical activity, well-being, and physical health. The Minnesota Department of Health – Library Services was contacted to do a literature search for this HIA. They provided abstracts and URLs that were conducive to the HIA. For other information, searches were conducted on websites such as the Centers for Disease Control and Prevention, the United States Environmental Protection Agency, and the World Health Organization.

Survey

After the scoping phase was completed and the pathway diagrams were finalized, research questions were formulated to drive the focus of the HIA. Preliminary research questions were brought to the Steering Committee at their April 2014 meeting. They discussed and amended the research questions. Research questions were answered by survey analysis, literature review and data analysis. See Appendix-B for the research table.

The survey recipients were selected using ArcMap 10.1 GIS software. A query was created to select all properties within the A-3 Zoning District. The properties, or parcel data is tied to the AS400, which is our taxing software. The information was extracted to an Excel Spreadsheet. The duplicate parcels and property owners were eliminated and the remaining parcels created the list for the survey.

Once survey questions were formulated the survey was directed to Ann Kinney, with the Minnesota Department of Health. Ms. Kinney r did some rewording and minor reordering of questions and text and made recommendations about how to structure the survey instrument using consistent 7-point scales. She also advised the HIA team about survey administration; for instance, recommended the HIA team allow survey respondents taking the survey online to skip a question. Another recommendation was in regards to privacy, instructing the team to de-identify all of the survey data and to inform respondents that their responses were voluntary and completely confidential. The Technical Assistance advisor also made substantial recommendations to questions. A survey monkey site was then created using the reviewed survey questions. A cover letter was written to attach to the mailed surveys with a short explanation of what the proposed change was. This is the first contact the public was provided with the potential zoning change. The cover letter provided the survey respondents with a random number. The cover letter had a random four-digit number mail-merged onto it, otherwise it had no identifying information. The number was to ensure that someone wasn't returning a mailed application and filling one out online. Also it was to verify the person completing the survey online actually received an invitation to do so.

The surveys had a response rate of 51%. 663 surveys were initially mailed out to the A-3 Zoning District landowners and of those 338 surveys were returned by the deadline. The information from the paper surveys that were mailed back were input into Survey Monkey and then analyzed and a document was created for the hand written comments that were on some of the returned surveys (Appendix C).

Focus group

Table: Demographics of 48 survey respondents who met criteria for 14, 19, and 21, and 4, 5, or 10*

Answer	Focus Group Priority	Waiting List	Total
Cannon Falls	9	1	10
Dennison	1	3	4
CF Area	**10**	**4**	**14**
Pine Island	6	1	7
Zumbrota	5	2	7
Kenyon	1	2	3
Wanamingo	3	0	3
Zta Area	**15**	**5**	**20**
Red Wing	6	1	7
Lake City	1	1	2
Welch	3	2	5
RW Area	**10**	**4**	**14**
$20,000 - $39,999	2	0	2
$40,000 - $59,999	3	2	5
$60,000 - $79,999	9	2	11
$80,000 or more	18	6	24
Not given	3	3	6
20-39	4	0	4
40-59	16	6	22
60+	15	7	22
Question 4 (Would lot size affect transfer)			
Definitely	31	0	31
Definitely Not	3	0	3
Question 5 (Importance of transferring to family)			
1 = not at all important	7	1	8
7 = very important	28	12	40
Question 10 (Likely to sell property for housing)			
1 = not at all likely	31	12	43
7 = very likely	3	1	4
Total	35	13	48

*98 more respondents were interested in participating but did not meet these criteria.

An initial review of the 146 survey respondents who were interested in participating showed there were 27 from Red Wing or Welch (A3 townships on Red Wing's west border have Welch addresses), 27 from Cannon Falls, 23 from Pine Island, and 21 from Zumbrota, as well as 28 from other towns in Goodhue County, 18 from towns outside Goodhue County, plus 2 who had not given an address. Based on this response, focus group locations chosen were Red Wing, Cannon Falls, and Zumbrota. Focus group times were intentionally varied (one on a weekday afternoon, another a weekday evening, and another a weekend afternoon) to allow participants who worked during weekdays more opportunity to attend.

A criterion-based sampling approach was used, supplemented by an attempt to reflect the overall demographic characteristics of the survey respondents. Criterion-based sampling (i.e. selecting cases that meet some predetermined criterion of importance) was used based on responses to questions about succession planning and sale of land for housing development. From all survey respondents who indicated an interest in the focus group (145 answered yes), we first selected those who owned a home in the study area. Next, we narrowed this list to only those who responded that changing the minimum lot size would "definitely" or "definitely not" affect their ability to transfer property, and that transferring property to a younger generation in their family was either "not at all important" or "very important", and who responded that they were either "not at all likely" or "very likely" to sell some property for the purpose of housing development for income. This produced a list of 35, including 10-15 people from each geographic area. The list was put in priority

order with those who gave less common responses (question 4="Definitely not," question 5="1 -Not at all important" or question 7="7 -Very likely") at the top to be contacted first. All ages and income levels and towns ended up being included in this top 35. A waiting list was created with 13 more participants who fit all of the above criteria except the requirement for the question regarding changing the minimum lot size and ability to transfer property. Support staff invited participants by email and phone.

Comments from the focus group were all kept anonymous. This was an effort to assist participants to feel comfortable to speak openly. The recorder only took notes on what was said, not their name. All opinions were welcomed so that everyone felt free to participate.

Goodhue County Health Impact Assessment Focus Groups

Date	Location	Number of Participants	Participants were from
Saturday May 17th 2014 2pm- 4pm	Cannon Falls at Mill Street Tavern	7 survey respondents and 2 adult children of the survey respondents attended	Cannon Falls and Welch
Monday May 19th 2014 2pm-4pm	Red Wing at the Goodhue County Government Center room 301-1	9 survey respondents attended	Red Wing, Cannon Falls, Welch and Pine Island.
Wednesday May 21st 2014 6:30pm – 8:30 pm	Zumbrota at the Zumbrota Public Library	11 survey respondents attended	Zumbrota, Dennison, Pine Island, Wanamingo, Cannon Falls and Kenyon

Key informant interviews

Alliance Bank was contacted to inform the HIA about access to home loans in the rural area. Josh, a personal banker, answered questions regarding the difference between agricultural loans and conventional mortgages. The interview was conducted over the phone. Alliance Bank is a family owned community bank offering Personal, Commercial, Agricultural, and Private Banking services. The answers seemed legitimate that a follow up interview with a different bank seemed unnecessary.

GIS analysis

ArcMap 10.1 was utilized to analyze a number of map layers to derive baseline information. The study area is the A-3 Zoning District. This area was selected and a map layer was created.

Soils/Prime Farmland

The soils/prime farmland layer was utilized to figure out how many acres were in prime and important farmland. The soils layer in the GIS are from the Natural Resources Conservation Service (NRCS), which is a branch of the United States Department of Agriculture (USDA). The Goodhue County Soil Survey was utilized to analyze the acreage of land in the study area that had "prime and important farmland" rating. Important farmlands consist of prime farmland, unique farmland, and farmland of statewide or local importance. The NRCS in cooperation with other interested Federal, State, and local government organizations, inventories land that can be used for food production. Prime farmland, as defined by the USDA, is land that has the best combination of physical and chemical characteristics for producing, food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. This soil information is a data layer in Goodhue County's GIS software. A query was conducted in ArcMap to select all the prime farmland and important farmland soils in the study area. There was also a visual analysis completed. The visual analysis digitized the land that was actually being tilled as evidenced using 2010 aerial photography of the County (Appendix Map 2 and Appendix Map 3).

Dwellings

The number of dwelling units in each section of land was already mapped out for the County's agricultural districts (A-1, and A-2). This was not mapped for the A-3 district because it was not information that needed to be tracked for the Land Use Management Department. A visual count was taken using the 2010 aerial photography. The dwelling layer was updated to mark the location of the dwellings on the tax parcels in the A-3 district. Then the dwelling dots were counted to update the number of dwellings in the dwelling point annotation in the map. Aerial photography was taken the spring of 2014. The dwelling information will be double checked when the new aerial photography is released for use (sometime fall 2014). A table was created to show the number of dwellings in each section around each city, and the average dwellings/section for each city (Maps Appendix 4-11).

Natural Resources Inventory

The natural resources inventory was conducted in 2001 by Goodhue County on a grant from the Department of Natural Resources. The inventory is a data layer in GIS. A query was run to select the natural resource inventory layer that intersected the A-3 zoning District. A table and maps were created to show all the natural resources that are listed in the inventory for each city with A-3 zoning District (Appendix D).

Split Properties

The land records coordinator provided all the properties that have been split for 2011, 2012, and 2013. Then, ArcMap 10.1 was utilized to find the parcels that were in the A-1, A-2, and A-3 zoning districts.

Land Sales

The assessor's office provided agricultural land sales for the county for the years 2011, 2012, and 2013. Then, ArcMap 10.1 was used to find the parcels that were in the A-3 district and the average parcel size of sales in the A-3 district was computed for each year.

Engaging the Steering Committee

The steering committee was engaged at the beginning of the assessment phase prior to the survey being sent out to finalize survey questions and research topics. The steering committee was again engaged at the end of the assessment phase to discuss findings of research, survey responses and the focus group.

Assessment: Natural Resources Pathway Findings

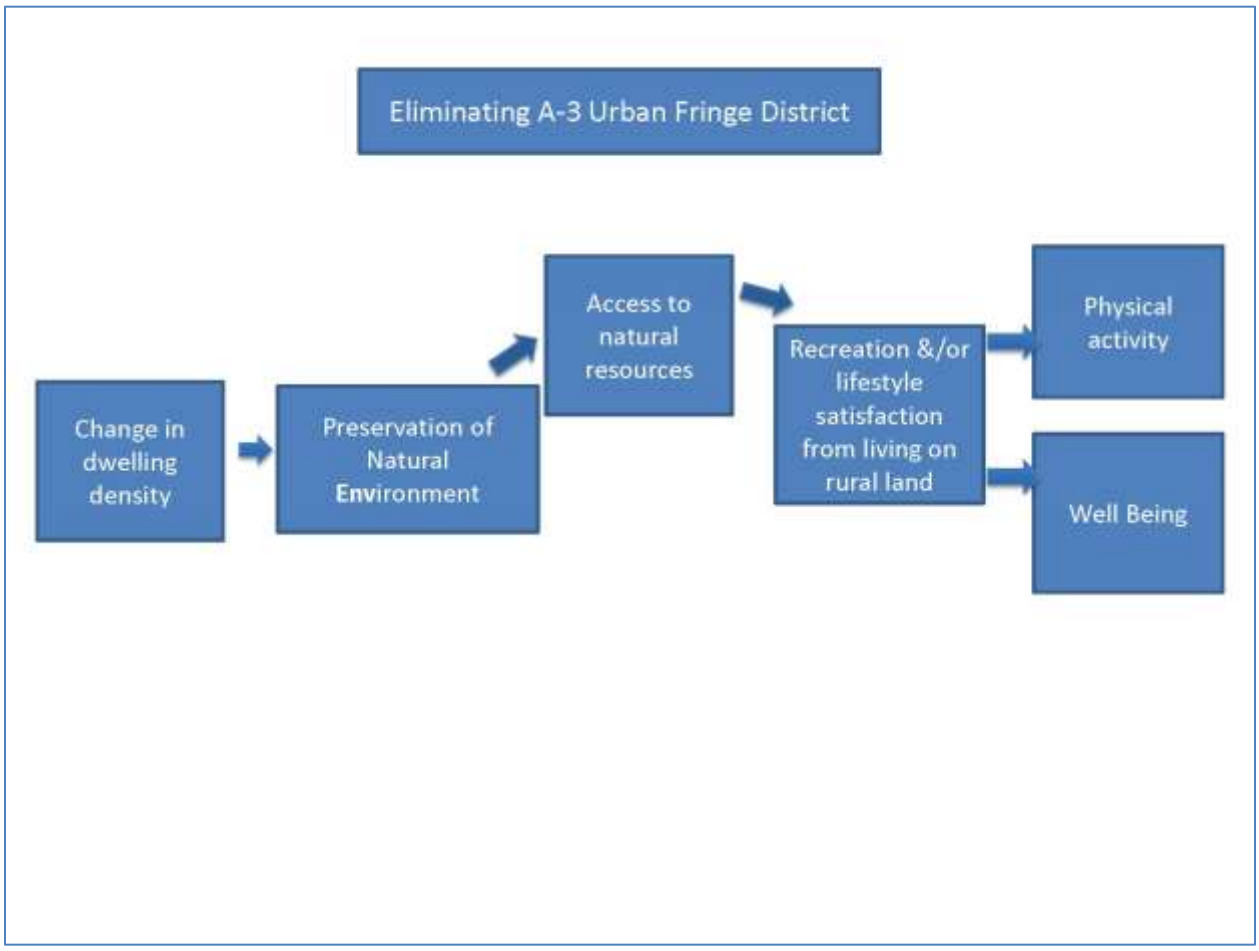

Figure NR- 1

Theoretical assumptions of new zoning district

The theoretical assumption for the natural resources pathway is that there will be a reduction in potential dwelling density in the area of study, which will lead to increased preservation of the natural environment. Furthermore, an increase in the preservation of the natural environment will lead to increased access to natural resources. Our hypothesis was that increased access to natural resources will lead to increased recreation and/or lifestyle satisfaction from living on rural land. Increased opportunities for recreation will lead to increased physical activity, which can lead to improved health and well-being.

Existing Conditions/Baseline:

Change in Dwelling Density

Under the current A-3 district, one dwelling is allowed on 35 acres. A section (one square mile) could have as many as 23 homes in it and if a parcel is 35 acres it could still be built. Under the proposed zoning change only 4 dwellings (A-1) or 12 dwellings (A-2) could be built in a section. Therefore, if a section changes from A-3 to A-1 and it currently contains 6 dwellings, no more will be built unless an exception is made.

Each city is different, some are more agricultural in nature and some have more wooded hills and valleys. Cannon Falls has an average of 13 dwellings per section, with one section containing 28 dwellings. Red Wing has an average of 6 dwellings per section with one section containing 31 dwellings, and the lowest containing zero (Table NR-1)

City	Dwellings per section		
	Most	Least	Average
Cannon Falls	28	1	13
Dennison	7	4	6
Goodhue	3	1	2
Kenyon	12	1	5
Pine Island	22	1	10
Red Wing	31	0	6
Wanamingo	3	2	3
Zumbrota	14	1	7

Table NR- 1

Natural Environment

Currently 51% of land in the A-3 Urban Fringe Districts is in the Natural Environment state, which could be woodlands, floodplains, pasture, waterways, or drainage ways. According to the Natural Resources Inventory the natural features that were cited in the A-3 districts contain dry prairie, Oak Forest, Floodplain Forest and Seepage meadow. Table NR 2 lists all of the natural features found in the county in the A-3 districts and below it are the findings from the survey indicating the frequency land was used for recreational purposes. Appendix D breaks down the natural features according to city and provides a description for each one based on the 2000 Natural Resources Inventory.

Natural Features, all cities	
Upland soils with planted, maintained, or cultivated coniferous trees	Oak forest, Dry bluff subtype
Oak forest dry subtype	Wet meadow
Oak forest dry subtype	Wet prairie
Oak woodland-brushland	Maple-basswood forest
Lowland hardwood forest	Dry Prairie barrens subtype
Oak forest mesic subtype	Eastern Red Cedar woodland
Dry Prairie	Floodplain forest
Dry Prairie bedrock bluff subtype	Floodplain forest silver maple subtype
Dry Prairie sand-gravel subtype	Seepage meadow
Dry oak savanna sand-gravel subtype	

Table NR- 2

Recreation

Natural Resources recreation as defined by the Lansing, MI, Michigan Land Resource Project "is voluntary, free time experience in the outdoors that is socially tolerated and based on natural resources. Participants view it as an integral part of their quality of life" (Nelson, 2001).

Natural resource-based recreation depends on various factors. The presence/ access of natural resources is the most important aspect of recreation utilizing natural resources and is essential. Recreation activities such as stream fishing, hunting, bird watching, and mushroom and berry picking depend on public land and a place to park a vehicle. These activities focus on the resource as it is, with little support or guidance for recreationists. In 2010, more than 1.6 million people visited national wildlife refuges and wetland districts in Minnesota to hunt, fish, participate in interpretive programs and view wildlife (Melius & Wooley, 2011).

Survey respondents indicated property is most frequently used for farming, hiking/walking, bird watching, hunting, and ATV riding (Table NR-3).

How often is your property in the study area used for the following purposes?

Answered: 342 Skipped: 6

	Never	Rarely	Occasionally	Frequently	Very Frequently
Hunting	26.98% 92	16.13% 55	24.93% 85	17.01% 58	14.96% 51
Fishing	82.35% 280	6.18% 21	6.18% 21	2.06% 7	3.24% 11
Hiking/walking (including on roads adjacent to your property)	13.53% 46	9.12% 31	24.41% 83	26.47% 90	26.47% 90
Bird watching	24.19% 82	15.04% 51	21.24% 72	20.94% 71	18.58% 63
Camping	58.33% 196	22.32% 75	14.58% 49	2.38% 8	2.38% 8
Riding ATV	30.09% 102	16.22% 55	25.37% 86	15.93% 54	12.39% 42
Horseback riding	48.20% 161	20.96% 70	17.37% 58	8.08% 27	5.39% 18
Farming - Pasture, Crops, Rented Out, Hobby Farm	23.88% 80	2.39% 8	5.07% 17	9.55% 32	59.10% 198

Table NR- 3

Physical Activity and Weight Classifications

Increased opportunities for recreation can lead to increased physical activity, which can lead to improved health and well- being. The World Health Organization defines physical activity as any bodily movement produced by skeletal muscles that requires energy expenditure. Physical activity may occur in four domains of daily life: activities of daily living, transportation, occupation and recreation. Participating in activities such as walking, hiking, bird watching, hunting, ATV riding and horseback riding increases a person's physical activity.

There are many health benefits associated with physical activity. Some of these benefits are improved mental well-being and mood, weight control, strengthened bones and muscles and reduce risk of cardiovascular disease, type 2 diabetes, depression, and some forms of cancer. Physical inactivity has been estimated as the fourth leading risk factor for global mortality (World Health Organization, 2010). Promoting physical activity is vital for improving health and preventing obesity. The CDC recommends being moderately active for 150 minutes or vigorously active for 75 minutes per week. (Office of Disease Prevention and Health Promotion, 2008).

Prevalence and Trends Data from the Behavioral Risk Factor Surveillance System (BRFSS) shows that in 2011, 54 percent of Minnesota residents state that they participate in 150 minutes or more of aerobic physical activity each week.

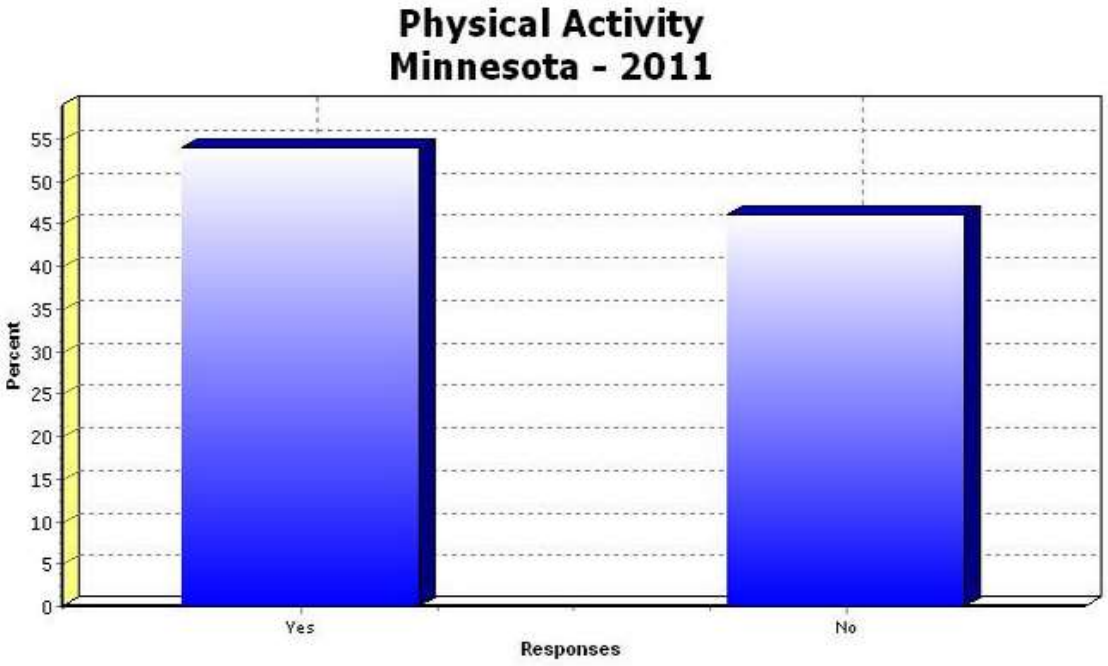

Figure NR 1

(Prevention, Prevalence, and Trends Data: Minnesota-2011- Physical Activity, 2011)

Trend data from the BRFSS also shows that 37.3 percent of Minnesota residents stated that they were Overweight with a BMI of 25.0- 29.9 and 25.7 percent stated they were obese with a BMI of 30.0-99.8.

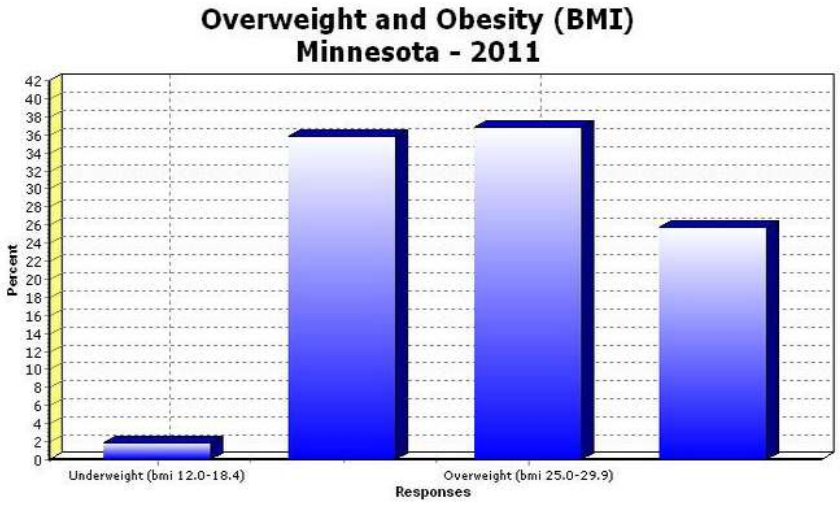

Figure NR 2

(Prevention, Prevalence, and Trends Data: Minnesota-2011- Overweight and Obesity (BMI), 2011)

Goodhue County specific data is not available but area data from other parts of the state are available. More specifically in the Twin Cities area including Wisconsin counties: Pierce and St. Croix respondents indicated that 37.0 percent were overweight with a BMI of 25.0- 29.9 and 23.9 percent were obese with a BMI of 30.0- 99.8. In Fargo area 36.6 percent were overweight with a BMI of 25.0- 29.9 and 25.1 percent were obese with a BMI of 30.0- 99.8. In the Duluth area 36.8 percent were overweight with a BMI of 25.0- 29.9 and 30.2 percent were obese with a BMI of 30.0- 99.8.

Mental Well Being Information for Minnesota and Goodhue County

2012 Goodhue County Community Health Assessment ranked Mental Health as the number two health priority for the county. In the 2014-2018 Community Health Improvement Plan Mental Health and Well Being is an area of focus. Below is information from the 2012 Goodhue County Community Health Assessment. Good mental health is as important as good physical health. Mental illness can impair one's ability to work, to raise a family, and to participate in civic life. Suicide is almost always the result of untreated or undertreated mental illness. Mental health also imposes significant economic costs on employers, government, health care systems, and the general public. Admission to a hospital for mental health reasons can be an indicator of a failure to diagnose or treat mental health problems early on. Goodhue County had 6.1 psychiatric hospital admissions per 1,000 residents age 14 and older in 2012. Resident feedback from the Community Health Assessment was consistent in that a lot of people were "getting by" (Community Health Assessment, 2012). Unfortunately, a person with mental illness having coexisting problems with drugs or alcohol is common and it worsens the prognosis (National Alliance on Mental Illness, 2013). In 2009, 35 persons in Goodhue County were homeless; 42 percent of homeless reported a significant mental health problem in the last two years and 79 percent had a serious or chronic disability (mental illness, substance abuse disorder or other condition that limits work or activities of daily living). Mental health and/or substance abuse can have a connection to homelessness because the individual may not be able to hold a job, pay bills on time, or understand how to properly care for themselves.

The Behavioral Risk Factor Surveillance System (BRFSS) shows that throughout the state of Minnesota in 2012 17.1 percent of respondents stated that they had been told that they had a form of depression. Goodhue County specific data is not available but area data is available throughout the state. More specifically in the Minneapolis- St. Paul- Bloomington including Wisconsin counties: Pierce and St. Croix respondents indicated that 16.5 percent had been told they had a form of depression. In Cass County, ND and Clay County, MN 20 percent of respondents stated that they had been told they had a form of depression. In St. Louis County, MN, Carlton County, MN and Douglas County, WI 21.9 percent of respondents stated that they had been told they had a form of depression.

Natural Resources Pathway Research Findings

Change in Dwelling Density

Survey responses indicate perceptions are that increased access to home loans and the allowance of smaller parcels will create an increase in building opportunities. The perception is if people are allowed the opportunity to build on a smaller parcel they will capitalize on it, thus increasing dwelling density.

Access to Natural Resources and Recreation

Survey respondents anticipate that all usages of land will be *reduced* if zoning changes, including access to natural resources, which does not support the proposed theory, and any subsequent assumptions related to increased physical activity and mental health (Table NR 4).

The A-3 district currently has a minimum lot size of 35 acres. If the zoning changed to allow for sales of lot sizes of 2 acres, how often would your property in the study area be used for the following purposes?

Answered: 338 Skipped: 10

	Never	Rarely	Occasionally	Frequently	Very Frequently
Hunting	47.77% 161	16.62% 56	17.21% 58	10.68% 36	7.72% 26
Fishing	85.89% 286	6.91% 23	5.71% 19	0.60% 2	0.90% 3
Hiking/walking (including on roads adjacent to your property)	22.75% 76	12.57% 42	25.75% 86	20.96% 70	17.96% 60
Bird watching	28.27% 93	23.10% 76	20.97% 69	16.11% 53	11.55% 38
Camping	66.07% 220	19.82% 66	10.21% 34	2.10% 7	1.80% 6
Riding ATV	43.11% 144	18.56% 62	20.66% 69	10.48% 35	7.19% 24
Horseback Riding	58.84% 193	18.90% 62	13.11% 43	5.18% 17	3.96% 13
Farming- Pasture, Crops, Rented Out, Hobby Farm	38.48% 127	6.06% 20	6.97% 23	6.67% 22	41.82% 138

Table NR- 4

Reduced from indications of current uses (Table NR-3)

Well-Being

The focus groups confirmed being able to utilize property for recreation lowers stress levels and enhances well-being.

> *"I think just the quietness of it reduces your stress. If you work in the cities and it's the hustle and bustle, just pulling into your driveway and just having it be still helps a lot its almost its own meditation."*

Adversely other people using their property can lead to stress. Neighbors can use each other's property when it is requested of them, however when non-neighbors impose on property owners it is stressful.

"It's very stressful when people trespass!"

"Trout stream brings stress from people trespassing to fish, had to pick up 87 cans along the stream."

Survey questions were framed in terms of reduced lot size, potentially emphasizing increased dwelling density, rather than preservation of natural environment. Thus, it is possible that predictions based on the survey responses above are based on a different interpretation of the proposed change than what was intended with the question. Follow up with the focus groups confirmed this misconception of the intended zoning change and many focus group participants indicated they would have answered the question differently.

Taking both survey and focus group findings into account, including the findings that the survey question was misinterpreted by several respondents and would have been answered differently, and combining this with dwelling density trends, the authors predict that there will be limited change in dwelling density, which means there will be no change in utilization of property for natural resources. If people are using their property for hunting today, they can use it for hunting after the zoning change. Thus there will also be no changes in recreation levels, physical activity, or mental well-being.

Assessment: Succession Planning Pathway Findings

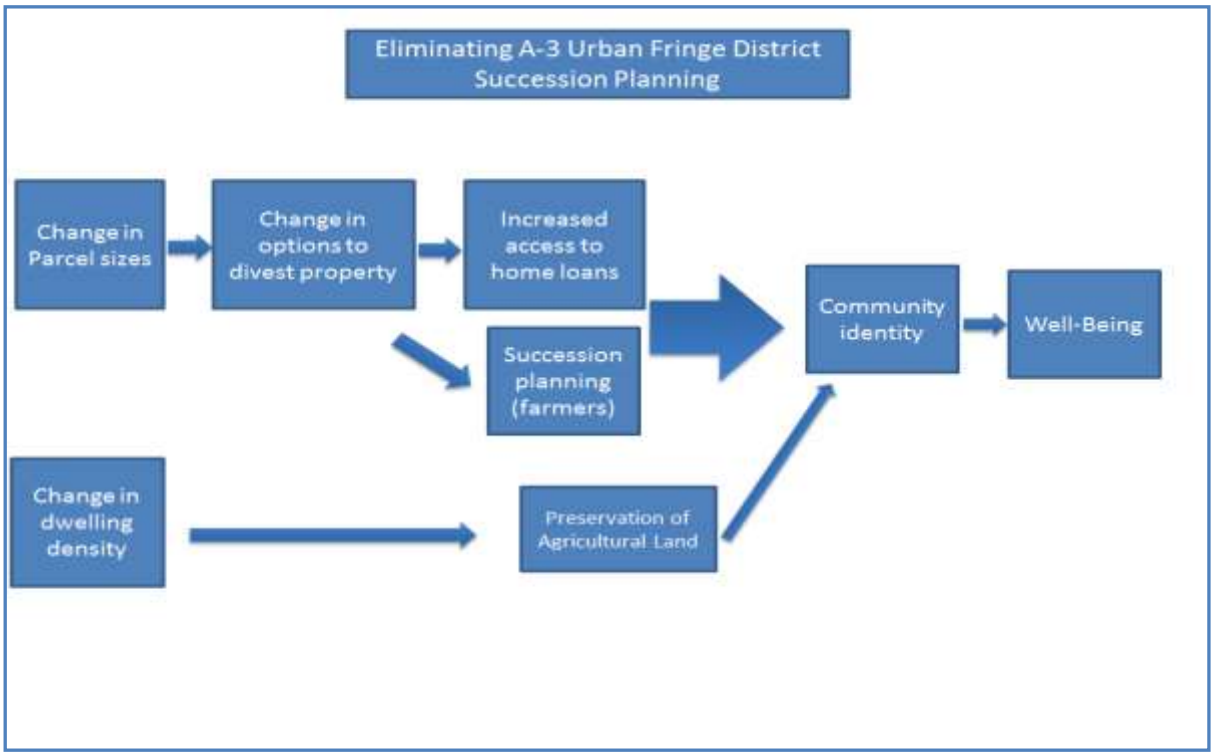

Figure SP 1

Theoretical assumptions of succession planning pathway

The theoretical assumption behind the succession planning pathway is that a change in parcel sizes will lead to a change in options to divest property. Furthermore, change in options to divest property will lead to increased access to home loans, which will lead to increased options for succession

planning. The hypothesis is that increased options for succession planning will preserve and strengthen the community identity, which will positively affect individuals' well-being. At the same time, the change in potential dwelling density would lead to preservation of agricultural land, which also preserves and strengthens the community identity of agricultural areas.

Existing conditions/Baseline:

Change in Parcel Sizes

The current minimum lot size in the A-3 district is 35 acres. The zoning change would allow a parcel to be split as small as two acres. However it must be clarified that this is only the minimum parcel size allowed, that not every two acre parcel could contain a dwelling and many parcels will likely be larger than 2 acres.

Average parcel size of land sold that was zoned A-3 over the last three years was 65 acres. The zoning change will not likely change the average size of parcel sale. Over the last three years the average parcel sale were 86.3 acres in the A-1 and A-2 Districts.

Access to Home Loans

There have been a total of seventeen requests for variances to the lot size minimum in the A-3 district over the last ten years. A common reason people have stated the need for a variance is based on not being able to qualify for a conventional loan. This reason was supported by the interview with Alliance Bank regarding banking practices. It was found that federal programs such as Freddie Mac and Fannie Mae do not accept any agricultural land into their loans; they want only the residential part of the property when they are supporting a loan. The lending companies do not keep a record of how many loans are denied based on it having too much agriculture. Usually it means that the lender needs to find a different loan for the customer such as an agricultural loan, however many times those carry a higher interest rate.

> *So your 35 acre parcels in Goodhue County make it next to or impossible to build on because banks will not touch it. Conventional banks flat say no you have to go to the farm bank and then that one asks how many tillable acres you are going to have and when you say none they ask what you're doing there.*

Succession Planning

Research found that the ability of new generations of farmers to establish successful farms is an important factor to United States agriculture. Gaining access to affordable agricultural land is a major challenge and many farmers are facing difficulties in regards to succession planning. "Rural Minnesota is rife with belonging, its identity having as much to do with people as to the buildings they construct and the land they call home." (Krakhmalnikov, 2011).

The U.S. Department of Agriculture (USDA) states that an estimated 70% of U.S. farmland will change hands in the next twenty years. This is one of the reasons why succession planning is vital. If land, especially a farm or ranch, has not been properly planned for succession, it increases the chances that it might go out of business or turned over into non-farm use. The USDA states that in those

scenarios, impacts of farm entry and exit on rural communities, the environment, and the national economy can be significant. "Recent farmer surveys by Gary Hachfeld and others at the University of Minnesota show that nearly 60 percent did not have an up-to-date estate plan and nearly 89 percent did not have a farm transfer plan." (Hipp, 2008).

Fifty one percent of survey respondents indicated a desire to transfer their property to a younger generation. The focus group confirmed that succession planning is important. Participants indicated that they don't want their children to struggle as they did.

> *"We all have gone through the school of hard knocks trying to make ends meet and if you can help your children out somehow…"*
>
> *"Yes it would be important for him for his sense of family and heritage that that land has the ability to keep on going in his family."*

Preservation of Agricultural Land

Reducing the overall density of the A-3 district is proposed to lead to the preservation of agricultural property. Currently 48.7% of the total acres of the A-3 district are being tilled. According to the Goodhue County Soil Survey data, 19,334.83 acres in the A-3 district have a rating of prime, or important farmland rating. That means that most of the soils with prime or important farmland rating are being tilled see Table SP-1 below.

Tilled vs. Non-Tilled Acreage in A-3 District		
Tilled Acreage	15,663.53	48.7%
Other	16,485.38	51.3%
Total Acres	32,148.91	

Table SP 1

Findings and Predictions of Succession Planning Pathway

Succession Planning

The majority of survey respondents indicated that the zoning change would have an effect on their abilities to transfer the property to someone else (Table SP-2).

Would changing lot size affect your ability to transfer your property to someone else?	
Definitely not	12%
Probably not	23%
Possibly	13%
Probably	10%
Definitely	34%

Table SP 2

The majority of survey respondents also indicated that transferring property to a family member is important. The survey also showed not being able to transfer to family would impact the overall sense of community and that sense of community has a positive impact on the well-being of those who live in the area. Furthermore, well-being would be negatively impacted if the sense of community was lost. Focus groups clarified that the lot size change would make it easier to transfer to someone else and confirmed that well-being could be negatively impacted if the sense of community changed. The steering committee also confirmed the desire to keep Goodhue County agricultural in nature and preserve the existing sense of community in the rural area.

There are many challenges in regards to succession planning. There are many factors that have to be addressed by families when thinking of succession planning. Some of these factors are parents' wishes/ goals compared to their heirs/ children, or financing and dispersing land between more than one person. Financing can be difficult due to high land values and access to financial loans.

Dwelling Density and Preservation of Agricultural Land

Survey respondents and focus group participants had mixed reviews on whether the proposed changes would make it easier or harder to sell land. Some stated that the smaller lot size will make it easier to sell land and obtain loans. Others stated that the proposed zoning changes would take away from the rural aspect of their property by increasing housing density which would then make it harder to sell their land.

Community Identity and Well-Being

The prediction is that allowing dwellings to be sited on two acres would allow for more options to divest property. The perception was that allowing smaller tax parcels would lead to more homes being built than what are there currently. This was a common theme even among the steering committee members. Allowing the smaller tax parcels for homes would leave larger tracts of land available for agricultural practices. Even if there are more homes built in the area than what are there currently there are density limitations in place that restrict the overall amount of homes available to build.

"I think it's a matter of perspective; if you say that if my taxes go down that my quality of life goes up I disagree. I'd rather pay the taxes and have the peace and quiet. So it's all how you look at it and that's fair."

"I've lived where I am at for forty years and there have been a few houses that have gone up around us and after a year or two you adjust, you get used to it, and you wouldn't even know they are there."

How satisfied are you with what you consider your neighborhood place to live?		
	Right now	If the zoning district were to change
1 – Not at all satisfied	2%	38%
2	0%	8%
3	3%	12%
4	7%	15%
5	10%	9%
6	15%	9%
7 – Very satisfied	64%	10%

Table SP- 3

Farming is an integral part of the rural image and community identity. Many of the cultural values and philosophies of rural living are rooted in hard work, self-sufficiency and camaraderie amongst neighbors. Many rural families take pride in their land and community (Table SP-3). Many have known their neighbors and their neighbor's family for many years. Community identity is valued and can be seen regularly amongst neighbors with a friendly wave or help during a crisis.

Assessment: Housing Development Pathway Findings

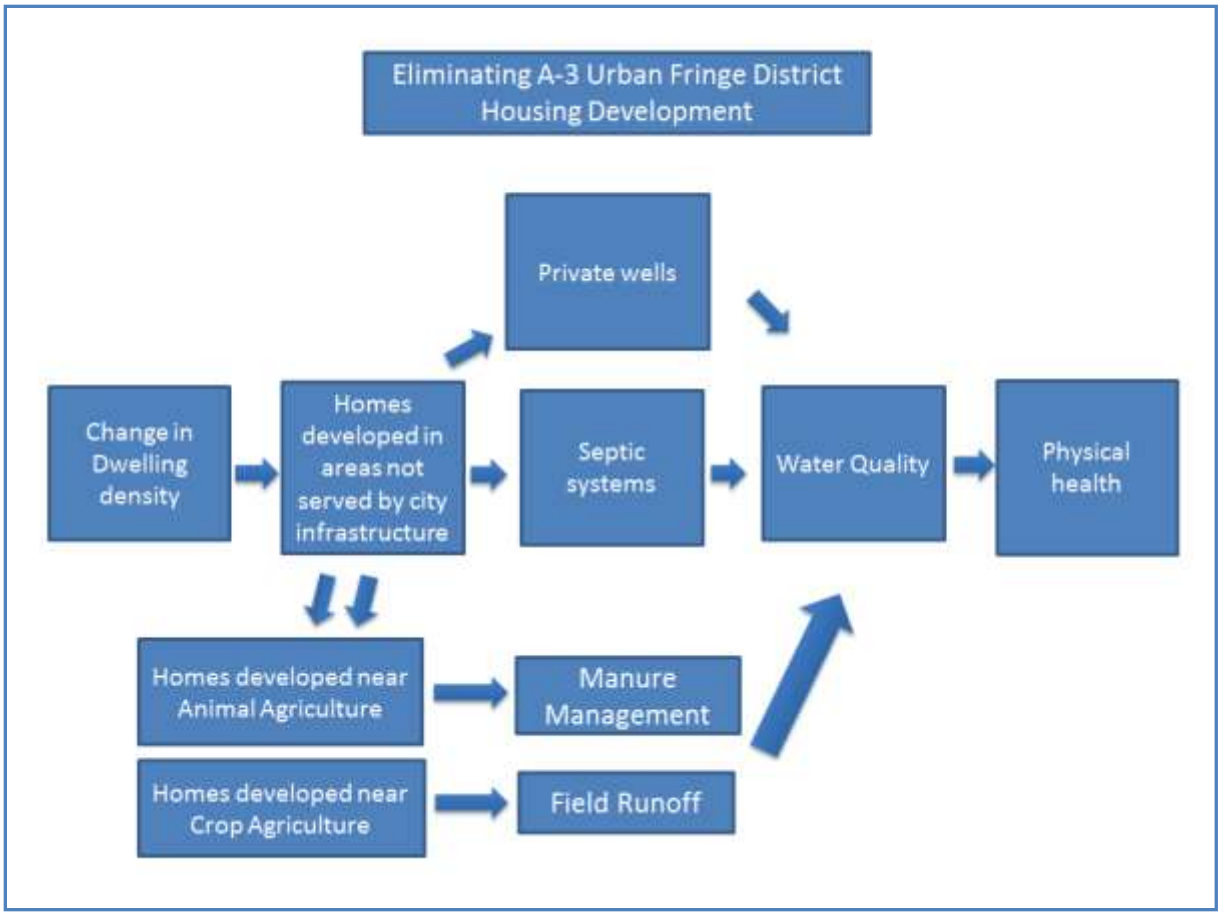

Figure HD- 1

Theoretical assumptions of housing density pathway:

This pathway focuses on the ability to build dwellings outside of areas served by city water and sewer. The hypothesis is that an increase in wells and septic systems creates more opportunity for negative impacts on water quality, which could increase physical health problems. Furthermore, that dwellings developed near animal and crop agriculture may be at higher risk for water quality concerns. Agricultural practices including chemical pesticides, herbicides, and fertilizers as well as manure management, have the potential to negatively impact water quality. Research in this pathway will take into account the existing regulations that limit the risks wells, septic systems, and agricultural practices pose to the water supply, as well as the potential health implications of water contamination, in order to underscore the importance of protecting water sources for new housing developments.

Existing conditions/Baseline

Private Wells and Septic Systems

The vast majority of dwellings in the A-3 district use wells and septic systems. Houses are usually annexed into the city limits when city sewer and water services are extended to them.

Animal Agriculture Development Guidelines

There are currently 32 feedlots located in the A-3 zoning district. Regulations do not let new feedlots establish in the A-3 zoning district. If the zoning district were to change, new feedlots may be allowed if they meet setbacks such as 1000 feet from a dwelling, and one mile from certain cities. Five farms in the study area are listed in Minnesota Grown as local sources of food.

Manure application setbacks for the county are:

- **A.** 300ft setback from any dwelling (other than owner's dwelling), church, or school and private schools excluding home school sites for surface, incorporated or injected manure.
- **B.** 1000ft from any dwelling (other than owner's dwelling), church or schools, and private schools excluding home school sites, for irrigation manure.
- **C.** 200ft setback from any public or private well for surface, incorporated, injected, or irrigation manure application.

Physical Health

The Center for Disease Control and Prevention states that the United States has one of the safest public drinking water supplies in the world. (Preventio, 2014). There are regulations on drinking water to ensure safety for the public. Even with these regulations there is always a chance for contamination. If water sources are contaminated it can lead to negative health outcomes. Vulnerable populations such as the elderly and the young, people living with chronic disease and woman who are pregnant may be more susceptible to these negative health outcomes. "During 2009–2010, a total of 33 drinking water–associated outbreaks were reported to CDC, resulting in 1,040 cases of illness, 85 hospitalizations, and nine deaths" (Prevention, Surveillance for Waterborne Disease Outbreaks Associated with Drinking water and Other Non-recreational Water- United States, 2009-2010, 2013)

Characteristics of waterborne disease outbreaks associated with drinking water (N = 33) and other nonrecreational water* (N = 12), by state/jurisdiction — Waterborne Disease and Outbreak Surveillance System, United States, 2009–2010										
Drinking Water	Month	Year	Etiology	Predominant Illness	# of cases	# of hospitalizations	# of deaths	Water system	Water source	Setting
MN	June	2010	*Giardia intestinalis*	Acute Gastroin-testinal Illness	6	0	0	Transient Noncom-munity	Well	State Park

Table HD 1 (Prevention, Surveillance for Waterborne Disease Outbreaks Associated with Drinking water and Other Non-recreational Water- United States, 2009-2010, 2013)

Findings and Predictions of the Housing Development Pathway

Homes Developed In Areas Not Served By City Infrastructure

The majority of survey respondents indicated that they were unlikely to sell their property for profit today, and the near same percentage reported being unlikely to sell their land for profit if the zoning were to change. The assumption for answering the question is that the profit would be based on selling the property for a potential building site, this would not support the theory that there could be an increase in houses built. However follow up with the focus group challenged this finding:

"In my case it would be much easier if it went back to A2. It would be a lot easier to sell three 2 acre lots than it would be to sell three 35 acre lots."

"I think that people that have farm land in Goodhue County, you bring up a good point, this is an agricultural county but there is a lot of land that's not farmable and it's next to good roads. And the people that own it would much rather sell it because they can get a premium for that land as lots."

"The idea that people would not want to sell smaller lots I think is totally inaccurate."

Private Wells And Septic Systems

The prediction is that the proposed zoning change will lead to more people building homes in the study area which could lead to an increase in the amount of wells and septic systems. An increase in the amount of wells and septic systems means an increase in the potential for water pollution. Research found that many household products have the potential to pollute ground water. Pollution from these products often occurs from faulty septic tanks and septic leaching fields. Septic systems must be carefully managed to prevent pollution. The U.S. Environmental Protection Agency (EPA) states that "when septic systems are properly designed, constructed, and maintained, they effectively reduce or eliminate most human health or environmental threats posed by pollutants in household wastewater. However, they require regular maintenance or they can fail." (A Homeowners Guide to Septic Systems)

Failing home septic systems can allow coliforms and nitrates in the outflow to flow into the water table and other nearby water leading to water pollution. Nitrate and Nitrite originating from septic tanks can make their way into drinking water. Nitrate is very soluble in water and can travel easily. Children and the elderly are at extra risk when exposed to waterborne bacteria.

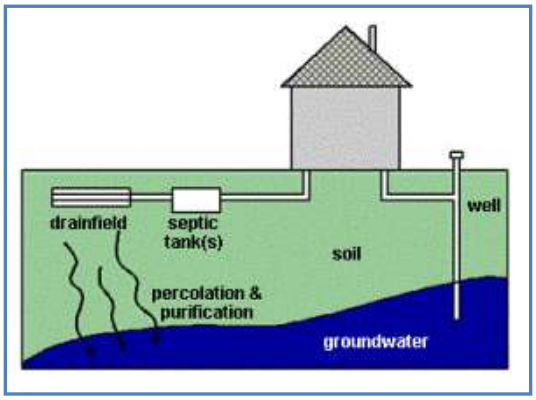

Figure HD- 2 Diagram of Septic System including well Invalid source specified.

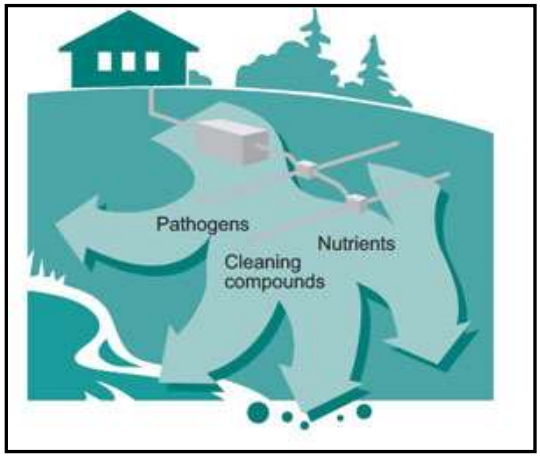

Figure HD- 4 Improperly functioning septic (Brown , et al., 2008)

Animal Agriculture

Homes developing near animal agriculture may also be at risk for water pollution. Fecal coliform resides in the intestinal tracts of warm-blooded animals including humans. The presence of fecal coliform in drinking water indicates that human or animal waste has been or is present. Many diseases are spread through fecal transmission so the presence of fecal coliform is cause for concern. Swimming in bodies of water such as lakes, streams, ponds and rivers, for all practical purposes is relatively safe if the level of fecal coliform bacteria is low. Fecal coliform in drinking water is a serious concern and appropriate actions should be taken.

"Coliform bacteria in drinking or swimming water will not necessarily make you ill" (Coliform Bacteria in Water). However, since the presence of fecal coliform in drinking water indicates that human or animal waste has been or is present there is a possibility that other disease-causing organisms may also be present. Drinking water contaminated with bacteria usually produces minor symptoms such as diarrhea and cramps. Existing regulations are in place to protect drinking water from animal waste issues.

Crop Agriculture

Agricultural water is water abstracted from surface and ground water. It can become contaminated through a variety of ways and can potentially spread bacteria, viruses, and parasites to crops and animals. "Contamination of water resources is one of the most damaging and widespread environmental effects of agricultural production. Drinking water is vulnerable to pollution by agricultural chemicals, including pesticides, herbicides, fungicides, and fertilizers, as well as their metabolites" (Mott, Fore, Curtis, & Solomon, 1997). With the increasing demand for crops and livestock from the agricultural industry there has been an increase in contaminants polluting the soil and waterways. "Agriculture in many parts of the world is highly efficient in producing and delivering high-quality

products to consumers. However, when agricultural activities are not well-monitored and managed, certain practices can negatively affect water quality." (Water Contamination, 2010).

In the 2002 National Water Quality Inventory report to U.S. Congress, the states reported that agricultural nonpoint source (NPS) pollution is the leading cause of river and stream deterioration and the second leading cause of lakes, ponds, and reservoirs deterioration (United States Environmental Protection Agency, 2007). According to the U.S. Environmental Protection Agency (EPA), nonpoint source pollution is pollution that comes from many sources. The main form of nonpoint source pollution is polluted runoff that drains into streams, rivers and lakes. Polluted runoff occurs when rainwater or snowmelt doesn't soak into the ground but runs off the land into a body of water. As this water flows over land it picks up pollutants that may be in its path. These pollutants may include fertilizers, soil, animal waste, pesticides, herbicides, oil, waterborne bacteria and viruses. The runoff then drains into a body of water such as streams, rivers and lakes or into a storm drain. "Agricultural activities that cause NPS pollution include confined animal facilities, grazing, plowing, pesticide spraying, irrigation, fertilizing, planting, and harvesting" (Protecting Water Quality from Agricultural Runoff, 2005).

"Nitrate and nitrite is a nitrogen-oxygen molecule that can combine with various organic and inorganic compounds" (Nitrate and your Health, 2013). Nitrogen, in the forms of nitrate or nitrite, is an essential nutrient for plant growth. The greatest use of nitrate is as a fertilizer. In areas where nitrogen-based fertilizers are used, Nitrate can frequently be found in the water. The U.S. Environmental Protection Agency (EPA) set levels of 10 mg/L for total nitrate and nitrite, 10 mg/L nitrate, and 1 mg/L nitrite as drinking water standards (Nitration and your Health, 2013)**.** Nitrates can also be found in human and animal wastes, fertilizers, sewage and leaching from septic tanks. Vegetables, food, and meat are major sources of nitrate exposure. Nitrogen is essential for humans but high levels of Nitrate in drinking water can be harmful, especially to infants and women who are pregnant. Infants under the age of 6 months who drink water containing more than 1 mg/L nitrite, or 10 mg/L nitrate, could become seriously ill and, if left untreated, may die. The serious illness in infants is due to the transformation of nitrate to nitrite in the body. This transformation can interfere with the oxygen-carrying capability/ oxygen flow of the infant's blood. Symptoms include shortness of breath and blueness of the skin which can occur over a period of days. This health threat is called "blue baby" syndrome Basic Information about Nitrate in Drinking Water).. Nitrates and nitrites in water are not a health concern when showering/bathing**.**

Focus group members had different takes on the topic of Nitrates:

"As far as my well goes if I did have nitrates I would expect that to be part of living in the country. I would drink bottled water. I would go into more filtration to take out the nitrates I mean, I expect to smell manure, I expect to be slowed down by tractors, I expect to wave at my neighbors, I expect to give them a hand if they need a hand. Those are the things I expect with living where I do."

"Well I have a small parcel here. I have a large parcel in Wabasha County and our well is very high in nitrates and we lost a bunch of calves this year because of E. coli from the neighbor's pit. I am a firm believer that increased or improper ag practices directly affect the ground water and surface water."

"Nitrates are common among everyone."

Pesticides are applied to farmlands, gardens and lawns and can potentially contaminate ground water or surface water systems. Such pollution depends on the types and amounts of chemicals used and how they are applied. Pesticide contamination "is a concern for people living in agricultural areas where pesticides are most often used, as about 95 percent of that population relies upon groundwater for drinking" (Pesticides in Groundwater, 2014). There are many ways that pesticides can contaminate ground water. Some ways pesticides can cause pollution are when pesticides are applied to crop fields, improperly disposed of, if there is an accidental spill or leakage, and also environmental conditions such as seasonal snow and rainfall affect this pollution.

The EPA has found that about one out of ten public water supply wells contains pesticides. From this data, the EPA draws inference that nearly 10,000 community drinking water wells and about 440,000 rural domestic water wells contain pesticides, most seemingly do not exceed the EPA's drinking water standards for pesticides (Our Children At Risk: The Five Worst Environmental Threats to Their Health, 1997).

"I think more people put more chemicals in their front yards than we put on our farm fields. I mean in town."

The health effects of pesticides depend on the type of pesticide, how toxic the pesticides are, how much is in the water, and how much exposure occurs on a daily basis. Some pesticides such as organophosphates and carbamates affect the nervous system; others may irritate the skin or eyes, be carcinogens or affect the hormone or endocrine system in the body.

Goodhue County prides itself on preservation of agriculture. A steering committee member confirmed that by saying "Historically, Goodhue County has done a good job of protecting agriculture." The potential zoning change of the A-3 districts should not be viewed as a threat to the current agricultural operations of the county. The key factor to note is the proposed zoning district is an *agricultural* zoning district. The density in those districts is restrictive enough that it should protect the area from urban sprawl. Agriculture has the potential to increase the chances of water pollution and have a negative impact on health due to contaminated water. There is the opportunity to reduce the negative impact by employing best management practices in farming.

Impacts/ Recommendations Methods

Recommendations are formed to make suggestions to the decision-makers on ways to mitigate potential negative health impacts and enhance the positive health impacts related to the project. An impact table was created to assess the magnitude of impacts for each pathway. Throughout the HIA process the HIA team kept notes on recommendations made. Recommendations were received through comments on the survey, in the focus groups, and from the steering committee. The recommendations were matched to specific findings of the HIA. The steering committee reviewed the recommendations and made alterations at their final meeting.

Natural Resources Pathway Recommendations

Heath Factor or Outcome	Expected Change based on Data	Stakeholder Projections	Heath Outcome	Expected Health Impact	Magnitude of Impact	Likelihood of Impact	Distribution	Quality of Evidence
NATURAL RESOURCES								
Preservation of Natural Resources	Mixed	Increase	Physical Activity/ Well Being	Positive	Low	Likely	Landowners/ Residents in the study area	**
Owner/Tenant Access to Natural Resources	Mixed	No Change	Physical Activity/ Well Being	No Impact	Low	Not Likely	Landowners/ Residents in the study area	**
Recreation &/or lifestyle satisfaction from living on rural land	Mixed	Mixed	Physical Activity/ Well Being	Mixed	Medium	Possible	Landowners/ Residents in the study area	**

Table 5 (Full table available in Appendix I)

Dwelling Density and Access to Natural Resources

Major findings for this pathway indicated that there would not be an overall change in access to natural resources (see Table 5). Findings support that if someone was accessing their property for natural resources in the past they could continue to do so if the zoning were to change. There was disconnect between these findings and the survey responses. The survey responses had an overwhelmingly negative connotation regarding future utilization of natural resources. The clarification of the proposed changes during the focus group eased the negative connotation considerably. Therefore, it is recommended that Goodhue County takes the time to fully explain the proposed zoning change to residents, township officials and city staff. It is believed if a higher level of outreach and education is attempted there will be a reduction in negative feelings toward the zoning change.

Dwelling Density and Well Being

Projected impacts on well-being are a mixture of positive and negative (see Table 5). The zoning change could result in positive well-being because findings support a reduction in stress associated with preservation of the natural environment .However focus group findings suggest that a negative effect on well-being occurs when people trespass and use their property without their approval. Based on these assumptions it is recommended that zoning ordinances are continually enforced to maintain appropriate setbacks that are intended to minimize conflicts among adjoining land uses.

Succession Planning Pathway Recommendations

Heath Factor or Outcome	Expected Change based on Data	Stakeholder Projections	Heath Outcome	Expected Health Impact	Magnitude of Impact	Likelihood of Impact	Distribution	Quality of Evidence
SUCCESSION PLANNING								
Options to divest property	Increase	Increase	Well Being	Positive	High	Likely	Landowners/ potential buyers of property in	***
Change in Parcel Size	Decrease	Decrease	Well Being	Positive	High	Likely	Landowners of property in the study area	***
Dwelling Density	Mixed	Increase	Well Being	No Impact/ Negative	Medium	Possible	Residents in study area	**
Access to Home loans	Increase	Increase	Well Being	Positive	High	Likely	Landowners/ buyers of property in the study area	***
Preservation of Agricultural Land	Mixed	Decrease	Well Being	No Impact/ Negative	Low	Not Likely	Farmers/ landowners in study area	*
Succession planning	Increase	Increase	Well Being	Positive	High	Likely	Landowners/ Residents in study area	***

Table 6

Succession Planning

The ability for the landowner to decrease the size of their property if they choose will have a positive effect on well-being (see Table 6). This was affirmed by survey and focus group findings. This will also result in more options for people to divest (sell) their property. Allowing landowners these options will have a positive effect on well-being. To allow a sale of a smaller parcel size could allow for a more affordable property. This will also allow people a greater access to home loans which also will have a positive effect on well-being. Therefore, it is recommended that agricultural protection standards are maintained in the zoning ordinance and the Comprehensive Plan. What landowners have stated through this process is that there could be room for well thought out development, but overall this is an agricultural county and that should be preserved into the future.

Dwelling Density and Preservation of Agricultural Land

The original assumption behind the preservation of agricultural land was that allowing the smaller parcel sizes would allow for larger tracts of land left over for agricultural purposes. Currently,

requiring 35 acres for a property with a dwelling, means that thirty-five acres may be taken out of crop or animal production and used as a residential yard. If the same property were used as an example and the dwelling was allowed to be located on 2 acres, it could mean that thirty three acres were retained and used for pasture or crop agriculture. Survey respondents and focus group participants did not look at this the same way. They assumed that since more people were able to purchase land and build there would be less land available for agriculture. This point is disproven by the density limitations of the agricultural district. Therefore, upholding the dwelling density standards in the agricultural district will protect it from becoming over populated.

Housing Development Pathway Recommendations

Heath Factor or Outcome	Expected Change based on Data	Stakeholder Projections	Heath Outcome	Expected Health Impact	Magnitude of Impact	Likelihood of Impact	Distribution	Quality of Evidence
DWELLING DENSITY								
Homes developed in areas not served by city infastructure	Increase	Increase	Physical Health	No Impact/ Negative	Low	Not Likely	Residents in study area	*
Homes built near animal and crop agriculture	Increase	Increase	Physical Health	No Impact/ Negative	Low	Not Likely	Residents in study area	*
Private Wells	Increase	Increase	Physical Health	No Impact/ Negative	Low	Not Likely	Residents in study area	*
Individual On-Site Sewage Treatment Systems	Increase	Increase	Physical Health	No Impact/ Negative	Low	Not Likely	Residents in study area	*
Water Quality	No Change	Decrease	Physical Health	No Impact/ Negative	Low	Not Likely	Rural Residents	***

Table 7

Homes Developed in Areas Not Served by City Infrastructure

Findings suggest that well-being could be negatively impacted if the density of the area grows too rapidly (see Table 7). Participants of the focus groups suggested that if people are allowed to build on smaller properties they will. This thought was contrary to survey findings that indicated only a small percentage of respondents would sell their property for profit if they were able to. The current zoning regulations for the agricultural districts are more restrictive for number of dwellings in any given section than the A-3 district currently allows. Ensure to involve township officials and general citizens in any planning process that would result in an increase density limit. If density limits are ever increased in the agricultural zones enact other measures to preserve the agricultural land such as, but not limited to; transfer of development rights, conservation based subdivisions, and increased setbacks.

Private Wells and Septic Systems

Research found that septic systems and wells do not lead to pollution if properly maintained. Survey and focus group findings confirmed that not all landowners understand what it means to properly maintain a well or septic system. More education should be done to ensure that landowners in the rural area understand how to properly maintain their septic system and well. The County has made increased effort for verifying compliant septic systems by enacting the compliance upon sale requirement and enforcing compliance inspections within the shoreland overlay district. More should be done to increase awareness for property well and septic maintenance. One way could be to create an informative brochure to be given with septic and well permits that advises on proper maintenance techniques and best management practices and to keep such brochure up to date indefinitely.

Animal and Crop Agriculture

Homes developed near crop and animal agriculture have an increased risk for water pollution and air contaminants. Ensuring that animal feedlots are utilizing best management practices and adhering to prescribed setbacks when spreading and handling manure, or applying pesticide and herbicides will minimize the pollution and contamination concerns.

Recommendations Regarding Zoning Change

The HIA focused on housing density. When deciding what zoning district to apply to the study area decision makers can utilize Appendix G. This table contains recommendations for what zone district the A-3 could change to. This recommendation was based on the findings that there were little negative health impacts, topography of the section, the number of existing dwellings, the adjacent zoned section and the farm rating of the soils in the section. We recommend the decision makers forward this table on to the affected township boards and get their recommendations on whether or not to accept the proposed zoning districts. Since the HIA only focused on housing density and not how the proposed zoning change could affect other permitted or conditionally permitted uses, other impacts may be seen from the zoning change that were not defined within this document. Furthermore, a landowner may have the right to build a dwelling under the current zoning district and may lose that if the section if full when the zoning is changed. The County will need to make a decision on how to address this potential down zoning so the zoning change is not perceived as a “takings.”

Monitoring and Evaluation Plan

The purpose of an HIA is to use research and recommendations to inform on decisions under review and on health and health determinants. It is important to monitor and evaluate the impact of the HIA on the proposed zoning changes.

The recommendations of this HIA should be monitored to ensure implementation and to evaluate the short and long term health impacts of the recommended actions as identified.

Goodhue County HIA team intends to monitor the progress of implementation of recommendations, and report that progress in our impact evaluation report. Changes in short term and long term health impacts should also be included in the impact evaluation report (see Table 8).

In addition to the health impacts, Goodhue County HIA Team intends to evaluate the effectiveness of the HIA process, including how the decision making process was informed and any new capacity built among partners to consider health in future land use planning decisions

Goodhue County HIA Monitoring Plan		
Monitoring Indicator	**Monitoring Agency/ ?**	**Timing**
Manure spreading practices for compliance	Goodhue County Feedlot Officer	Annually
New dwellings	Goodhue County Land Use Management	Monthly
Monitor dwelling density	Goodhue County Land Use Management	Monthly
Number of new wells in study area	Goodhue County Land Use Management	Annually
Number of new septic systems in study area	Goodhue County Land Use Management	Annually
Variances in the study area	Goodhue County Land Use Management or Goodhue County Planning and Zoning Department	Annually
Number of shoreland buffer violations in study area	Goodhue County Land Use Management	Annually
Number of shoreland buffer violation corrections in study area	Goodhue County Land Use Management	Biennially

Table 8

Indicators will be monitored by different agencies within Goodhue County: Planning and Zoning department, Land Use Management, Environmental Services, and Feedlot Officers. These will be monitored on a monthly and yearly basis.

Process Evaluation Report

This evaluation details the process of completing the HIA including methods used, the way in which stakeholders were engaged, challenges and opportunities for improvement. We will also highlight the effectiveness of the training and technical assistance and lessons learned.

Trainings and Technical Assistance

Health Impact Assessment trainings were a pivotal part of educating our HIA team on the HIA process. With those trainings our staff was able to not only complete a successful HIA but also teach others about the process. We were privileged to have amazing technical assistance from Health Impact Partners and The Pew Charitable Trusts. Without their help this HIA would not have gone as smoothly as it did. In the future we would definitely want to work with both organizations again.

Evaluation of Methods

The Goodhue County Urban Fringe District HIA used a literature review, survey, focus groups, key informant interview and Geographic Information System (GIS) Analysis to complete this HIA. Each method was a great asset to the project.

Literature Review: A literature review was conducted to understand the relationships between the zoning decision, certain social determinants of health, and specific health outcomes. The health outcomes associated with this HIA are physical activity, well-being, and physical health. The literature review was important to gather facts and information on each topic and how they correlated with each other.

Survey: Six hundred sixty-three surveys were mailed out to the A-3 Zoning District landowners to inform land owners of the proposed change and ask their opinions about the research questions of interest. Three hundred thirty-eight surveys were returned by the deadline, yielding a response rate of 51%. When a decision impacts a large group of people, in this project A-3 landowners, it is important to gather and understand their thoughts and views on the proposed decision. We received a great response from our survey and that information was incredibly important and useful to our project.

Focus Groups: One hundred forty-six survey respondents indicated that they were interested in participating in a focus group. A sampling approach was used to identify participants with particular opinions on succession planning and land use development, supplemented by an attempt to reflect the overall demographic characteristics of the survey respondents. A total of 29 people

participated in the three focus groups- one in Cannon Falls, one in Red Wing, and one in Zumbrota.

Our focus groups provided information from the population we were working with. Great details were gathered during these groups. An interesting aspect about the three focus groups emerged. Even though we used the same script with all three, different perspectives and topics surfaced within each group. Having three provided us with a wide range of information.Key Informant Interviews: Alliance Bank was contacted to inform the HIA about access to home loans in the rural area. A personal banker answered questions regarding the difference between agricultural loans and conventional mortgages. Succession Planning is a pathway in this HIA. The HIA team was able to speak to a banker and hear whether the bank agreed with many of the landowners and for the bank to provide information from the bank's point of view was pivotal.

Geographic Information Systems (GIS) Analysis: GIS analysis was used to map data for the area such as soils/prime farmland, dwellings, natural resources, split properties, and land sales. This was an effective tool to gather a large amount of information. The Assessor's office was generous with providing land sales information.

Lessons Learned

One of the goals of this project was to build capacity within the Land Use Management Department and the Health and Human Services Department to conduct more HIAsin the future. There is a national push to have health considered in all policies. Over more venues planners and health professionals are teaming up to see what if any health impacts are in planning endeavors. It is useful to reflect on what worked well with the project and what could be improved upon. After the assessment stage of this project the HIA team met and discussed what was learned from this project

One of our lessons learned was that we would have wanted to take the first two months of the project to educate townships and stakeholders about proposed changes. Going into the training sessions, the survey results and the focus group findings there was repeated re-teaching of what the zoning request itself was before we could get to what it could result in or impact. If the participants had a better understanding of what the zoning change was, perhaps more insight on potential impacts could be found, or there wouldn't be the misperception on increased density.

Our next lesson learned was to think strategically about the timing of HIA trainings. A training session for the HIA was held on January 13th and 14th, 2014. During those days we had terrible winter weather. The first day of training was to introduce the decision makers to the HIA and to review the screening with them. This training session had a good turn out because it was held directly before the Planning Commission meeting. The second day was a more advanced training to review the screening and begin to define the scope of the project. Over 100 township officials, SWCD officials, and city staff, and only a few were able to attend. A major contributor was a blizzard that brought six plus inches of snow. Under normal circumstances, the meetings would have been rescheduled, but since the trainer was travelling specifically for this event, rescheduling wasn't an option. However, of the attendees great discussions were had and the steering committee was formed from those who attended. In the future we would not plan to have trainings when weather would be such a factor.

Many lessons were learned from the survey. After creating the survey it was sent out to the HIA team, Technical Assistant and a Senior Research Scientist from the Minnesota Department of Health. In the future surveys should be sent to a test group in order to review the survey for content (to see if

questions are understood the way they are intended to be). When receiving many of the surveys back it was realized that there was a lot of confusion about what the proposed changes were. In the future the proposed changes would be better explained in the survey.

During the Goodhue County HIA, there was employee turnover. The Goodhue County Community Health Specialist position was open for two and a half months. When that position was filled, the new employee did not have the HIA training that was provided at the beginning of the process and had a major learning curve. She was in charge of the literature review and without knowing all the details of the HIA researched different information than what was most relevant to the HIA. The more involved in the project she became, the more she realized and researched more relevant information for the HIA. The literature review went through three major revisions which was great for the project because it provided a great spectrum of information but was disheartening at times. She learned to not just research certain topics but research how the different topics correlated with each other.