2018 Comprehensive Guide Plan Steering Committee

Wednesday, July 12, 2017

Minnehaha Room, Minnetonka City Hall

6:00 – 8:00 p.m.

Agenda:

6:00 – 6:15	Dinner
6:15 – 6:30	Housing study initial trends review
6:30 – 8:00	Integrating resiliency into the plan
8:00	Adjourn

Steering Committee Roster

Steven	Adams
Colbert	Boyd
Matt	Henry
Melissa	Johnston
Brian	Kirk
Farhia	Mohamed
Jerry	Nystuen
Lance	Reschke
Zachary	Robins
Rebecca	Schack
Terry	Schneider (chair)
Tom	Scott
Madeline	Seveland
Barbara	Westmoreland
Brad	Wiersum (alternate)

Staff

Loren	Gordon (lead)
Julie	Wischnack

City of minnetonka

Memorandum

To: Comprehensive Guide Plan Steering Committee

From: Loren Gordon, AICP, City Planner

Date: July 7, 2017

Subject: Comprehensive Guide Plan meeting #2 – Wednesday, July 12, 2017

Our second steering committee meeting will focus on two topic areas: 1) a preview and progress report of the housing study and 2) beginning a dialogue to help shape a direction for resiliency within the plan.

Housing Study

The city hired Marquette Advisors to conduct a housing market assessment. The study will help in developing short and long-range plans for economic development policy and strategic planning to understand current and future housing needs. Housing is a critical element in economic development and promoting community livability, attractiveness and competitiveness. In addition to providing support data for the preparation of the comprehensive plan, the housing study has the following objectives:

- Understanding demographic and economic growth factors which impact the housing supply/demand balance, and the attractiveness and/or affordability of the housing stock in the City of Minnetonka.

- Identifying current and future housing needs by product type and price/rent level, based on demographics and market factors, City planning and economic development and housing goals.

- Identify housing gaps and other specific housing needs for the County based on existing and projected demand for housing and identify barriers to development of various types of housing and/or housing products by affordability level.

- Assess the relationship between housing needs and economic development in Minnetonka and the surrounding west-metro market.

- Recommend strategies to enhance the availability of well-designed and appropriately priced housing products which are complementary to the goals/objectives of the City and supports its economic development, housing, and livability goals.

A preliminary overview of progress completed to date is included. Staff will provide an overview of the trend information. Marquette Advisors will attend our August 23rd steering committee meeting to review the study in more detail.

Resiliency

Resiliency is an important topic in communities and the world today. Oftentimes resiliency is part of a discussion about climate change or weather events. Probably most common is the use of the term resiliency after a natural disaster. Conversations after an event turn to questions like how does a community "bounce back" and what efforts were taken to get the community "back to normal?" Although resiliency within our comprehensive plan isn't necessarily an exercise in disaster planning, it does take on many of the same approaches to be forward thinking and thoughtful about the implications of policies. In the comprehensive plan, thinking about approaching community resiliency may best described as "planning for resiliency." Communities that plan for resiliency have a greater ability to successfully respond to both natural and human-created events.

As some background for the steering committee, the city has been engaged in resiliency for a number of years. Most recently, the city participated in two larger and more prominent programs that study and implement resiliency.

- University of Minnesota Resilient Communities Program – During 2012 and 2013, the city was city staff and stakeholders in the selected community, RCP helps to identify 15–30 projects that will advance local sustainability and resilience based on community-identified environmental, social, and economic issues and needs. RCP strategically connects each project with one or more courses at the University of Minnesota that can provide research or technical assistance to move the project forward.

  http://rcp.umn.edu/home/2012-2013-partner/
  http://rcp.umn.edu/minnetonka-projects/

- Green Step Cities – In 2013, the city adopted a resolution to begin participation in the Minnesota Green Step Cities program. The program is a statewide voluntary challenge, assistance and recognition program to help cities achieve their sustainability and quality of life goals. During the four years of participation in the program, Minnetonka has completed the first two steps and is nearing completion of step 3 of the 5 step program.

  https://greenstep.pca.state.mn.us/cityInfo.cfm?ctu_code=2395350

- Regional Indicators Initiative – This initiative measures annual performance metrics for 22 Minnesota cities (including Minnetonka) committed to increasing their overall efficiency and level of sustainability. The project collects data about energy, water, travel, waste which in turn, reflects the activities of the people who live, work, learn, travel, visit, and play within each city's geographical boundaries.

  http://www.regionalindicatorsmn.com/

In addition to these large programs, the city implements a number of sustainable practices in city facilities in an ongoing basis. They range from the more simple replacement to energy efficient fixtures, to participation in Xcel Energy's solar garden program, to forward looking infrastructure replacement programs. All of these investments save the city money and reduce its carbon footprint.

The Metropolitan Council has provided guidance on how to incorporate resiliency into local comprehensive plans. Attached are sections from the local planning handbook to assist communities in building in resiliency into plans. A number of communities in the metropolitan area have sustainability plans. The city of Burnsville is one of the more notable suburban communities with significant efforts in this area that is similar to Minnetonka. http://www.ci.burnsville.mn.us/index.aspx?NID=842

For the majority of our meeting, we would like the steering committee to begin a dialogue on what resiliency means to Minnetonka. The goal for this meeting is to begin to identify priority resiliency topic areas to begin to shape the plan around.

In preparation for group dialogue, think about responses to the following:

1. What do you see in our community that may be a waste of or inefficient use of resources?

2. How could our community be a better steward of our natural resources and built infrastructure?

3. What are the costs of unsustainable practices?

City of Minnetonka
Comprehensive Housing Study
Progress Update: July 1, 2017

PRELIMINARY (Data refinement and analysis still ongoing)

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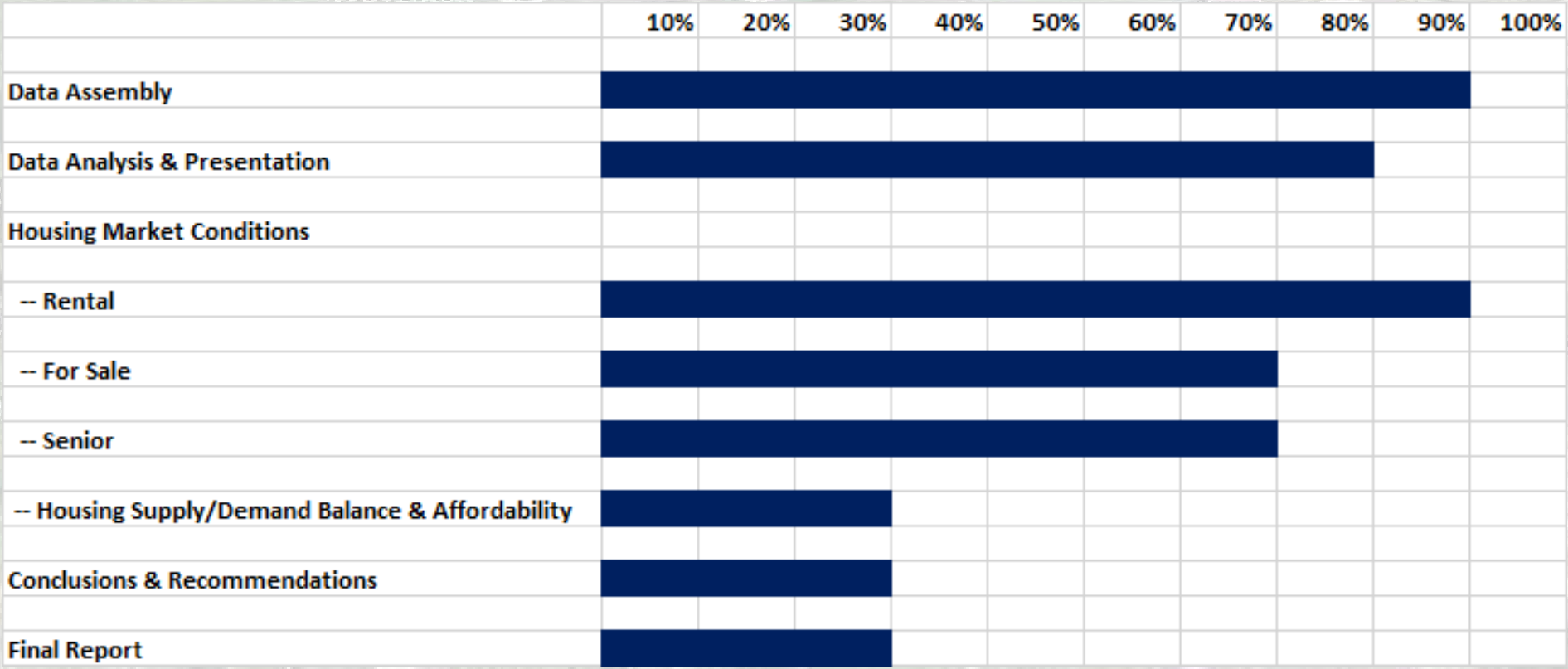
Project Work Elements & Timing



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Approach & Key Analysis Components

- Data & trends analysis with context. Perspective and analysis along with statistics. Not just "what" and "how much," but also "why."

- City of Minnetonka
  - Relevant market area (SW / West Metro)
  - Twin Cities Metro Area (7 counties)
  - Minnetonka submarkets, or "Village Center" study areas

- Profile of Minnetonka within context of SW metro and Metro as a whole.
  - Demographics & Employment. Growth Trends.
  - Jobs / Housing balance & commuting.
  - Housing supply/demand profile
  - How is Minnetonka unique vs peer communities and within metro area?

- Conclusions & Recommendations
  - Growth potential & related housing needs of current & future residents of Minnetonka
  - Why/why not? Opportunities & constraints that are unique to Minnetonka
  - City role in development/shaping growth and housing character?

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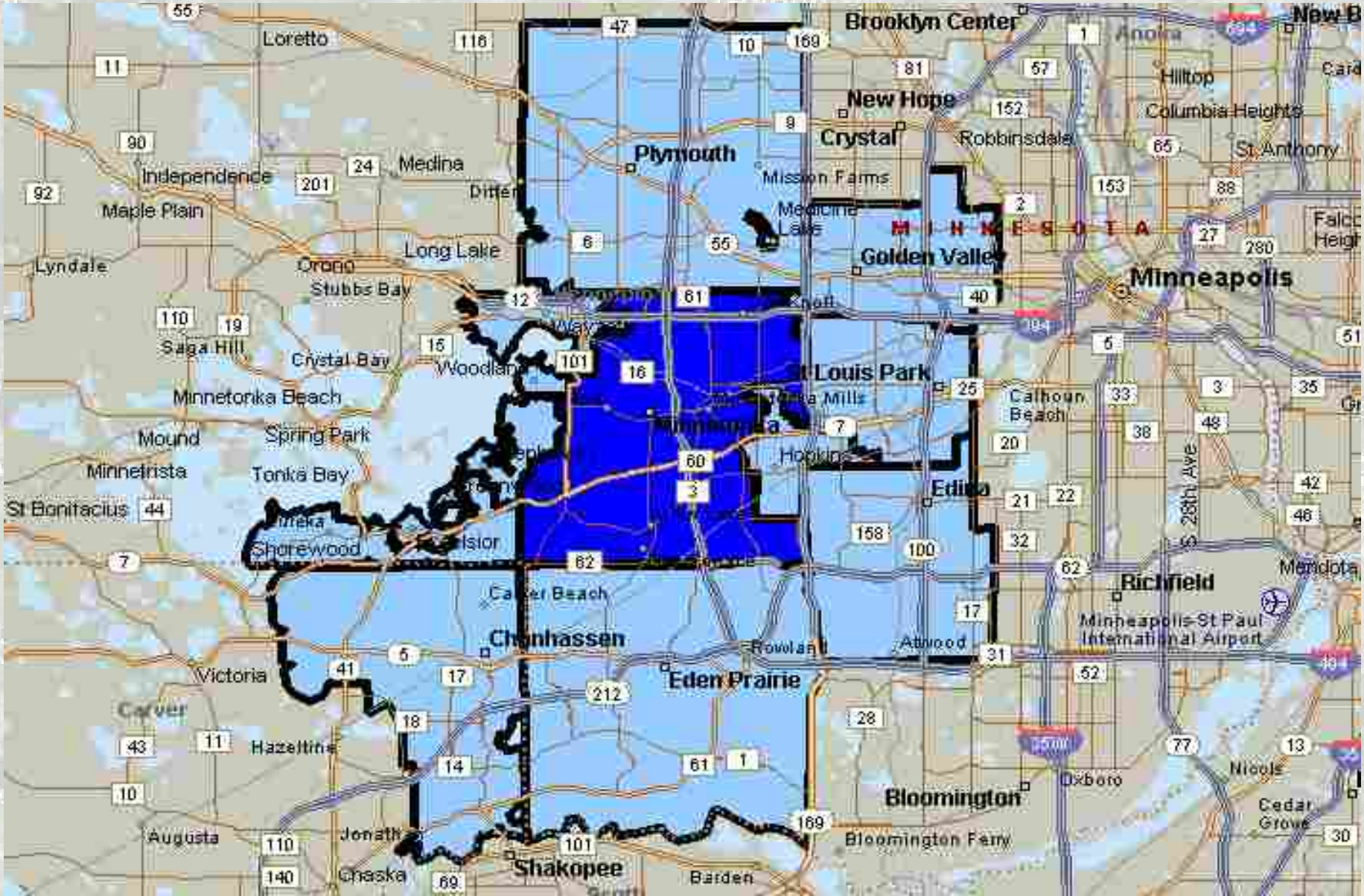
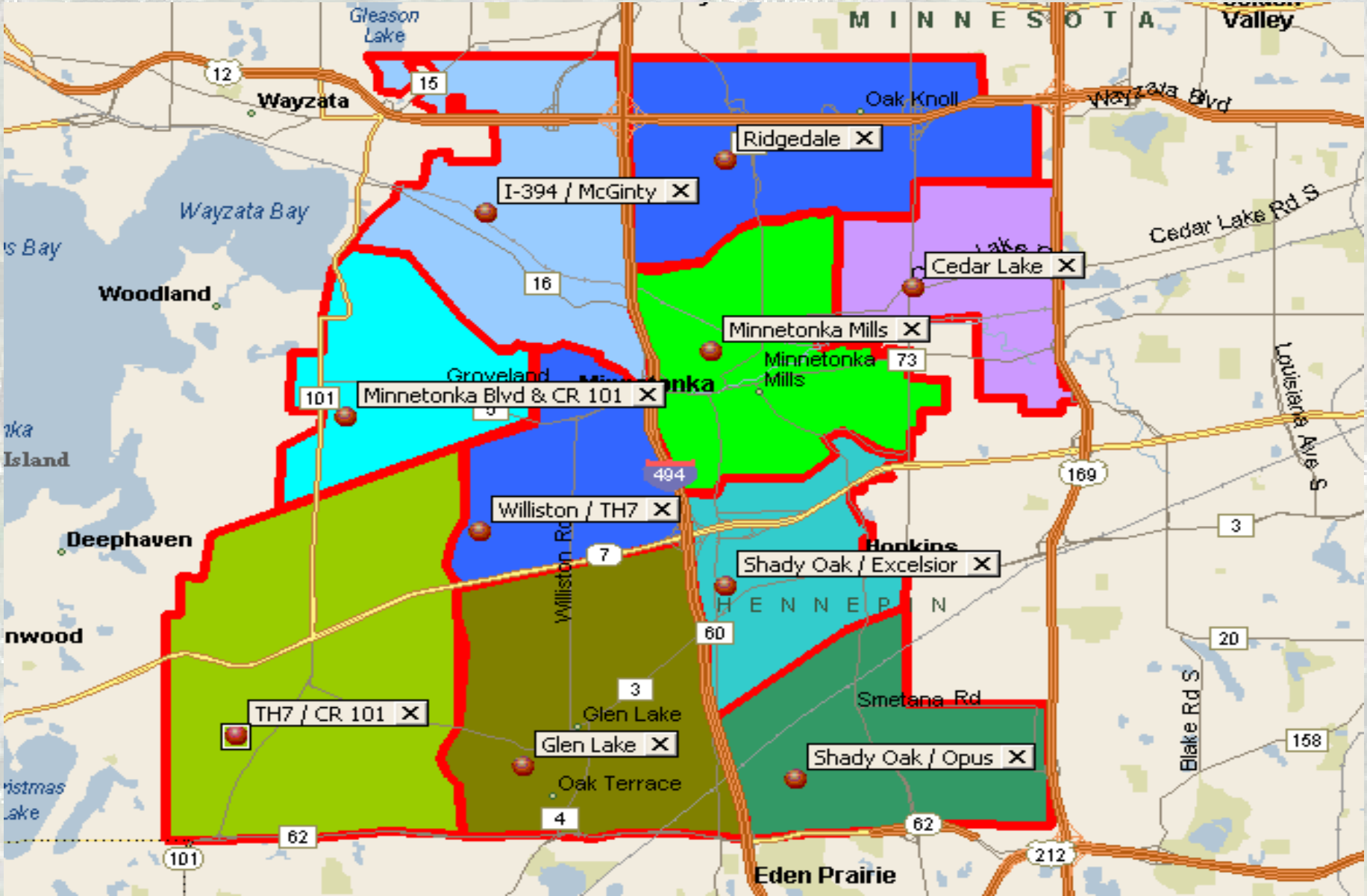
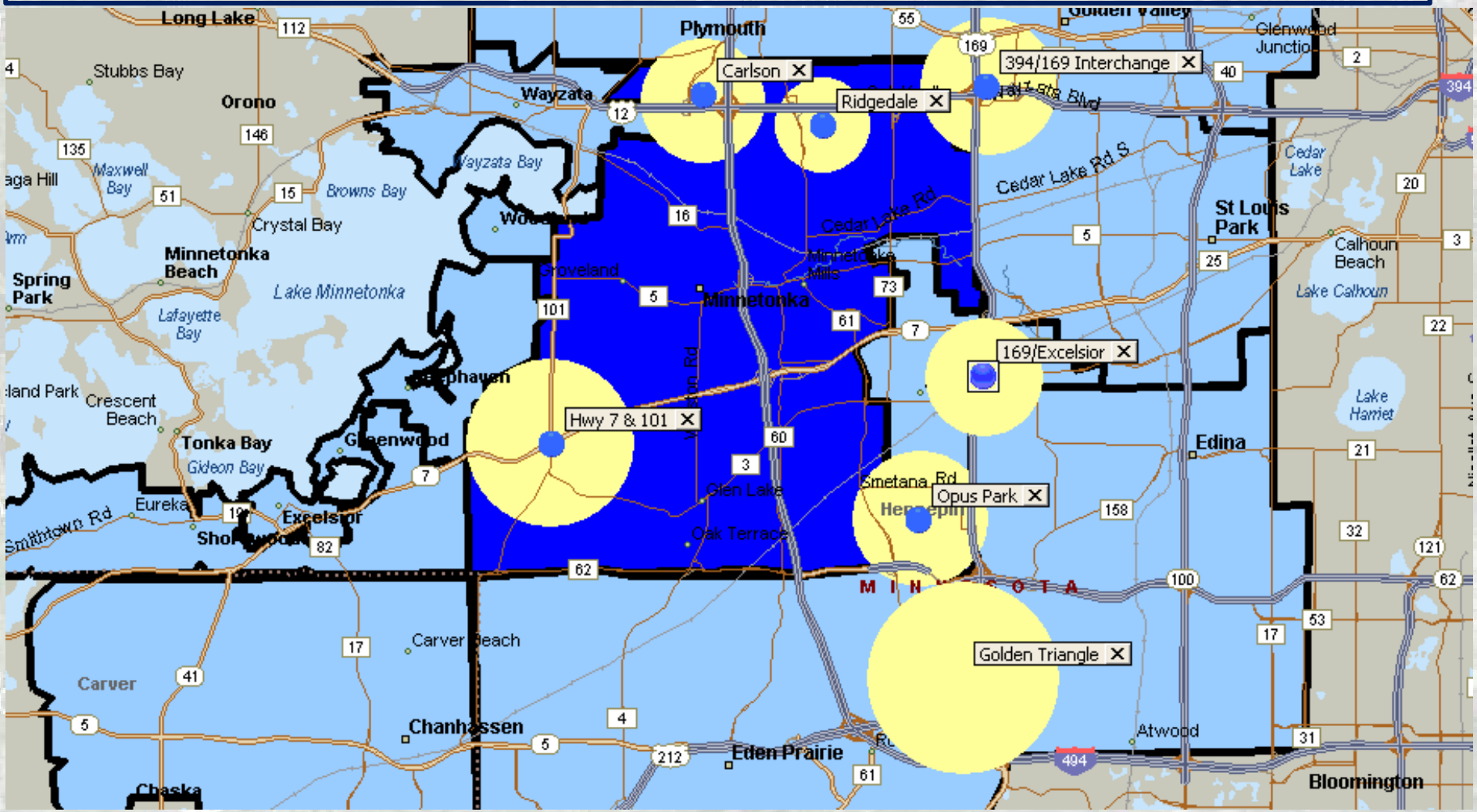
Minnetonka – Competitive Market Area



Minnetonka – Village Center Study Areas



Key Employment Nodes



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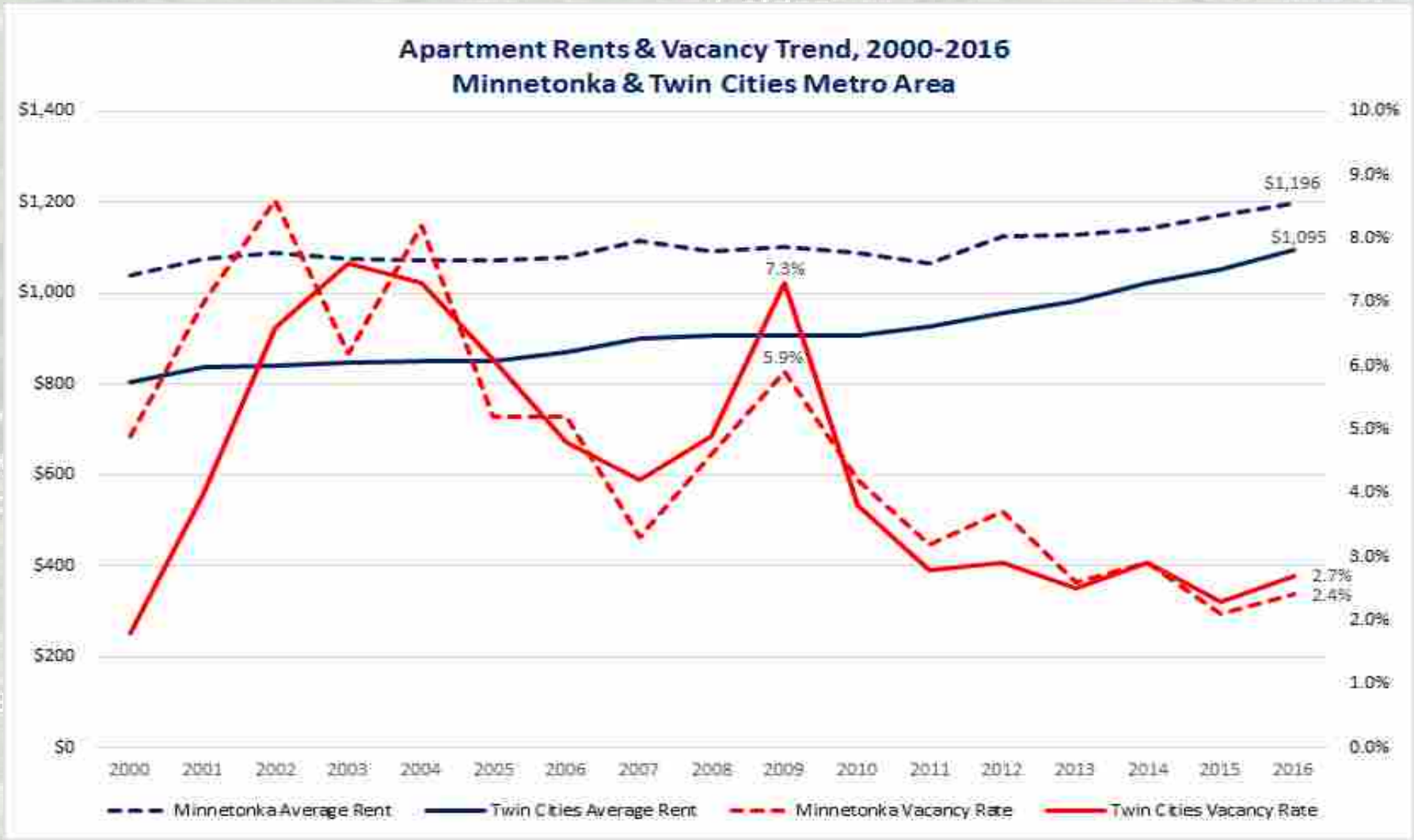
Context Example: Rents & Vacancy Trend – City & Regional



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Context Example: Apartment Supply/Demand – City & Regional

	City of Minnetonka						
	2010	2011	2012	2013	2014	2015	2016
Total Units *	3,949	3,949	3,949	3,949	3,949	3,949	4,122
New Supply	0	0	0	0	0	173	164
Vacant Units	166	126	146	103	115	83	99
Vacancy Rate	4.2%	3.2%	3.7%	2.6%	2.9%	2.1%	2.4%
Occupied Units	3,783	3,823	3,803	3,846	3,834	3,866	4,023
Absorption	67	39	(20)	43	(12)	32	157
Avg. Rent	$1,088	$1,124	$1,064	$1,128	$1,142	$1,172	$1,196
Rent Growth	-1.2%	3.3%	-5.3%	6.0%	1.2%	2.6%	2.0%

	Twin Cities Metro Area						
	2010	2011	2012	2013	2014	2015	2016
Total Units *	168,870	169,608	171,036	173,799	178,190	181,525	184,663
New Supply	564	738	1,428	2,763	4,391	3,335	3,138
Vacant Units	6,417	4,749	4,960	4,345	5,969	5,382	5,899
Vacancy Rate	3.8%	2.8%	2.9%	2.5%	3.4%	3.0%	3.2%
Occupied Units	162,453	164,859	166,076	169,454	172,221	176,143	178,764
Absorption	6,433	2,406	1,217	3,378	2,767	3,922	2,621
Avg. Rent	$908	$927	$957	$981	$1,021	$1,053	$1,095
Rent Growth	0.2%	2.1%	3.2%	2.5%	4.1%	3.1%	4.0%

* Unit supply includes market rate apartments in complexes with 10+ units. Excludes subsidized apartments and seniors housing.

Source: Marquette Advisors

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Context Example: City vs. Regional Growth & Age Distribution

- Minnetonka somewhat older population base
- Very low capture of age 25-34 growth (Millennials) (mostly renters). Apartment construction starting to pick up now.
- Also low capture of age 35-44 group. (more likely home buyers…difficulty finding housing).
- Attractiveness of Minnetonka to Millennials? But, can they find housing? How does this impact business, employee recruitment & retention?
- Housing stock accessibility (issue of seniors aging in place)
- Housing stock desirability for young to mid-age buyers?

Population Age Distribution, 2010-2036
Minnetonka and Twin Cities Metro Area

	2010		2016		2021		Change, 2010-2016		Change, 2016-2021	
Area/Age Cohort	Number	Pct.	Number	Pct.	Number	Pct.	Number	Pct.	Number	Pct.
Minnetonka										
0 - 4	2,434	4.9%	2,315	4.5%	2,360	4.4%	(119)	-4.9%	45	1.9%
5 - 9	2,689	5.4%	2,652	5.1%	2,556	4.7%	(37)	-1.4%	(96)	-3.6%
10 - 14	3,111	6.3%	3,014	5.8%	2,942	5.5%	(97)	-3.1%	(72)	-2.4%
15 - 19	2,922	5.9%	2,978	5.8%	2,887	5.4%	56	1.9%	(91)	-3.1%
20 - 24	2,147	4.3%	2,447	4.7%	2,481	4.6%	300	14.0%	34	1.4%
25 - 34.	5,933	11.9%	5,984	11.6%	5,989	11.1%	51	0.9%	5	0.1%
35 - 44	5,606	11.3%	5,735	11.1%	6,492	12.1%	129	2.3%	757	13.2%
45 - 54	8,450	17.0%	7,267	14.0%	6,578	12.2%	(1,183)	-14.0%	(689)	-9.5%
55 - 64	8,152	16.4%	8,933	17.3%	8,637	16.0%	781	9.6%	(296)	-3.3%
65 - 74	4,061	8.2%	5,806	11.2%	7,459	13.8%	1,745	43.0%	1,653	28.5%
75 - 84	2,803	5.6%	2,957	5.7%	3,644	6.8%	154	5.5%	687	23.2%
85+	1,426	2.9%	1,664	3.2%	1,838	3.4%	238	16.7%	174	10.5%
Total	49,734	100.0%	51,752	100.0%	53,863	100.0%	2,018	100.0%	2,111	100.0%
Median Age	*45.0*		*46.2*		*47.0*					
Twin Cities Metro Area										
0 - 4	194,329	6.8%	190,720	6.3%	197,816	6.3%	(3,609)	-1.9%	7,096	3.7%
5 - 9	194,408	6.8%	197,645	6.6%	196,271	6.2%	3,237	1.7%	(1,374)	-0.7%
10 - 14	192,261	6.7%	201,606	6.7%	205,673	6.5%	9,345	4.9%	4,067	2.0%
15 - 19	193,289	6.8%	193,018	6.4%	199,948	6.3%	(271)	-0.1%	6,930	3.6%
20 - 24	190,135	6.7%	206,331	6.9%	198,787	6.3%	16,196	8.5%	(7,544)	-3.7%
25 - 34.	420,311	14.7%	432,515	14.4%	451,653	14.3%	12,204	2.9%	19,138	4.4%
35 - 44	391,324	13.7%	397,671	13.2%	436,966	13.8%	6,347	1.6%	39,295	9.9%
45 - 54	440,753	15.5%	416,777	13.9%	392,253	12.4%	(23,976)	-5.4%	(24,524)	-5.9%
55 - 64	326,007	11.4%	384,703	12.8%	403,670	12.8%	58,696	18.0%	18,967	4.9%
65 - 74	163,425	5.7%	227,901	7.6%	288,225	9.1%	64,476	39.5%	60,324	26.5%
75 - 84	97,442	3.4%	107,042	3.6%	132,721	4.2%	9,600	9.9%	25,679	24.0%
85+	45,883	1.6%	52,775	1.8%	56,952	1.8%	6,892	15.0%	4,177	7.9%
Total	2,849,567	100.0%	3,008,704	100.0%	3,160,935	100.0%	159,137	100.0%	152,231	100.0%
Median Age	*36.1*		*37.0*		*37.9*					

Sources: U.S. Census; ESRI

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Context Example: Minnetonka & Metro Area Home Sales by Price

- Minnetonka accounts for <1.9% of metro area home sales last 9+ years.
- Per Met Council, Minnetonka is predicted to account for about 7% of regional job growth through 2030. Where will these new employees reside?
- Short supply of home purchase options in Minnetonka relates to:
  - Seniors aging in place
  - Short supply and high cost of land for new construction

Twin Cities Metro Area -- Residenital Sales Transaction Volume by Price Point, 2008 to Date

	2008	2009	2010	2011	2012	2013	2014	2015	2016	May 2017 YTD
$<300,000	26,642	33,647	26,883	30,286	34,152	35,019	31,437	35,232	36,094	11,939
$300,000-$499,999	5,497	4,733	4,573	4,277	6,180	8,304	8,271	10,437	12,223	4,492
$500,000-$799,999	1,680	1,232	1,322	1,302	1,790	2,318	2,522	2,923	3,355	1,247
$800,000-$999,999	299	202	211	201	261	376	423	489	554	206
$1,000,000-$1,499,999	227	154	165	167	193	226	311	323	387	131
$1,500,000+	136	88	98	97	126	136	159	185	162	64
Total	34,481	40,056	33,252	36,330	42,702	46,379	43,123	49,589	52,775	18,079

City of Minnetonka -- Residenital Sales Transaction Volume by Price Point, 2008 to Date

	2008	2009	2010	2011	2012	2013	2014	2015	2016	May 2017 YTD
$<300,000	303	412	333	427	486	459	474	437	488	150
$300,000-$499,999	167	158	164	142	220	229	237	290	340	128
$500,000-$799,999	34	48	60	56	70	105	68	109	129	52
$800,000-$999,999	15	8	5	11	10	16	21	20	27	7
$1,000,000-$1,499,999	10	9	7	3	10	9	10	16	13	11
$1,500,000+	1	2	2	4	2	9	5	5	5	0
Total	530	637	571	643	798	827	815	877	1,002	348

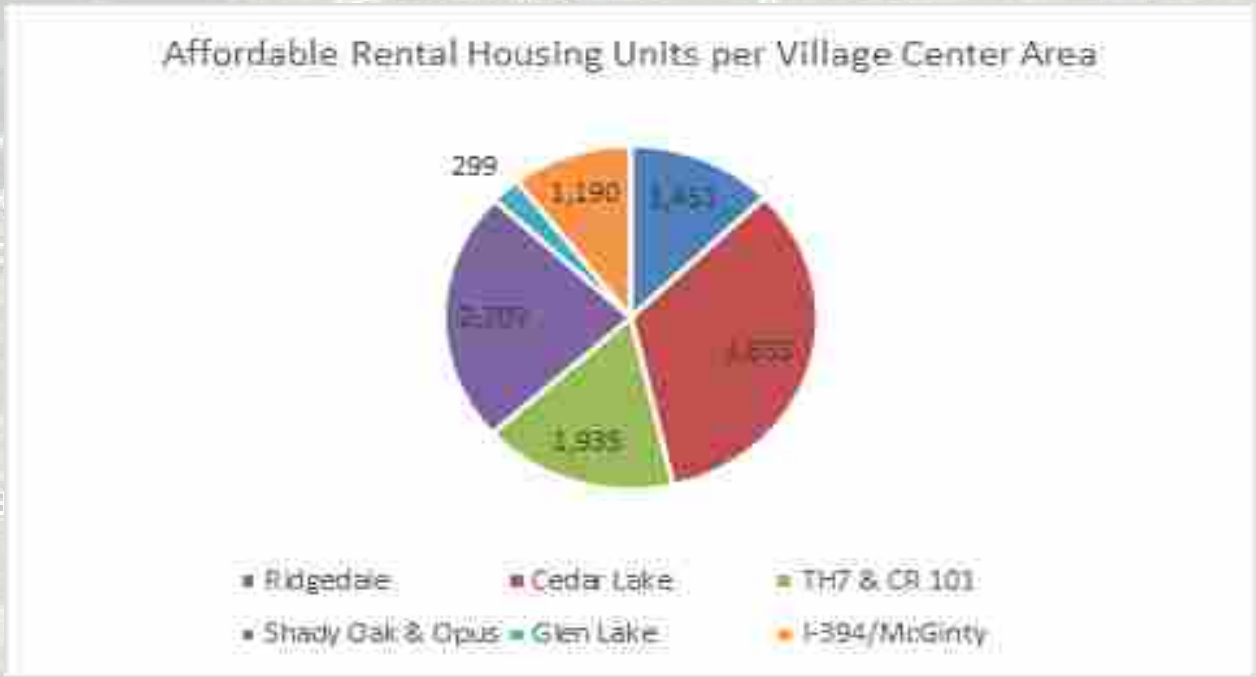
City of Minnetonka -- % of Twin Cities Metro Area Sales

	2008	2009	2010	2011	2012	2013	2014	2015	2016	May 2017 YTD
$<300,000	1.1%	1.2%	1.2%	1.4%	1.4%	1.3%	1.5%	1.2%	1.4%	1.3%
$300,000-$499,999	3.0%	3.3%	3.6%	3.3%	3.6%	2.8%	2.9%	2.8%	2.8%	2.8%
$500,000-$799,999	2.0%	3.9%	4.5%	4.3%	3.9%	4.5%	2.7%	3.7%	3.8%	4.2%
$800,000-$999,999	5.0%	4.0%	2.4%	5.5%	3.8%	4.3%	5.0%	4.1%	4.9%	3.4%
$1,000,000-$1,499,999	4.4%	5.8%	4.2%	1.8%	5.2%	4.0%	3.2%	5.0%	3.4%	8.4%
$1,500,000+	0.7%	2.3%	2.0%	4.1%	1.6%	6.6%	3.1%	2.7%	3.1%	0.0%
Total	1.5%	1.6%	1.7%	1.8%	1.9%	1.8%	1.9%	1.8%	1.9%	1.9%

Source: Northstar MLS

Affordable Housing Supply

Rental Units by Affordability Range (% of AMI)					
Village Center Submarket	0%-30%	30%-60%	60%-80%	80%-100%	100%+
Ridgedale	0	109	364	367	611
Cedar Lake	58	222	1,012	1,068	1,493
TH7 & CR 101	127	42	500	442	824
Shady Oak & Opus	46	318	645	725	973
Glen Lake	97	0	28	28	146
I-394/McGinty	0	0	360	395	435
Minnetonka	328	691	2,909	3,025	4,482



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Notable Observations & Trends

- **Minnetonka growth forecasts: perhaps conservative?**
  - Metro Area growth forecast:
    - +12,000 households/year (ESRI & Met Council)
  - Minnetonka growth forecast:
    - +180/year (ESRI); +230/year (Met Council)
  - Forecasts suggest Minnetonka accounts for only 1.5% to 2.0% of metro area household growth
  - Meanwhile, Minnetonka has 3.5% of metro employment and an expanding group of successful businesses**.**
  - **So, this indicates potential for Minnetonka to capture a greater share of metro HH growth. Possibly 350 to 450 HH per year in Minnetonka. *This will require infill, redevelopment, added density, public/private partnerships***
- Minnetonka businesses hiring. United Health Group example. Recruiting from outside MN. Preference to live near work. Preference for rental, at least initially. Need housing to match locational and housing product preferences.

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Notable Observations & Trends

- **Minnetonka opportunity market**: Millennials – relocating employees. Preference for "urban" product/locations within suburban environments close to their work.
  - Mostly rental;
  - Perhaps smaller apartment, but highly-amenitized building/community
  - "walkability,"
  - connectivity (how many steps to Starbucks, etc.?)
  - Access to freeways and transit (opportunities relate to SW-LRT)
  - Minnetonka compares favorably within metro and vs. other west-metro communities. Job opportunities. Quality Schools. Commercial Nodes. Connections. More "urban"
  - **Constraints**: Relatively short supply of modern apartment product in Minnetonka. (this is starting to change, as construction picking up). Deals starting to "pencil out."

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Notable Observations & Trends

- **Opportunity market**: Potential for Minnetonka to capture aging Millennials – moving outward from city. This is a serious opportunity for Minnetonka.
  - Will the rent or will they buy? Likely some of both
  - Factors considered:
    - how "urban" is Minnetonka? Looking for same/similar neighborhood dynamic (walkability, connectivity, mixed use, etc.)
    - Proximity/convenience of access to city
    - Housing products: Upscale rental or entry level purchase. Townhomes, condos, SF (small/ small lot), acquisition/rehab
    - Schools (still important for most, even if staying single or prolonging the start of a family).
  - **Constraints:** Housing availability (low turnover and limited new construction). Issue of senior homeowners aging in place. Product issues (size, style, price). Issue of senior homeowners aging in place.

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Notable Observations & Trends

Local jobs & housing supply somewhat out of balance

- Not just an affordable housing issue. E.g. upscale rentals needed for Millennial workforce, especially relocating employees
- Many Minnetonka employees do not reside in the city.
  - 45,000 employees in Minnetonka per Met Council
  - 70,000 employees in Minnetonka per ESRI
    - (we are sorting out this data discrepancy)
  - <5,000 of those workers also reside in Minnetonka
  - **Affordability issues:** examples – retail employees, teachers, govt
  - **Product issues**: existing stock (aging, size/style issues), lack of townhomes and first-time buyer product, some new supply but mostly at high-end of market

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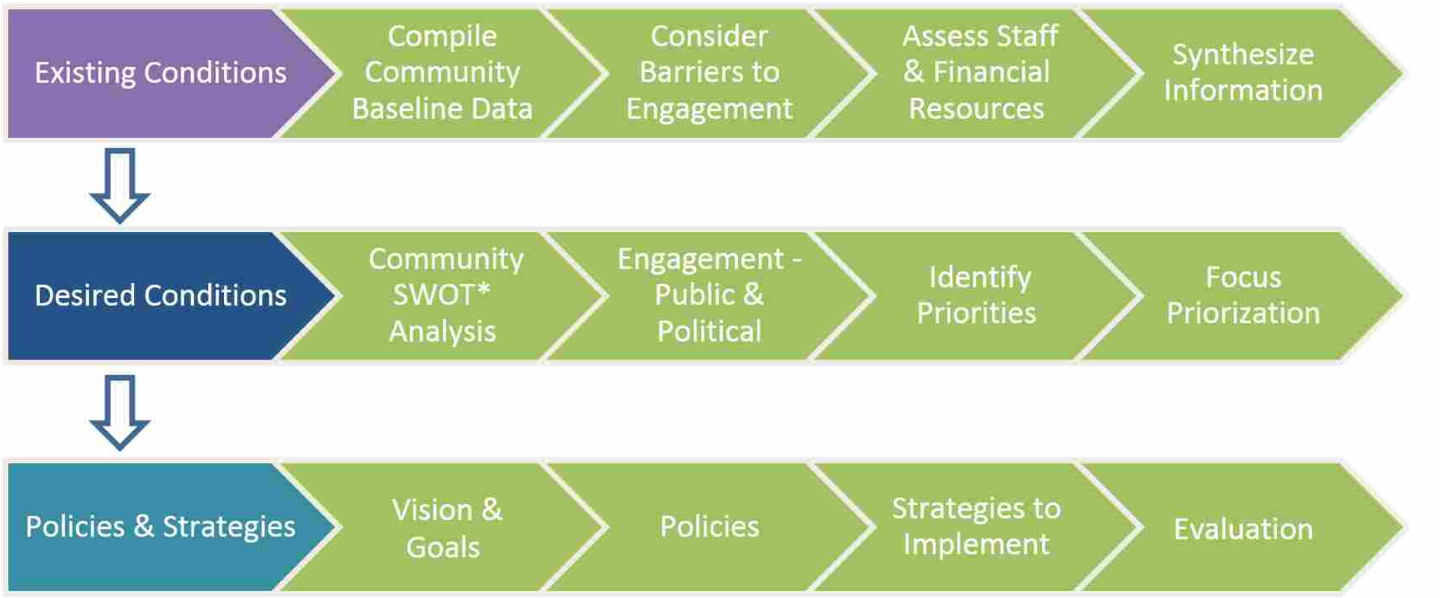
REGIONAL POLICY – BUILDING IN RESILIENCY

To build on the foundation of the Sustainability Outcome within Thrive MSP 2040, the Council has identified the land use policy 'Building in Resiliency,' which seeks to develop local resiliency to the impacts of climate change. A community's role in 'Building in Resilience' can include the following:

- Address climate change mitigation and adaptation in locally meaningful ways in the Plan;
- Identify local measures that result in reductions energy use and resource consumption;
- Ensure that the Plan protects and enable the development of solar resources;
- Consider the development or use of community solar gardens (CSGs);
- Establish measures to address the community impacts from extreme climate events;
- Participate in programs that evaluate and share city practices and provide technical support, such as the GreenStep Cities program and the Regional Indicators Initiative.

THE COMPREHENSIVE PLANNING PROCESS

In order to ensure success in integrating resilience planning throughout the comprehensive plan, it is important to highlight a standard compressive planning flow chart, for reference:



*SWOT – strengths, weaknesses, opportunities, and threats

INTEGRATING RESILIENCE INTO PLANNING PROCESS

The principle challenge to integrating resilience planning into the comprehensive plan stems from the fact that Plan chapters are often delegated to particular departments or work units within a local community. In order to ensure that resilience planning is properly incorporated and integrated throughout the Plan, a city can consider the following provisions:

- Establish a staff & City Council resilience lead;
- Institutionalize & embed resilience planning across departments/work units;
- Source data at the local level (e.g., from Watershed Management Organizations);
- Front-load the process by engaging with the community early and in meaningful ways;
- Consider community identity as part of the visioning process;
- Communicate the process and milestones often with stakeholders;
- Meet in the middle – frame the Plan but allow local advocates to contribute;

Continue to next page →

- Assess & plan beyond community boundaries through multi-jurisdictional partnerships;
- Build capacity through partnerships with agencies and academic institutions;
- Create policies that address community needs and can be implemented and evaluated;
- Be aspirational with the vision, goals, and policies; be specific with implementation strategies and evaluation measures;
- Consider the co-benefits when creating policies and implementation strategies;
- Consider strategically assessing/scoring your Plan to ensure integration.

STRATEGIC ASSESSMENT OF THE COMPREHENSIVE PLAN

The example below, taken from the APA's *Sustaining Places: Best Practice for Comprehensive Plans* shows how integration can occur using a strategic approach to ensuring that visions and goals are integrated throughout the Plan. A community may wish to employ such a method to measure the achievement of incorporating resilience visions and goals within the various Plan Elements in order to ensure that policies and implementation strategies link back to the overall community vision.

APPENDIX C: PLAN SCORING MATRIX

BEST PRACTICES FOR PLAN PRINCIPLES	N/A	0	1	2	3	Source
1. LIVABLE BUILT ENVIRONMENT—Ensure that all elements of the built environment, including land use, transportation, housing, energy, and infrastructure, work together to provide sustainable, green places for living, working, and recreation, with a high quality of life.						
1.1. Plan for multimodal transportation.						
1.2. Plan for transit-oriented development.						
1.3. Coordinate regional transportation investments with job clusters.						
1.4. Provide complete streets serving multiple functions.						
1.5. Plan for mixed land use patterns that are walkable and bikeable.						
1.6. Plan for infill development.						
1.7. Encourage design standards appropriate to the community context.						
1.8. Provide accessible public facilities and spaces.						
1.9. Conserve and reuse historic resources.						
1.10. Implement green building design and energy conservation.						
1.11. Discourage development in hazard zones.						
TOTAL SCORE: 1. LIVABLE BUILT ENVIRONMENT						

*N/A = Not applicable; 0 = Not present; 1 = Low achievement; 2 = Medium Achievement; 3 = High Achievement; Source (indicate where in the plan each best practice is discussed)

FOR MORE RESOURCES

Metropolitan Council staff are in the process creating workshops and more Local Planning Handbook resources for community use:

- Local Planning Handbook: http://metrocouncil.org/Handbook
- PlanIt Training series: https://metrocouncil.org/PlanIt

FOR MORE INFORMATION

For more information, contact Eric Wojchik, Senior Planner, at 651-602-1330 or at eric.wojchik@metc.state.mn.us

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METROPOLITAN COUNCIL

RESILIENCE OVERVIEW

RESILIENCE– WHAT IT IS AND WHY IT'S IMPORTANT

Building in Resiliency is identified in *Thrive MSP 2040* as one Council's land use policies to build the foundation for a prosperous, equitable, livable, and sustainable future. With this policy, we encourage resiliency by promoting sensitive land use and development patterns to contribute toward achieving Minnesota's adopted greenhouse gas emission goals at a regional scale, and to develop local resiliency to the impacts of climate change. Through Thrive MSP 2040, we have committed to using climate change as a lens through which to examine our work, and we encourage you to do the same.

Sustainability is one of *Thrive MSP 2040*'s five key outcomes for the region to strive for over the next decades. For the Metropolitan Council, Sustainability means protecting regional vitality for future generations by preserving our capacity to maintain and support our region's well-being and productivity.

For cities to enhance sustainability for local residents and businesses, the Update might include many different approaches not limited to:

- natural resource protection and rehabilitation,
- stormwater management,
- access to healthy food,
- affordable housing,
- water conservation

Climate change is a sustainability consideration. Climate change affects land use planning activity. The growing frequency and large-scale impact of severe weather events demonstrate the importance of planning for resilience. The risks and costs of not preparing for significant climatic events have been seen through experiences, such as the 2010 flooding in Scott County, with over $14 million of infrastructure repair and replacement.

Responding to climate change takes three approaches: mitigation, adaptation, and resilience. Mitigation strategies focus on minimizing contributions to climate change—for example, reducing energy use that leads to greenhouse gas emissions. Adaptation strategies focus on how to change policies and practices to adjust to the effects of climate change. Resilience strategies recognize the difficulty of predicting what the impacts of climate change will be and emphasize increasing our flexibility to thrive and prosper regardless of how climate change develops.

Renegade rollercoaster at Valley Fair submerged in floodwater, 2011
Source: MPR News

HOW THE COUNCIL'S POLICIES SUPPORT RESILIENCE

The Council's policies support the orderly and economical growth of the region and encourage land use policies that create a more compact land use pattern that can reduce energy consumption, protect public investments in infrastructure, lessen development pressures on habitat and open space, provide benefits to public health, and create more sustainable communities.

In regional guidance, the Council's Sustainability efforts including promoting the wise use of water, providing leadership, information, and technical assistance to support local governments' consideration of climate change mitigation, adaptation, and resilience, and operating the region's wastewater treatment and transit systems sustainably.

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The Council explores ways to reduce energy consumption, protect public investments, and reduce expenses to tax payers. Just a few examples include:

- Waste reduction at all Council facilities,
- Conversion of gas burners at the Metro Plant (saving over $1.5 million dollars per year),
- Installation of solar panels at wastewater treatment facilities, bus maintenance garages and the Heywood transit campus saving electrical costs, and
- Upgrades to energy efficiency at all council buildings.

INTEGRATING RESILIENCE INTO LOCAL COMPREHENSIVE PLAN UPDATES

The Council encourages communities to plan for adaption, mitigation, and resiliency to climate change as part of your comprehensive plan update. Your community may already be addressing changes that will have a positive effect on the environment. The Local Planning Handbook Resilience section offers ideas, planning analysis, and technical resources to integrate sustainability and resiliency into your comprehensive plan update. The Handbook also expands the resources available to address the Metropolitan Land Planning Act requirement to ensure that the local comprehensive plans and ordinances protect and enable the development of solar resources and consider the use of other alternative energy sources.

For building in resiliency into local planning, communities are also encouraged to:

- Implement compact development patterns and create more connected places to reduce auto-dependency and related generation of greenhouse gases.
- Identify local measures that would result in reductions in water use, energy consumption, emission of greenhouse gases;
- Identify local mitigation and adaptation strategies and infrastructure resiliency plans to protect against potential negative impacts to local economies, local resources, and infrastructure that result from more frequent or severe weather events.
- Participate in programs that evaluate and share city sustainability practices, such as GreenStep Cities and the Regional Indicators Initiative.
- Consider development or use community solar gardens.

These efforts help build the foundation for a prosperous, equitable, livable, and sustainable future for communities and the region.

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SOLAR RESOURCE DEVELOPMENT REQUIREMENT

The Metropolitan Land Planning Act requires that the Comprehensive Plan shall contain "an element for the protection and development of access to direct sunlight for solar energy systems."

To ensure success in incorporating the solar resource development requirement within the comprehensive plan, it is important to highlight a generalized comprehensive planning flow chart, for reference:

To satisfy the solar resource development requirement within statute, your community should include a policy or policies relating to the development of access to direct sunlight for solar energy systems within the comprehensive plan. Your community should also include any strategies needed to implement the policy or policies.

In order to formulate your community's policies and strategies, you can begin by setting solar visions or goals within the comprehensive plan. Please see examples below of solar goals and visions, solar policies, and solar implementation strategies:

Solar Goals by Community Type

1. Urban Goal – Balance between the benefits of urban forests and the benefits of enabling solar development.
2. Urban Goal – Create local community solar garden opportunities for residents and businesses who have limited on-site solar resources or do not own land or buildings.
3. Urban Goal – Redevelopment projects will evaluate on-site solar resources and incorporate solar development into designs.
4. Suburban Goal – Encourage residential solar development that maintains community character.
5. Suburban Goal – Increase energy resilience of critical facilities such as police, fire, and emergency and hazard response centers.
6. Suburban Goal – Fairly balance the development rights of land owners with solar resource with the community character rights of adjacent landowners.
7. Suburban Goal – Protect access to solar resources in new developments and subdivisions, enabling individual land owners to choose to self-generate energy.
8. Agricultural Goal – Encourage solar garden or farm development on marginal farmland rather than prime agricultural soils.
9. Rural Goal – Enable solar garden development that enhances the community's and landowners' ability to limit non-rural housing or commercial development.

Solar Goals by Plan Element

1. Economic Goal – Increase use of local energy resources to capture job creation opportunities and diversify local economic base.
2. Housing Goal – By 2030, all new housing has solar generation or is built to "solar-ready" standards.
3. Land Use Goal – Encourage solar garden development on closed landfills and brownfields.
4. Resilience Goal – Encourage investment in electric grid infrastructure and solar development that makes electric service more reliable and resilient to weather-related disruptions.

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Solar Policies - Distributed (Accessory) Solar Development

1. City encourages development of distributed solar energy systems that are in keeping with the community's character and use community solar resources.
2. City supports the development of zero net energy buildings and use of local renewable and energy efficiency resources.
3. City sets a local renewable energy standard to meet 10% of community-wide electric energy use with on-site renewable energy.

Solar Policies - Solar Farm/Garden (Principal) Solar Development

1. City encourages development of community solar gardens on lands outside the MUSA that retain community character and capture co-benefits such as creation of pollinator habitat.
2. City will develop solar resources on its closed landfill sites and buffer lands around industrial uses.
3. County supports the use of local solar resources, but discourages utility scale solar development that diminishes preferred agricultural use of prime soils or conflicts with rural residential priorities.

Solar Strategies - Solar Farm/Garden (Principal) Solar Development

1. Adopt solar zoning and permitting best practices for accessory use solar development.
2. Become certified as a "solar-ready" community under the Department of Energy's SolSmart program.
3. Participate in a community solar garden project for a set amount (i.e., 30%) of public facilities' electric energy use.
4. Sponsor a community solar garden on a public building or land, for the benefit of city residents and non-profit institutions.
5. Enable and promote PACE financing for local energy efficiency and solar energy projects on private buildings.

MEETING THE MINIMUM REQUIREMENTS

- Please refer to the Energy Infrastructure and Resources Minimum Requirements in the Resilience plan element section of the Local Planning Handbook to learn more about the solar protection and development minimum requirements and how to get more out of your 2040 Comprehensive Plan Update.
- Access your Community Page to find solar maps and calculations.

Please contact your Sector Rep if you have any questions.

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METROPOLITAN COUNCIL

SOLAR RESOURCE PROTECTION

LOCAL PLANNING HANDBOOK

SOLAR RESOURCE PROTECTION REQUIREMENT

The Metropolitan Land Planning Act requires that the Comprehensive Plan shall contain "an element for the protection and development of access to direct sunlight for solar energy systems."

To satisfy the solar resource protection requirement within statute, the Council has provided the Minnesota Solar Suitability Analysis map clipped to your community, along with calculations of your community's gross solar and rooftop solar resource. To adequately plan for solar energy systems, communities should assess their existing, or baseline, conditions. The solar map and calculations provide baseline conditions for solar protection which will assist communities in creating appropriate solar policies and implementation strategies through the identification of key sites or land uses suitable for solar development, while correspondingly limiting solar development for other land uses or locations.

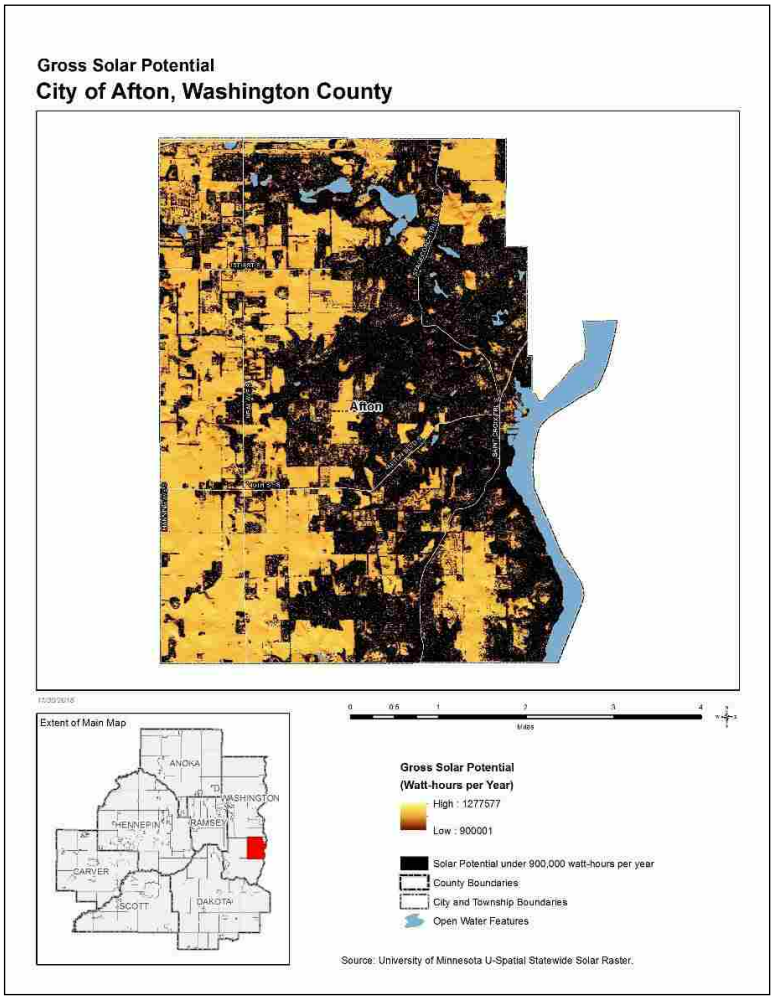
The sample map and calculations below are for the City of Afton, in Washington County. The solar map and calculations will differ based on the existing natural and built environment.

SOLAR MAP

In recent years, the declining prices and growing demand for solar panels have not been matched with publicly-available information for site suitability analysis to determine ideal solar panel placement. To better plan for solar development, communities need baseline solar resource information. The baseline provides necessary information for adopting appropriate solar policies and implementation strategies.

The Minnesota Solar Suitability Analysis Map, developed by the University of Minnesota and maintained by the Department of Commerce, provides solar insolation (total annual sun energy, measured in watts) data at a high resolution (1 meter). These data can be used to estimate total potential energy production of solar installations. Solar insolation varies, but the most important factor affecting small-scale photovoltaic solar installations is intermittent shading due to nearby structures and trees. More information on the methodology for creating the Solar Suitability Analysis Map can be found on the project website.

The Metropolitan Council has clipped the MN Solar Suitability Analysis Map to your community so that the map, along with the solar resource calculations, can meet the statutory requirement for the protection of the solar resource.



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The map produced for each community includes a legend that displays a 'high-end' insolation number per square meter in yellow (this will vary by community) and a 'low-end' insolation minimum of 90,001 watt hours per year. Solar potential below 90,000 watt hours per year is expressed in black. Since the map shows the solar potential at the community-wide scale, it does not capture the 1-meter granularity of the data. Areas at the community scale may appear black, but a closer examination will reveal smaller areas of solar potential, particularly on rooftops.

GROSS AND ROOFTOP SOLAR RESOURCE CALCULATIONS

These solar resource calculations provide an approximation of each community's solar resource. This baseline information can provide the opportunity for a more extensive, community-specific analysis of solar development potential for both solar gardens and rooftop or accessory use installations. More detailed GIS information is available if communities wish to create additional maps or conduct assessments at a finer grain than the city-wide map provided.

For most cities, the rooftop generation potential is equivalent to between 30 and 60% of the community's total electric energy consumption. Cities with dense development and large energy commercial or institutional energy users (such as Minneapolis and Saint Paul) will have rooftop generation potential between 25-35% of total electric use. Cities with less commercial development and less density, such as many second- and third-tier suburbs, will have rooftop generation potential equivalent to 50-70% of total community electric use. Very few communities' rooftop generation potential reaches or exceeds 100% of their energy usage.

The gross solar potential and gross solar rooftop potential are expressed in megawatt hours per year (Mwh/yr). These values represent gross totals; in other words, they are not intended to demonstrate the amount of solar likely to develop within each community. Instead, the calculations estimate the total potential resource before removing areas unsuitable for solar development or factors related to solar energy efficiency.

The gross solar generation potential and the gross solar rooftop generation potential for each community are estimates. A conversion efficiency of 10% is based on benchmarking analyses for converting the Solar Suitability Map data to actual production, and solar industry standards used for site-level solar assessment. The rooftop generation potential does not consider ownership, financial barriers, or building-specific structural limitations.

A sample community total is shown in the table below:

Community[1]	Gross Potential (Mwh/yr)	Rooftop Potential (Mwh/yr)	Gross Generation Potential (Mwh/yr)[1]	Rooftop Generation Potential (Mwh/yr)[2]
Afton	37,140,717	213,664	3,714,072	21,366

[1] There are a few communities where generation potential calculations could not be produced. There are areas within some maps where data was unusable. These areas were masked and excluded from gross rooftop potential and generating potential calculations.

[2] In general, a conservative assumption for panel generation is to use 10% efficiency for conversion of total insolation into electric generation.

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APPLYING ROOFTOP GENERATION POTENTIAL TO YOUR COMMUNITY

The table below serves as a point of reference for how three communities of three different designations within the Twin Cities metropolitan area may view their Rooftop Generation Potential (Mwh/yr). For the Lake Elmo community, their Rooftop Generation Potential could potentially meet 95% of their community's electricity needs over the course of a year. The community of Hopkins is nearly 12 times as dense as Lake Elmo; however, they may still benefit from 55% of their electricity needs being met by their Rooftop Generation Potential. The benchmarking of the electricity use in these communities will allow them to more accurately understand, analyze, and plan around the benefits of their individual Rooftop Generation Potential.

Community (Designation) [1]	Rooftop Generation Potential (Mwh/yr)	Electricity Consumption (Mwh/yr)[2]	Potential Electricity Consumption met by Rooftop Generation (%)
Oakdale (Suburban)	155,503	204,845	76%
Lake Elmo (Rural Residential & Emerging Suburban Edge)	51,949	54,935	95%
Hopkins (Urban Center)	111,590	203,524	55%

[1] Community Designation by the Metropolitan Council per "*Thrive MSP 2040*."
[2] Total electricity use across the Residential and Commercial/Industrial sectors within each community in the year 2011 as reported in "Final Minnesota Pollution Control Agency Report on: Regional Indicators Initiative Measuring City-Wide Performance, An Inventory of Energy, Potable Water, Travel, Waste, Greenhouse Gas Emissions and Costs for Twenty Minnesota Cities from 2008-2011."

MEETING THE MINIMUM REQUIREMENTS

- Please refer to the Energy Infrastructure and Resources Minimum Requirements in the Resilience plan element section of the Local Planning Handbook to learn more about the solar protection and development minimum requirements and how to get more out of your 2040 Comprehensive Plan Update.
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