



VISION 2020

Transportation and Energy Committee A Vision for a More Sustainable and Prosperous Farmington Hills

Recommended Transportation and Energy Policies

October 3, 2011

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Section 1: Document Purpose and Scope

On January 22, 2011, Mayor Jerry Ellis kicked off Vision 2020. Within the last few years, the economic recession resulted in a significant loss of revenue for the City. This loss has required the City to reduce all expenditures by over 20% or \$20 million. With fewer resources and the desire to maintain the City as a world class community to live, work, and play, the Mayor and City Council developed Vision 2020. This project was designed to engage Farmington Hills citizens in a 10 month visioning project that would result in a series of policy recommendations to help steer the community towards a prosperous future. Five committees were created to tackle five topic areas including: Education/Jobs, Redevelopment/Economics, Transportation/Energy, Taxes/Services, and Activities/Citizen Retention.

The Transportation/ Energy Committee has developed a vision for a more sustainable and prosperous Farmington Hills. In other words, re-thinking Farmington Hills. What does sustainable and prosperous mean? It means a community that is thriving. A community that is consciously working to balance economic, environmental and community values (i.e. triple-bottom-line). It is a Farmington Hills community that fully recognizes the decisions made today will significantly impact the quality of life of younger and future generations and whether or not they have the ability to meet their life needs (i.e. food, energy, health, etc). It understands that we do not inherit the earth from our ancestors, but we borrow it from our children.

A series of recommendations have been provided within. Each is intended to bring Farmington Hills closer to a more sustainable and prosperous future. Each recommendation is presented in the macro (goals) and broken down into the micro (action items). Included are proposed metrics for measuring progress in reaching the goals set forth. Action items are the stepping stones to achieve significant and fundamental change. Much study and consideration has been invested in the contents of this document. Each idea was selected not just to meet the needs of Farmington Hills in the coming decades, but also to set Farmington Hills apart as a leader and partner in adapting to changing demographic priorities within the region.

The Energy and Transportation Committee held a series of discussions, reviewed articles and reports, including the 2006 Sustainability Study, and held a series of five panel discussions with local experts to educate themselves on the transportation and energy challenges of today and tomorrow. The following recommendations are the culmination of ten months of review and discussion. This is not an exhaustive list of recommendations, but merely a sample of the actions that the City should consider taking to improve the community's transportation options as well as improve the energy and environmental sustainability of the City. Ultimately, this document sets a path towards a brighter and more sustainable future.

Section 2: Overview

Farmington Hills developed as a sprawling suburban community over the last half-century due in large part to the availability of inexpensive energy and personal transportation, high disposable income associated with a robust United States economy, and the post World War II exodus from concentrated urban centers.

The next half century will see new population priorities, new motivations, and new environmental challenges. Some of these factors include:

- The environmental, social and financial costs of fossil fuel, which is expected to be considerably more expensive, potentially limiting the appeal of large residential homes using large amounts of energy and located far from jobs. The coming decades will also likely reveal more scientific based information as to the effects of fossil fuel consumption. Peak oil (the point in time when the maximum rate of global petroleum extraction is reached, after which the rate of production enters terminal decline) is also expected in the coming years (if not here already). As demand from developing countries for oil and energy rises, particularly in China and India, costs will skyrocket, putting the comforts we know today out of reach for many Americans.
- The Millennial Generation has shown a preference to return to a more “urban” lifestyle, with the advantages of closer proximity to entertainment, shopping, dining, transportation options and jobs. More commonly referred to as “sense of place,” this movement is at the forefront of the discussion about re-inventing Michigan lead in part by the Michigan Municipal League.
- Data also suggests that older generations, such as the Baby Boomers, are looking for many of the same community features as the Millennials. A more developmentally diverse, dense, and walkable community provides more options for aging in place. More and more people want to be able to get from point A to point B without getting in their car and having daily needs within walking distance.
- Sustainability is a value that more and more people associate with. There is evidence that future generations of citizens and workers will place considerable importance on ‘green values’ and want to live and work in communities that reflect these values.

Farmington Hills, was well positioned to meet the needs of the 20th Century, but the question that needs to be posed is, is Farmington Hills going to be able to meet the needs of the 21st Century? What vision should Farmington Hills work towards for 2020? 2035? 2050? The decisions we make today will significantly impact the City’s future and its ability to be competitive in and meet the needs of the 21st Century.

While the focus of this project was to help define a vision for 2020, the Transportation and Energy Committee would strongly encourage City Council and the community to look much further into the future when considering the impacts of the decisions made based on the work of all the 2020 visioning committees.

The Transportation and Energy Committee believes now is the time to “re-think Farmington Hills.”

Re-Think Farmington Hills

How can we recast Farmington Hills for the 21st Century, while keeping true to the core assets and values of the community such as a diverse resident population, a diverse and robust business community, a center for jobs, a quality school system, expansive higher education opportunities, a central metro location, and a great natural environment.

Think...

...neighborhoods where you can walk (or bike) to a “corner store” for groceries, where you can walk to get an ice cream cone, or get to your place of work without getting into your car.

...compact, walkable, higher density, housing diversity, jobs, shopping and entertainment within a smaller footprint.

...local energy systems rather than the centralized, distributed energy from the utility with a focus on clean renewable resources.

...shorter supply chain, where goods and services are closer and less time, energy and capital is spent to obtain those goods and services (i.e. local food production).

...Green Communities (neighborhoods) where energy is generated with solar energy, where food is grown in a community garden or green house, where homes are efficient and cost effective to own where they are designed and built for people not automobiles.

Think Regional

The City should ask where Farmington Hills can further partner with other communities and groups towards turning these goals into tangible actions and results.

Think Re-Development NOW

Adopt a model of sustainable re-development and “Smart Growth” and work cooperatively, yet diligently, with developers to move the community’s vision forward. Don’t settle for development. Find creative solutions to meet the needs of all parties. Be ready to educate developers about the kind of development the community wants to see. Belmar (Colorado) provides a good example of a community reinventing itself. They took a deteriorating suburban area and completely revitalized it into a sustainable 21st Century community by bringing together diverse living options, shopping, dining, events, culture and business/jobs (www.belmarcolorado.com).



Image 2.1:
Belmar Development in Lakewood, Colorado.

Section 3: Community Profile

In order to create a new vision for Farmington Hills we must take a look at the potential Energy and Transportation demands the community may have in 2020 and beyond. With population increases and changing demographics the needs Farmington Hills has today will likely be very different than in future decades.

SEMCOG projections of future demographics for all of Southeast Michigan were published in 2008 and are widely used and considered the best available. They project overall population and demographic breakdowns in five-year increments to 2035.

According to SEMCOG, the total population of Farmington Hills will remain relatively stable while its composition will change. Between 2000 and 2020, we are expected to add over a thousand households, while population increases by only a few hundred. This reflects the decline in typical household size. Many more households, about 1,250 more, will be childless. The population between 5 and 17 is expected to decline by about 1,600 and the 65 and over population is expected to increase by at least 4,400. Overall, Farmington Hills will see a graying of its citizenry over the next decade. This trend is expected to continue for the foreseeable future.

The table below combines information from the most recent census in 2010 with information from the 2008 SEMCOG report. The actual decline in population from 2000 to 2010 seems to reflect the effects of the economic recession that began in 2008, after SEMCOG published its report.

Table 3.1: Population Forecast Between 2000-2030

Population and Households	Census 2000	Census 2010	SEMCOG 2020	SEMCOG 2030
Total Population	82,111	79,740	82,565	82,636
Households (Occupied Units)	33,559	33,559	34,872	35,248
Households with individuals 65 yrs and over	NA	9,274	11,297	13,433

Forecasts are not expected to predict year-to-year fluctuations, just the overall trend. The total population for 2010 in the table below is almost 1,000 individuals more than the actual Census figure in the table above. This figure was forecasted before the Great Recession. Still, we consider the general trend from 2005 to 2035 to be realistic.

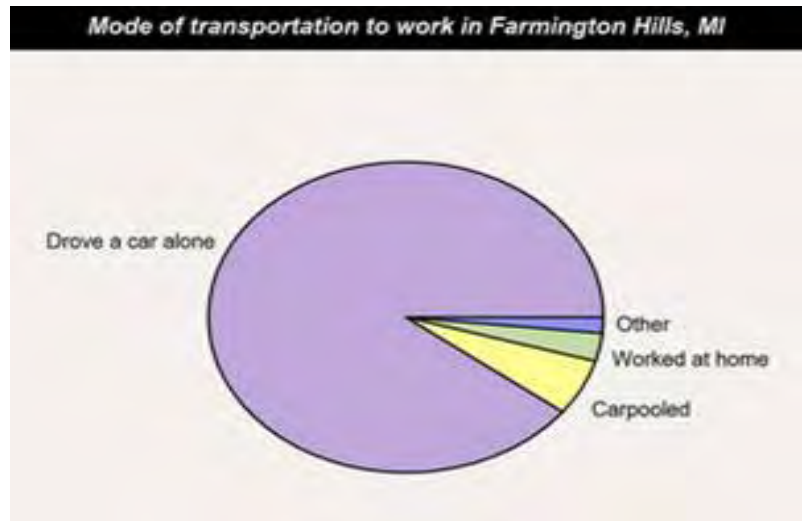
Table 3.2: Age Forecast Between 2000-2035

AGE DISTRIBUTION FORECAST									
	2005	2010	2015	2020	2025	2030	2035	Change 2005-2035	
								Number	Percentage
Total Population	80,296	80,640	81,066	81,565	81,142	81,636	82,535	2,239	2.8%
Ages 0-4	4,113	4,108	4,458	4,590	4,736	4,701	4,609	496	12.1% -
Ages 5-17	13,899	13,181	11,884	11,578	11,704	12,413	12,782	-1,117	8.0% -
Ages 18-34	15,252	14,855	16,218	16,385	15,203	14,486	14,553	-699	4.6% -
Ages 35-64	35,304	35,664	33,667	31,749	29,856	28,842	28,204	-7,100	20.1%
Ages 65 & over	11,728	12,832	14,839	17,263	19,643	21,194	22,387	10,659	90.9%

The SEMCOG report sums up it’s overall prediction for the entire region with a telling statistic: “The aging of the baby boom generation (which will be 70 or older in 2035), as well as longer life spans, mean that 39 percent of all households will be elderly in 2035 (that is, these households will have at least one person 65 or older).”

Image 3.1: Mode of Transportation used to get to work in Farmington Hills

As can be seen image 3.1, most residents in Farmington Hills commute alone in their private vehicles. This is not expected to change dramatically in coming years, but the aging of the population will require that we rethink public transportation in Farmington Hills. An older population will likely be more reliant on mass transit and pedestrian access due to changes in transportation preferences and, in some cases, the loss of driving privileges. An increase in the population coupled with rising energy costs, will force Farmington Hills to rethink how it addresses its energy needs. Farmington Hills can confront these issues now to ensure it remains a sustainable and prosperous community in the decades to come.



Being situated in the heart of the Motor City, Farmington Hills has strong automotive connections. Remaining sustainable and prosperous also means remaining adaptable. Personal transportation will likely remain the dominant mode of transportation well into the future, but what the personal vehicle will look like remains to be seen. Electric vehicles are here and autonomous (driverless) vehicles are just around the corner. Will Farmington Hills be ready to accommodate changes in driving patterns, preferences, and technologies?

Section 4: Enhancing Transportation and Transportation Options

In the coming decades, Farmington Hills will move beyond planning and designing its street network and neighborhoods around automobiles. Walkers, bikers, and mass transit will become the dominant priorities. All major roadways will be constructed in a high-quality manor using materials and techniques proven to extend the useful life of the road. All roads will be constructed with bike lanes. Bus or other forms of public transit will be located along all major arterial roads.

Farmington Hills will pass the “ice cream test.” In other words, most residents will be able to walk to get to a neighborhood service center to get living essentials such as fresh groceries for that night’s dinner or a sweat treat.

For those trips that do require an automobile, Farmington Hills will have the infrastructure to support alternative vehicles. Major shopping centers and other destinations will provide plug in stations for electric vehicles. Vehicles will be able to travel on high quality roads that are designed to lessen their impact on the environment. They will be constructed of light colored surfaces (pervious where possible) to reduce the heat island effect and will be accompanied by other low impact design features such as bioswales along the median or shoulder.



Image 4.1:

Bioswales temporarily store and allow stormwater infiltrate the soil.

Parking lots will also be light colored and pervious (special type of concrete that allows water from precipitation and other sources to percolate rather than runoff). They will no longer be designed for peak usage, but rather average usage across the year. Existing and underused parking areas across the City will be repurposed or redeveloped.

This vision is essential to enrich the commercial and residential environment with alternative transportation options. Providing transportation choices including safe walking and biking options will improve the overall quality of life and competitiveness of the community. The status quo will risk a decline in local and universal living standards, environmental deterioration and ultimately community decline.

The following transit goals were created with the above vision in mind. The successful implementation of this series of goals will ultimately improve the quality of transportation and transportation choices for residents and local businesses. Action items and metrics are identified to chart and measure progress towards meeting the objectives and bigger picture goals. Additionally, these recommendations will ultimately lead to a reduction in energy use and enhancement of quality of life, which will help attract and retain residents and businesses.

To facilitate the implementation of these transportation goals and objectives, City Council should consider creating a Transportation Advisory Committee made up of businesses and citizens to work with City staff and City Council in moving these transportation priorities forward.

Goal # 1: Enhance Regional Transportation Options Across Metro Detroit

Objective A: Regional Transit Authority: Support in every way possible and by all means necessary, the development of a comprehensive Regional Transit Authority across Metro Detroit, including Oakland, Wayne and Macomb Counties. The Committee understands that this issue really needs to be solved at the State level, but critical to moving the region and Farmington Hills forward.

Action Items:

- 1) Work towards a fair governing structure for a regional transportation authority that brings leaders of Southeast Michigan together with the City of Detroit to address issues of regional transportation in a comprehensive fashion (one budget, one system).
- 2) Lobby for changes in public transportation funding from the gas and property taxes to a specially designed federal/state/local tax.
- 3) Work with local units of government to coordinate lobbying efforts surrounding regional and State transportation and funding.
- 4) Work towards the creation of one seamless transportation system that relies on multiple vehicle types and services.

Possible Metrics

- Number of communications made to State leaders.
- Number of resolutions adopted by local elected bodies in support of a regional transit authority.
- Number of constituents signing on to letter to State leaders.

Recommended Responsibility

It is recommended that City Council lead this initiative or work with a local advocacy group.

Objective B. Transit Centers and Mass Transit Promotion: Establish and promote ‘transit centers’ (park/walk/bike and ride) at targeted destinations. These can be used to both promote mass transit and encourage economic development. Work with the SMART Bus system, et al, to promote use of mass transit options.

Action Items:

- 1) Establish transit centers at strategic locations such as Wayne State University, Oakland Community College, Botsford, and shopping & residential centers
- 2) Encourage placement of shelters for the SMART system that are more visible, prominent and “genuine” (i.e. Image 4.1)
- 3) Use transit system shelters to establish neighborhood identity – i.e. Orchard Lake and 11 mile could be the Municipal Center, etc.



Image 4.1: Modern transportation shelter featuring bench, bike rack, garbage can and solar panels. Advertising revenue may also be possible.

- 4) Work with SMART and the community to create new discount opportunities for employers and learning institutions to offer employees/students incentives that encourage the use of the SMART Bus system.
- 5) Work with SMART or Regional Transit Authority to plan and promote metropolitan routes for light rail, rapid buses along major thoroughfares particularly Grand River Avenue (see Image 4.2). Solicit support and input from the local business community. Require and enforce businesses and residents to remove snow from sidewalks, particularly along transit routes.
- 6) Establish park and ride centers near/along the popular transit corridors to maximize effectiveness
- 7) Increase promotion of SEMCOG’s Ride Share program (See Appendix A for existing SMART routes).

Possible Metrics

- Number of transit centers
- Transit shelters (Image: 4.1)
- Miles of transit routes
- Random sampling of bus usage
- Discount cards distributed
- Number of car pool lots/spaces
- Carpool lot occupancy

Recommended Responsibility
 Transportation Advisory Committee

East Bay BRT Downtown Oakland Sample Segment
 11th Street and 12th Street: Webster Street to Jackson Street



Image 4.2: Rapid bus transit route with designated lane.



Image 4.3: Transit center concept.

Goal # 2: Build the Necessary Infrastructure to Support Alternative Fueled Vehicles

Objective A. Alternative Vehicle Infrastructure: Support the deployment of electric vehicle charging stations across the community and other alternative fuel (such as Compressed Natural Gas (CNG)) infrastructure to support emerging technologies (see Images 4.4 and 4.5)

Action Items:

- 1) Develop and adopt an ordinance that encourages the installation of charging stations, through expedited permitting, reduced fees, or other tools available to the City.
- 2) Require 240v electricity in all new residential and commercial projects to facilitate the installation of vehicle charging stations.



Image 4.4: Plug in Electric Vehicle (PEV) Infrastructure.



- 3) Establish charging stations at all appropriate City facilities.
- 4) Work with major commercial centers, employers, and educational facilities to install charging stations.
- 5) Work with fuel station owners to install CNG pumps as demand and vehicle options grow.



Image 4.5:
Compressed Natural Gas is a low cost, cleaner, and domestically produced alternative to oil.

Possible Metrics

- Number of alternative “fueling” stations deployed.
- Total usage of charging stations.

Recommended Responsibility

Commission for Energy and Environmental Sustainability
Planning and Community Development

Goal # 3: Increase Access to Transportation Options

Objective A. Complete Streets: Encourage and promote the design and construction of “Complete Streets,” which provide comfortable access and travel for all users, including pedestrians, bicyclists, motorists and public transportation users of all ages and abilities (see Images 4.6 and 4.7).



Image 4.6: Complete Streets Design Concept.

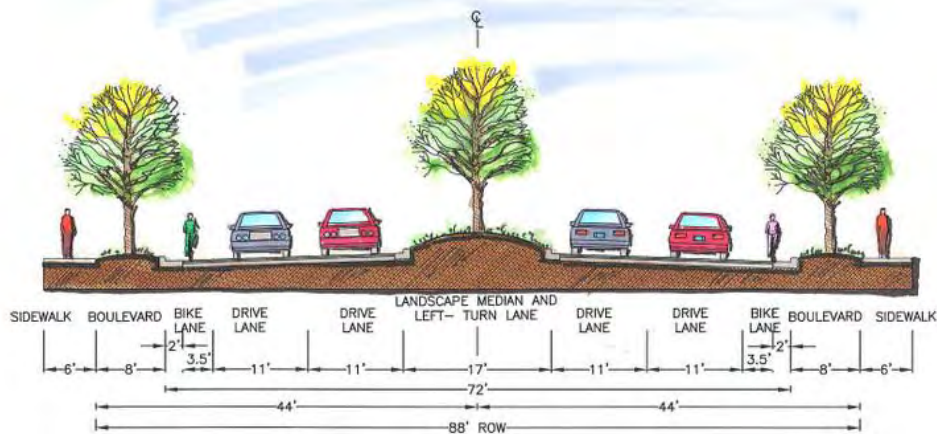


Image 4.7: Complete Streets Cross Section.

Action Items:

- 1) Adopt a complete streets policy consistent with County, State and Federal policies.
- 2) Encourage the multi-transit approach to help break exclusive dependence on autos.
- 3) Develop city plans, legislation if needed, to identify special lanes on all roads in the city for bicycles.
- 4) Conduct an educational campaign about sharing the roads with bikers and pedestrians.
- 5) Study bike/car safety concerns and incorporate findings into complete street planning.

Possible Metrics

- Completion or progress on a long range complete streets plan.
- Miles of complete streets.
- Bike lane and sidewalk usage.

Recommended Responsibility

Department of Public Services
Transportation Advisory Committee

Objective B. Increase walking and bicycling opportunities in the community: This objective promotes the health and wellbeing of young and old alike. In 2006, medical researchers confirmed that “there is irrefutable evidence of the effectiveness of regular physical activity in the primary and secondary prevention of several chronic diseases (e.g. cardiovascular disease, diabetes, cancer, hypertension, obesity, depression, and osteoporosis) and premature death.

Action Items:

- 1) Encourage the formation of biking and walking clubs
- 2) Map current bicycle paths and walking paths along with developing master plans for bicycles and walking (lanes, trails, right-of-ways, sidewalks, etc). (Refer to Appendix B for current map.)
- 3) Develop bike rallies in partnership with local bike shops or other appropriate clubs to showcase the bike paths, build community support and spirit.
- 4) Display the City’s bike and pedestrian map around the City (ex. bus stops, schools, colleges, major employers, etc).

- 5) Require sidewalks and bike paths for all new development and redevelopment projects not just along major roads, but all roads, including internal site/neighborhood roads.



Image 4.8: After school queue and traffic outside Beechview Elementary School.

Source: Mellody Herr, Farmington Hills

- 6) Develop more sidewalks leading to schools as well as more pathway connections through subdivisions. To encourage students to bike to school, have bike cops near school at beginning and end of school day.
- 7) To encourage biking and walking, a robust and enforceable pathway maintenance (keeping sidewalks clear and accessible) policy should be adopted to facilitate use year round. In addition, pathway enforcement and safety education would help encourage more citizens to bike and walk.
- 8) To assist with maintenance of pathways, an online site, or smart phone application, should be created for quick reporting by residents of pathway maintenance concerns. This reporting system could be used for road maintenance, zoning concerns and other functions as well.
- 9) Design, map, and promote pedestrian friendly streets, mile roads, and subdivision streets.
- 10) Develop policy to give preference to bike path/sidewalks in vacated alleys in densely populated areas.
- 11) Use a social networking system to encourage residents to walk or bike together.
- 12) Adopt flexible policies that allow variances from required parking spaces. For instance, a bicycle rack could be counted as the equivalent of parking spots.

Possible Metrics

- Complete bike path plan
- Miles of bike path
- Percent of population biking to work, or other activities (survey every five years)
- Percent of population walking to work, or other activities (survey every five years)

Recommended Responsibility

Department of Public Services
Transportation advisory committee
Police Department

Goal # 4: Improve Traffic Efficiency and Reduce Environmental Impacts

Objective A. Roundabouts: Establish a long-term goal of featuring pedestrian and bike friendly roundabouts at all intersections along feeder and arterial roads particularly at major intersections and community entrance points.

Action Items:

- 1) Feature roundabouts, which have been shown to improve traffic flow and safety (fewer and less severe accidents) while reducing fuel consumption.
- 2) Work with appropriate road jurisdictions to ensure the most efficient traffic light timing possible.
- 3) Convert all non-LED traffic lights to LED.
- 4) Utilize enhanced design at city entrance points.

Possible Metrics

- Create a long term intersection plan.
- Number of roundabouts constructed.

Recommended Responsibility

Department of Public Services



Image 4.9: 2006 Sustainability Study: Northwestern Highway Gateway Concept

Objective B. Idle Free Zones: Idling wastes gasoline and puts pollution in the air that is hazardous to lung and heart health. Work with the community to improve air quality and reduce fuel consumption by establishing “Idle Free Zones” where vehicle idling is prohibited.

Action Items:

- 1) Educate public on the benefits of idle free zones.
- 2) Work with businesses and property owners to place signage in retail areas, office parks etc.

- 3) Prohibit idling within 50 - 100 ft of outdoor seating at restaurants.
- 4) Prohibit idling within City parks, especially next to playgrounds.
- 5) Work with the schools to establish idle-free zones around school buildings and neighborhoods (See Image 4.8)

Possible Metrics

- Number of schools/businesses designated as Idle Free Zones.
- Number of people who sign a Idle Free Pledge



Recommended Responsibility

Commission for Energy and Environmental Sustainability

Section 5: Creating a Community that Encourages and Embraces Energy Sustainability

2020 and beyond will look quite different in Farmington Hills. The Farmington Hills City Hall Revitalization Project as well as advancements in building codes will promote and drive development towards sustainable building design significantly reducing the use of energy in new developments. Energy efficient behavior will be a way of life not something that needs to be continually promoted. Energy efficient retrofits will be more affordable and accessible due to a variety of programs, which might include Property Assessed Clean Energy (PACE) programs. The City will have moved from allowing energy efficiency and renewable energy to actively promoting and incentivize these actions through ordinances, policy and procedures.

Renewable energy will be more affordable and easy to implement with renewable friendly policies. Solar and wind rights will be available to residents and businesses and give all property owners equal access to reducing their reliance on fossil fuels. Farmington Hills will take action to hedge itself against the rising cost of energy through investments in energy efficiency and renewable energy and create an environment for businesses and residents to do the same.

Farmington Hills businesses will have the lowest operating costs due to its abundance of energy efficient buildings and access to financing for those interested in advancing energy efficiency and renewable energy. Businesses will move here because their employees will have access to a diverse and energy efficient housing stock. Multiple transportation options including access to bike lanes and sidewalks will improve quality of life throughout the community.

Most importantly, Farmington Hills will continue its leadership role throughout the region and the State. Farmington Hills will stay at the forefront of energy efficiency, renewable energy and environmental sustainability. Education will remain a priority for the City. It will continue to keep its constituents aware of new technologies and opportunities to reduce their costs of living. These efforts will establish Farmington Hills as the most sustainable community in Oakland County.

Goals # 1: Advance Energy Efficient Practices

Objective A. Ensure All City Policies and Procedures Favor Energy and Environmentally Sustainable Choices

Action Items:

- 1) Adopt a sustainable purchasing policy (i.e. energy star appliances, high percent recycled paper, eliminate personal printers, etc).
- 2) Eliminate the use of disposable items such as cups, plates, etc.
- 3) Ban the use of Styrofoam and block it from being ordered through City purchasing programs.
- 4) Adopt a sustainable fleet policy that prioritizes the purchase of fuel efficient or alternative fueled vehicles (new or used).
- 5) Ensure there are annual funds to support energy and environmental sustainability projects and programs to reduce City operating costs and its impact on the environment.
- 6) Examine and revise City policies to ensure energy efficiency and environmental sustainability is in balance with other interests (triple-bottom-line).

Possible Metrics

- Number of ordinances reviewed.
- Average MPG of City fleet.
- Total energy use.

Recommended Responsibility

City Manager's Office
Central Services
Commission for Energy and Environmental Sustainability

Objective B. Eliminate Upfront Cost Barriers and Other Impediments to Energy Efficiency and Renewable Energy

Action Items:

- 1) Establish a local Property Assessed Clean Energy (PACE) program for commercial properties (and Residential if future laws allow). PACE is a voluntary mechanism allowing property owners wishing to make eligible energy efficiency and renewable energy improvements to opt in to a property tax special assessment created by the municipality (city, cooperative of cities, or county). The debt payments amount to less than the energy savings realized by the energy improvement (i.e. energy savings > debt payment). As a result the property owner will realize a positive cash flow.

- 2) Work with the City of Ann Arbor and other cities to push for legislation to allow (PACE) programs for residential properties.
- 3) Conduct a thorough and complete review of all applicable City codes and ensure there are no barriers to energy efficiency and alternative energy projects.
- 4) Identify opportunities to incentivize energy efficiency and renewable energy through City codes and policies.
- 5) Ensure that all processes are streamlined to the fullest extent possible. Expedite processes for projects featuring energy and environmentally sustainable design. Time is money. Less time working through city processes saves money therefore creating an incentive.

Possible Metrics

- Number of policies or ordinances reviewed and modified.
- Dollars invested in PACE projects.
- Energy saved through PACE projects.

Recommended Responsibility

City Manager’s Office
 Planning and Community Development
 Commission for Energy and Environmental Sustainability
 Planning Commission

Objective C. Retrofit/Standardize Street and Parking Lot Lighting to LED: Explore change-over to LED lighting for street lighting, municipal facilities, and private developments.

Action Items:

- 1) Establish a replacement plan for municipal lighting including utility owned lights.
- 2) Utilize renewable energy such as solar and wind to take street lights “off grid,” which eliminates many reliability issues and costs associated with grid wired systems.
- 3) Develop policies to encourage commercial projects to utilize energy efficient lighting and alternative energy sources, to reduce costs and improve their bottom line.

Possible Metrics

- Percent of LED City street lights
- Percent of LED municipal parking lights
- Percent of “off grid” street/parking lights

Recommended Responsibility

Commission for Energy and Environmental Sustainability
 Engineering (City Street Lights)
 City Manager’s Office (Municipal Parking Lights)
 Planning and Community Development
 Planning Commission



Image 5.1 Solar Powered LED Street Lights.

Objective D. Set Aggressive Goals for Energy Efficiency, Renewable Energy and Reduction of Green House Gases:

Action Items:

- 1) Benchmark City energy and renewable energy use and push the utilities to offer automated benchmarking.
- 2) Work with utility companies to benchmark/estimate energy use in the commercial and residential sectors of the City.
- 3) Conduct an inventory of all renewable energy assets in Farmington Hills (i.e. identify sites with favorable conditions for renewable energy).
- 4) Develop a robust sustainability plan that sets goals for energy efficiency, renewable energy and reduction of green house gases. This plan should include a strategy of how to reach these goals (such as in this document). Engage the business and residential sectors in the development of this plan.

Possible Metrics

- Number of municipal meters benchmarked

Recommended Responsibility

Commission for Energy and Environmental Sustainability
City Council
City Manager's Office

Objective E. Implement Low Impact Design (LID) Practices along Roadways and Commercial Development: Use LID practices to reduce water runoff into storm sewers, rivers, and streams resulting in improved water quality and reduced flooding risks in the Rouge River Watershed.

Action Items:

- 1) Adopt LID practices as a requirement in all applicable ordinances (i.e., bioswales, rain gardens, pervious pavement, etc.).
- 2) Set storm sewer rates based on impervious area of property. (Example: Ann Arbor, http://www.a2gov.org/government/publicservices/water_treatment/Documents/WaterSewerStormRates070311.pdf)
- 3) Utilize pervious pavement in all new City parking lot projects and along new road projects such as in parking lanes or bike lanes.
- 4) Install pervious sidewalks when installing new sidewalks or replacing damaged sections.
- 5) Take aggressive steps to protect and plant trees throughout the community. Coordinate an annual tree buying program bid by the City and open to the community.
- 6) Promote the energy and environmental benefits of green roofs and incentivize through applicable ordinances and policies.

Possible Metrics

- Square feet of pervious pavement.
- Linear feet of bioswales.
- Trees planted.
- Number of green roofs.



Image 4.10: Green roof at City Hall

Recommended Responsibility
Planning and Community Development
Department of Public Services



Image 4.11: Curb-cut into bio-retention area.

Objective F. Promote Energy Efficient and Environmentally Sustainable Building Construction, Renovation and Neighborhood Development Establish and maintain Farmington Hills as the sustainable building capital of Southeast Michigan by adopting ordinances that use existing tools such as Energy Star or LEED (Leadership in Energy and Environmental Design) to strongly encourage green building with a focus on energy efficiency, use of renewable energy sources, etc.

Action Items:

- 1) Work with the Cities of Grand Rapids, Ann Arbor, Dearborn and others to push for the adoption of the 2012 International Energy Conservation Code by the State of Michigan.
- 2) Ensure that all staff from leadership to inspectors to counter staff are all well versed in energy and environmentally sustainable practices and are actively engaging developers and residents when they make inquiries.
- 3) Ensure all inspectors are up to speed on all new technologies and are not seeing anything for the first time during an inspection, which may create delays and add costs to the property owner.
- 4) Develop a more streamlined process for energy efficient and renewable energy projects that cut the review time of permits and inspections by at least half.
- 5) Fully fund training for Planning Staff to receive LEED Accreditation or LEED Green Associate status.
- 6) Ensure sustainable building and low impact design standards are a significant part of all pre-submittal meetings with developers.

- 7) Require all new development projects (commercial, residential, and neighborhood) to submit the appropriate LEED checklist and/or Statement of Energy Design Intent (commercial buildings), available through Energy Star Target Finder, with all site/building plans to be reviewed and discussed during the approval process.



Image 5.2: LEED Gold certified Farmington Hills City Hall.

- 8) Establish more aggressive incentives in City codes and policies to encourage sustainable building practices in new construction and renovations.
- 9) Require an energy disclosure statement with all new commercial or residential sales or leases. This document will disclose the annual energy costs of the subject property.
- 10) Adopt form-based codes that help steer development towards more energy efficient design, access to transportation choices and community services. Form-based codes create a predictable public realm by controlling physical form primarily, with a lesser focus on land use.
- 11) Adopt an ‘assessment offset’ that encourages high energy efficiency upgrades to existing structures as well as new construction (i.e., tax exempt improvements for energy conservation, which may require State legislation).

Possible Metrics

- Number of LEED or Energy Star buildings/developments.

Recommended Responsibility

Commission for Energy and Environmental Sustainability
City Council
Planning and Community Development
Planning Commission

Objective G. Saving Water Saves Energy: One of the largest costs of water is the energy required to move it from point A to point B: reducing water use reduces energy use.

Action Items:

- 1) Revise ordinances that allow for more flexible landscaping options and encourage homeowners, neighborhood associations, and businesses to use hardy native and climate appropriate plant species and reduce “lawnsaped” areas.

- 2) Study, allow, and encourage alternatives to traditional high maintenance turfgrass lawns.



Image 5.3: Sedum Lawn

- 3) Encourage residents and businesses to move away from the use of potable water for irrigation.



Image 5.4 (Left):
Rain Water Cistern

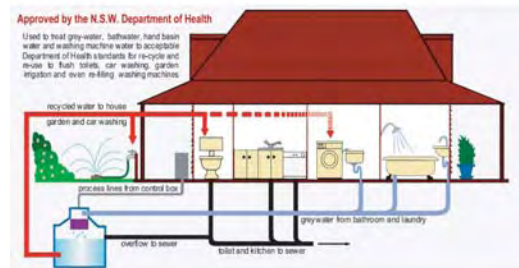


Image 5.5 (Right):
Grey Water System Diagram

- 4) Encourage the use of grey-water (water generated from domestic activities such as laundry, dishwashing, and bathing) where it makes sense and is cost effective.

Possible Metrics

- Benchmark water usage rates across the community.

Recommended Responsibility

Commission for Energy and Environmental Sustainability
 Department of Public Services
 Planning and Community Development
 Planning Commission

Goal # 2: Promoting Alternative Energy and Fuels

Objective A. Think Big with Renewable Energy: Consider taking bold action to advance the deployment of renewable energy.

Action Items:

- 1) Establish a municipal solar utility: Bond for the deployment of large scale solar deployment across the City and sell the power and Renewable Energy Credits (RECs) to the utility companies and private sector. The Goal: Solar on every south facing roof in the City.



Image 5.6: Solar roof tops.

- 2) Establish a municipal geothermal utility: Bond for the development of geothermal districts throughout the City. The utility installs the well field and the homeowner pays to tap into the system. A rate would be charged to recoup the costs. All rates would equal less than the total amount of energy savings realized by the homeowner.
- 3) Use the City's purchasing resources to provide aggregated purchasing opportunities to the City's residents, businesses, and schools for renewable energy.
- 4) Examine and adopt model ordinances that promote and protect access to renewable energy.
- 5) Establish code and policies to encourage development of geothermal districts for both commercial and residential areas.

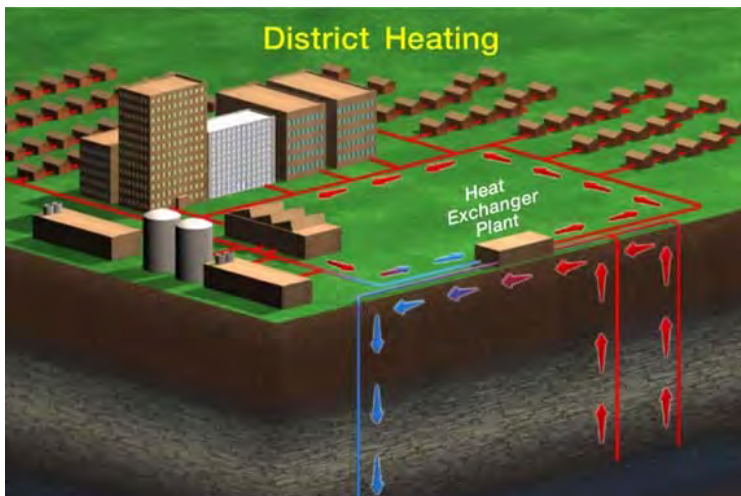


Image 5.7: Geothermal district

Possible Metrics

- Number of solar installations
- Number of geothermal districts
- Number of homes businesses using geothermal

Recommended Responsibility

City Manager’s Office
Commission for Energy and Environmental Sustainability
Engineering
Finance Department
Central Services

Objective B. Solar Parks: Develop code and land use policies that allows for and promotes establishing ‘solar parks’ on selected public lands with construction costs to be born privately (i.e. power purchase agreement or leasing land to private solar developers).

Action Items:

- 1) Create an inventory of public land or facilities that could accommodate solar.
- 2) Create marketing plan.

Possible Metrics

- Total KW capacity of solar assets on public property.
- Percent of municipal energy from local renewable resources.

Recommended Responsibility

Commission for Energy and Environmental Sustainability
Building Department
Planning Commission

Objective C. Solar/Wind Rights: Ensure equal access to solar energy by all residential, commercial, and industrial properties (while maintaining protections for trees).

Action Items:

- 1) Adopt a “Solar Rights” ordinance.
- 2) Develop a comprehensive wind ordinance in preparation for advancements in wind energy technology making, which would make wind more viable to our geographic area.
- 3) Work with homeowners associations to lift any covenants that would restrict solar or wind energy.



Image 5.8: Current small residential wind technology

Possible Metrics

- Square foot of solar assets throughout city.
- Number of solar installations and wind turbines.
- Total KW of solar or wind assets throughout community.

Recommended Responsibility

Commission for Energy and Environmental Sustainability
Planning and Community Development
Planning Commission

Goal # 3: Improving Transportation through Sustainable Practices

Objective A. Cooperation, Partnerships and Regionalism: Strength in numbers.

Action Items:

- 1) Work with local, regional, state and national partners to advance common energy and transportation goals.

Recommended Responsibility

City Manager's Office
City Council

Objective B. Powering Transportation Through Renewable Energy Sources: Encourage residential, commercial, and governmental property owners to develop power generation systems on site for private use, power sell-back to the utilities, or public/private vehicle charging stations.

Action Items:

- 1) Implement a public information campaign on benefits and funding opportunities for home/business based power generation and charging systems for the emerging electric car market.
- 2) Develop ordinances, policies and procedures to encourage home and business owners to implement such systems.
- 3) Increase City power generation and build charging stations at City facilities.
- 4) Encourage and incentivize, where possible, renewable energy and alternative fueled vehicles to reduce the Nation's reliance on fossil fuels.

Possible Metrics

- Total kW of renewable energy generated.
- Total kW capacity of solar car chargers.
- Total number of electric vehicle charging stations powered by renewable energy on municipal and private property.

Recommended Responsibility

Commission for Energy and Environmental Sustainability (Public Information Campaign)
Economic Development and Planning (Business and Commercial Systems)
City Manager's Office/Engineering (City Alternative Energy and Charging Stations)

Objective C. Municipal Vehicle Fleet Diversification (Hybrid or Alternative Fueled Vehicles): A more efficient vehicle fleet from pool cars to police cars to heavy duty trucks will result in lower fuel costs and a smaller environmental footprint.

Action Items:

- 1) Consider vehicle conversion kits to bio fuels, compressed natural gas, or other alternatives.
- 2) Rather than handing down inefficient police vehicles to the fleet, sell used police cars and use revenue to purchase used fuel efficient vehicles
- 3) Place a priority on purchasing alternative fueled vehicles that provide lower operating costs.



Image 5.9: Plug in Electric Ford Transit Connect.

Possible Metrics

- Average fleet fuel consumption.
- Percentage of 4 cylinder or alternatively fueled vehicles.
- Annual fuel costs.

Recommended Responsibility

City Manager's Office
Department of Public Services

Goal # 4: Engage Residential and Commercial Interests to Improve Quality of Life

Objective A. Establish Green Residential Zones: It is time to re-think the way we design our neighborhoods and commercial districts. Neighborhood design plays a large role in quality of life. It is time to build neighborhoods more efficiently and in a manor that appeals to current and future demands, not those of the past.

Action Items:

- 1) Develop a plan/strategy to transform the City's late 20th Century platted sub-division developments to meet the needs of the 21st Century.

- 2) Consider the use of PA 61 of 2007, Neighborhood Improvement Authority Act, as a tool to fund neighborhood transformation.
- 3) Use LEED for Neighborhood Development to guide new subdivision development, or redevelopment, and require all new subdivision site plans/redevelopment plans to submit a LEED ND checklist.

LEED® for Neighborhood Development

Total Possible Points**	110*
Smart Location & Linkage	27
Neighborhood Pattern & Design	44
Green Infrastructure & Buildings	29
* Out of a possible 100 points + 10 bonus points	
** Certified 40+ points, Silver 50+ points, Gold 60+ points, Platinum 80+ points	
Innovation & Design Process	6
Regional Priority Credit	4

Image 5.10: LEED for Neighborhood Development recognizes development projects that successfully protect and enhance the natural environment, reduce energy use and provide a high quality of life..

- 4) Encourage development of large scale solar and district geothermal systems.
- 5) Promote a southern orientation of new residential roofs providing ideal access to solar energy.
- 6) Require all new residential developments to incorporate public transportation and alternative transportation into their plans.

Possible Metrics

- Track developments by LEED ND score (refer to **Image 5.10** for score specifics).

Recommended Responsibility

City Manager’s Office
Community Development and Planning



Image 5.11: Residential area with Green Roofs and Solar Panels

Objective B. Engage the Community

Action Items:

- 1) Run an annual contest with the Farmington Public Schools for the best poster and video short promoting Farmington Hills as a leader in sustainability.
- 2) Create a program that recognizes the City’s leaders in sustainability.
- 3) Develop or partner with an existing program (i.e. Energy Star, LEED, etc) to recognize and label existing buildings in Farmington Hills as being energy efficient. Provide resources to buildings interested in participating.

- 4) Identify ways to promote and facilitate building and home energy audits. Audits are a proven tool to show what energy efficiency opportunities exist and how to pay for them.
- 5) Promote the use of existing resources available through the utility companies to assess the efficiency of residential properties. Utilize positive peer pressure as a means to encourage energy efficient choices.
- 6) Work with the utilities to expedite the launch of Smart Meters and online tools.
- 7) Continue the City's energy and environmental educational efforts.
- 8) Promote pilot projects that can be used to educate the community and engage learning institutions when appropriate.
- 9) Convene a semi-annual or annual business roundtable, focused on sustainability, to engage Farmington Hills businesses in working towards a more sustainable community.

Possible Metrics

- Number of workshops.
- Number of programs.
- Level of citizen engagement

Recommended Responsibility

City Manager's Office

Commission for Energy and Environmental Sustainability

Objective C. Encourage Sustainable Business Practices: Encourage the use of 'green' or 'sustainable' leases that incorporate sustainable construction, renovation and operation of a property, which allocates costs, benefits and responsibilities in a manner that helps achieve a more sustainable building and business.

Action Items:

- 1) Work with local real estate professionals and other leaders to create a model "Sustainable Lease" that provides tenants protections against high energy costs and incentivizes the landlord to make energy efficiency upgrades of out dated and inefficient equipment. A requirement for an energy disclosure with all building sales and leases will help achieve similar results.
- 2) Create a "Sustainable Lease" recognition program that recognizes landlords that invest in energy and environmental sustainability and the community. Renters of these properties would know their operational costs would be lower and would create competition amongst landlords.
- 3) Work with RRRASOC to create a viable commercial/multi-family recycling program.
- 4) Provide support to businesses looking to start an internal green team.

Possible Metrics

- Number of commercial sustainability projects.
- Total energy use of the commercial sector.

Recommended Responsibility

Commission for Energy and Environmental Sustainability

City Manager's Office/Economic Development

Section 6: Conclusion

By acting on the recommendations outlined in this report, the Vision 2020 Transportation and Energy Committee believes that Farmington Hills will be able to make significant advancements towards more efficient transportation and an energy and environmentally sustainable future. Further, these recommendations will help Farmington Hills stay competitive amidst changing demographic preferences. Steps should be taken to prioritize the goals laid out in this document and quickly assigned to the appropriate Commission, Department, or staff member.

As mentioned, City Council should consider the formation of a new advisory committee to work with City Council and staff and assist in the transportation planning and implementation efforts. This new Transportation Advisory Committee (TAC) would work on issues such as long term transportation planning, advocacy, alternative vehicle infrastructure, etc.

The actions outlined above will further demonstrate to the Metro Detroit Region and beyond that Farmington Hills is a true leader in sustainability and is proactive in adapting to the changing needs and challenges presented by the 21st century. The Vision 2020 Transportation and Energy Committee recognizes that the coming decades will require more transportation choices, more compact development patterns and access to renewable energy and energy efficient homes and businesses.

Lastly, it is recommended the City Council conduct an annual review of the progress in implementing the 2020 initiative. This will help ensure continued progress. Continued community outreach, education, and citizen engagement will be critical to the success of this program. The future is bright in Farmington Hills, this report along with those developed by the other committees will see to that. The Vision 2020 Transportation and Energy Committee looks forward to the next chapter in the evolution of Farmington Hills.

Acknowledgements

The Committee wishes to acknowledge Nate Geinzer, Management Assistant and David Movilla, Intern of the City Manager's Office for their guidance and support.

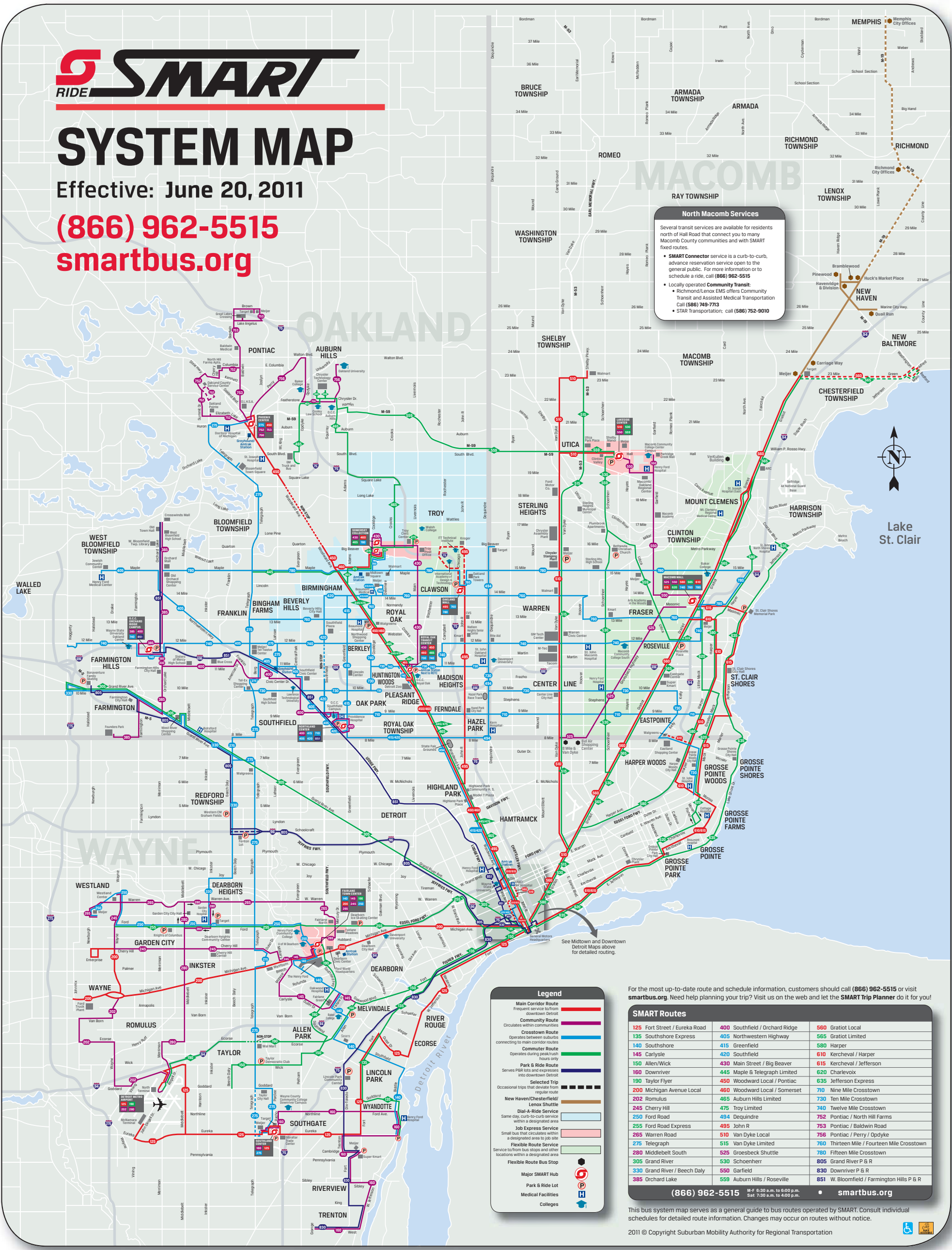
Appendix A – SMART Transit Route Map



SYSTEM MAP

Effective: June 20, 2011

(866) 962-5515
smartbus.org



North Macomb Services

Several transit services are available for residents north of Hall Road that connect you to many Macomb County communities and with SMART fixed routes.

- **SMART Connector** service is a curb-to-curb, advance reservation service open to the general public. For more information or to schedule a ride, call **(866) 962-5515**
- **Locally operated Community Transit:**
 - Richmond/Lenox EMS offers Community Transit and Assisted Medical Transportation Call **(586) 749-7713**
 - STAR Transportation; call **(586) 752-9010**

Legend

- Main Corridor Route
- Community Route
- Crosstown Route
- Commuter Route
- Park & Ride Route
- Selected Trip
- Flexible Route Service
- Flexible Route Bus Stop
- Major SMART Hub
- Park & Ride Lot
- Medical Facilities
- Colleges

For the most up-to-date route and schedule information, customers should call **(866) 962-5515** or visit **smartbus.org**. Need help planning your trip? Visit us on the web and let the **SMART Trip Planner** do it for you!

SMART Routes		
125 Fort Street / Eureka Road	400 Southfield / Orchard Ridge	580 Gratiot Local
135 Southshore Express	405 Northwestern Highway	585 Gratiot Limited
140 Southshore	415 Greenfield	580 Harper
145 Carlisle	420 Southfield	610 Kercheval / Harper
150 Allen/Wick	430 Main Street / Big Beaver	615 Kercheval / Jefferson
160 Downriver	445 Maple & Telegraph Limited	620 Charlevoix
190 Taylor Flyer	450 Woodward Local / Pontiac	635 Jefferson Express
200 Michigan Avenue Local	460 Woodward Local / Somerset	710 Nine Mile Crosstown
202 Romulus	465 Auburn Hills Limited	730 Ten Mile Crosstown
245 Cherry Hill	475 Troy Limited	740 Twelve Mile Crosstown
250 Ford Road	494 Dequindre	752 Pontiac / North Hill Farms
255 Ford Road Express	495 John R	753 Pontiac / Baldwin Road
265 Warren Road	510 Van Dyke Local	756 Pontiac / Perry / Opdyke
275 Telegraph	515 Van Dyke Limited	780 Thirteen Mile / Fourteen Mile Crosstown
280 Middlebelt South	525 Groesbeck Shuttle	780 Fifteen Mile Crosstown
305 Grand River	530 Schoenherr	805 Grand River P & R
330 Grand River / Beech Daly	550 Garfield	830 Downriver P & R
385 Orchard Lake	559 Auburn Hills / Roseville	851 W. Bloomfield / Farmington Hills P & R

(866) 962-5515 M-F 9:30 a.m. to 6:00 p.m. Sat. 7:30 a.m. to 4:00 p.m. **smartbus.org**

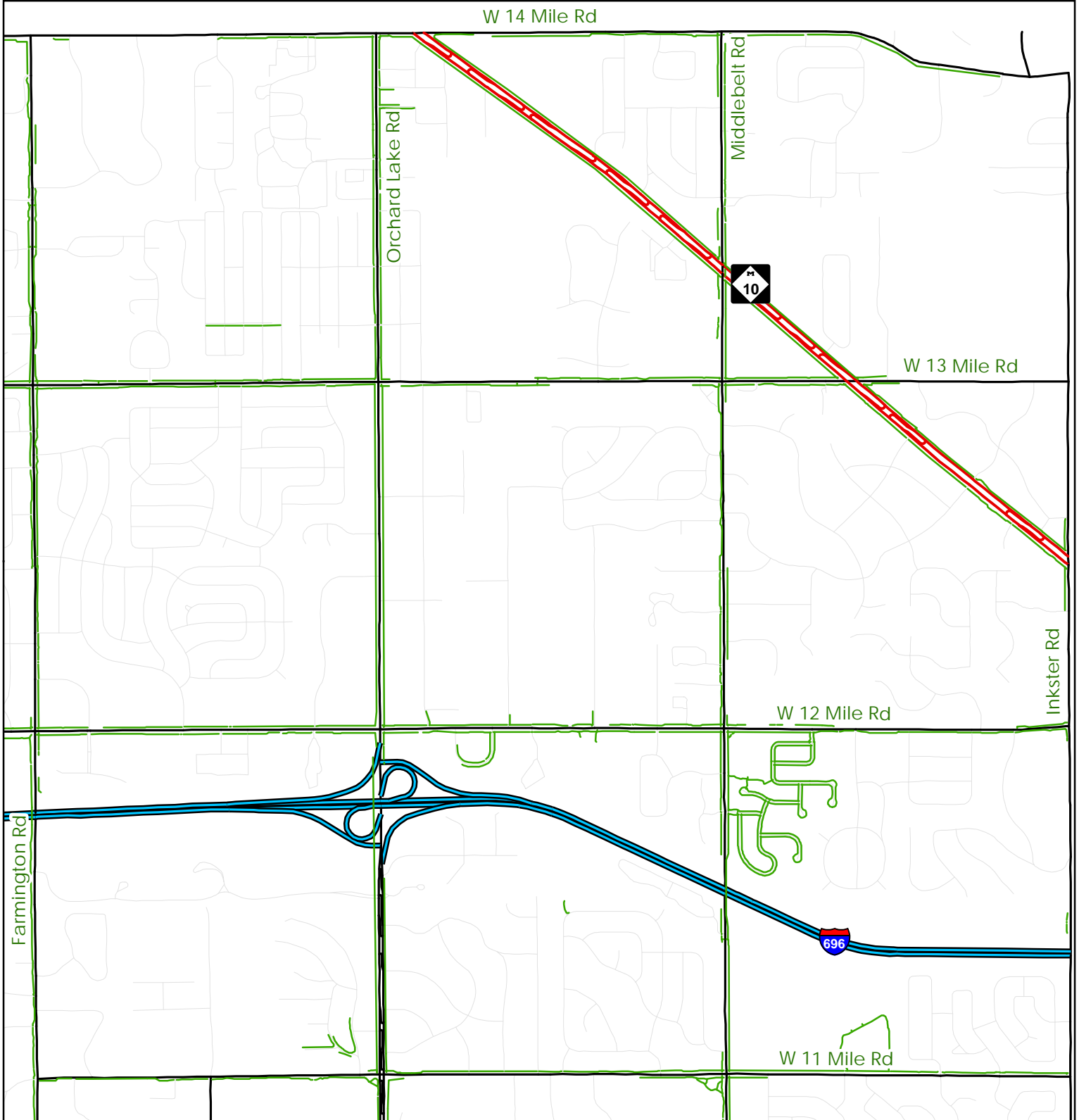
This bus system map serves as a general guide to bus routes operated by SMART. Consult individual schedules for detailed route information. Changes may occur on routes without notice.

2011 © Copyright Suburban Mobility Authority for Regional Transportation

Appendix B – City of Farmington Hills Pedestrian/Bike Pathway Map

Sidewalk Locations

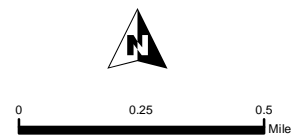
City of Farmington Hills, Michigan



SOURCE: City of Farmington Hills, 2011
Oakland County GIS, 2011

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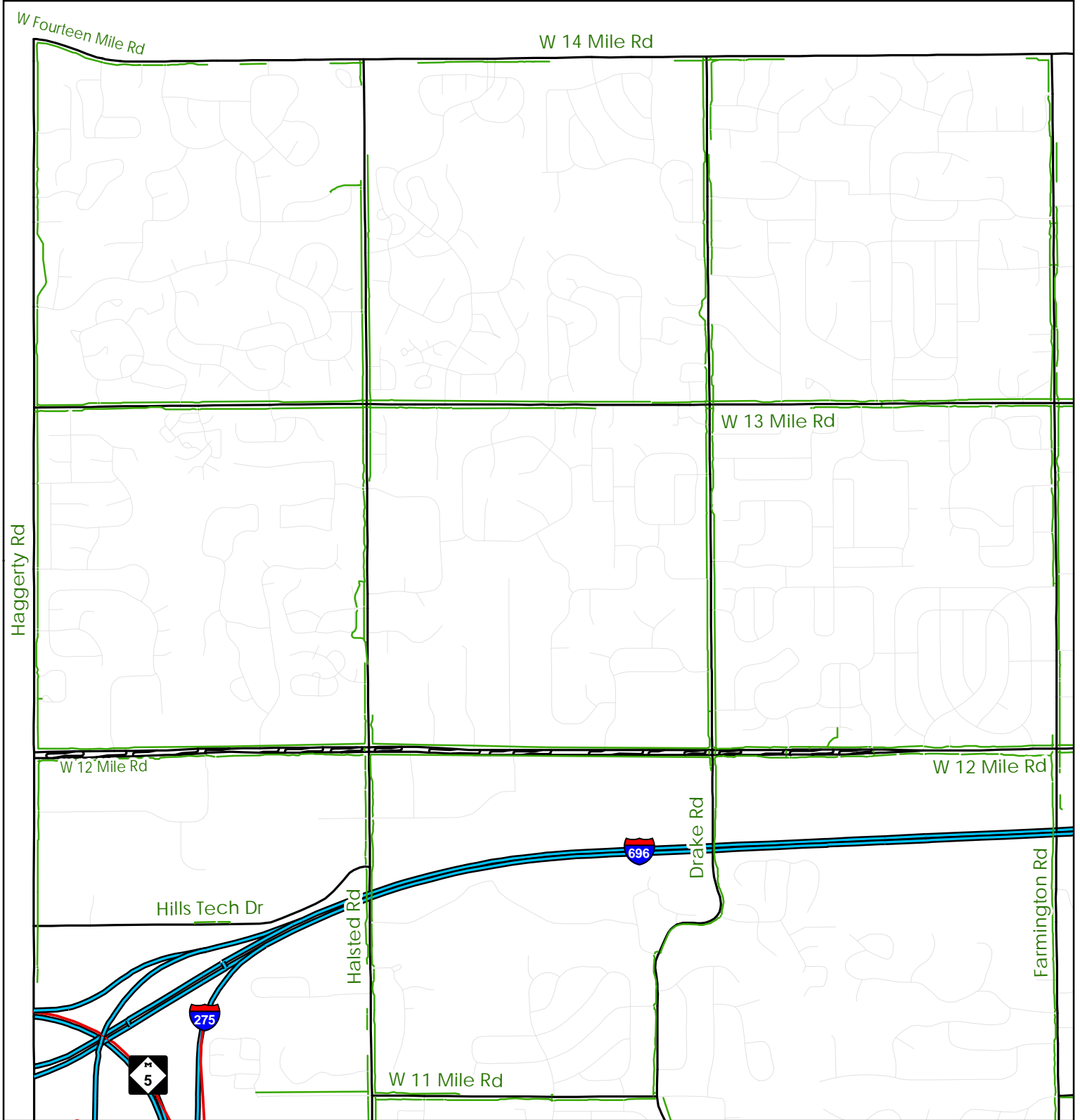
 Sidewalks



DISCLAIMER: Although the information provided by this map is believed to be reliable, its accuracy is not warranted in any way. The City of Farmington Hills assumes no liability for any claims arising from the use of this map.

Sidewalk Locations

City of Farmington Hills, Michigan



SOURCE: City of Farmington Hills, 2011
Oakland County GIS, 2011

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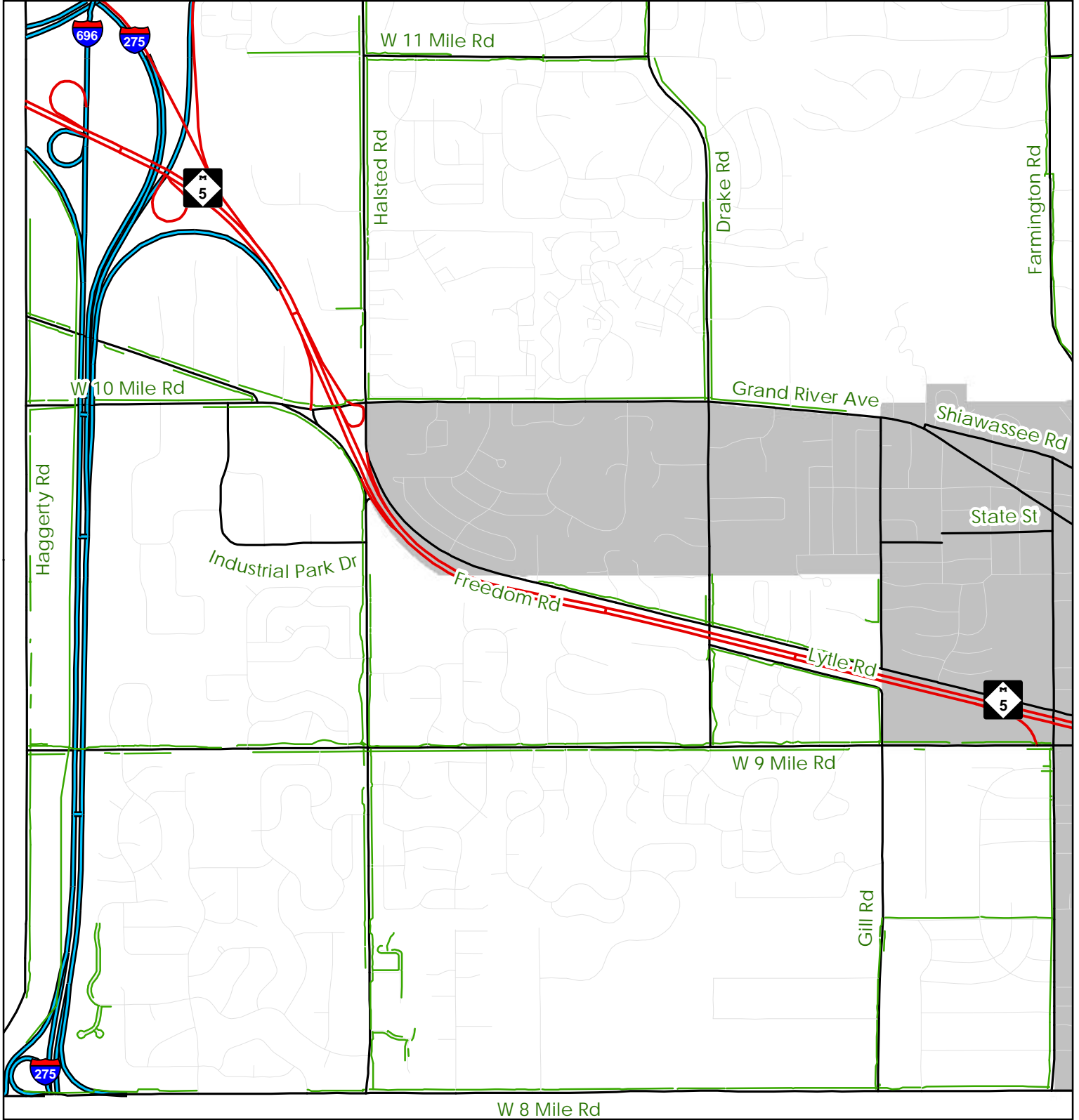
Sidewalks



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Sidewalk Locations

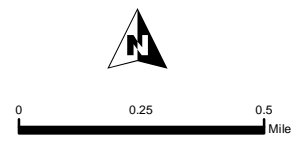
City of Farmington Hills, Michigan



SOURCE: City of Farmington Hills, 2011
Oakland County GIS, 2011

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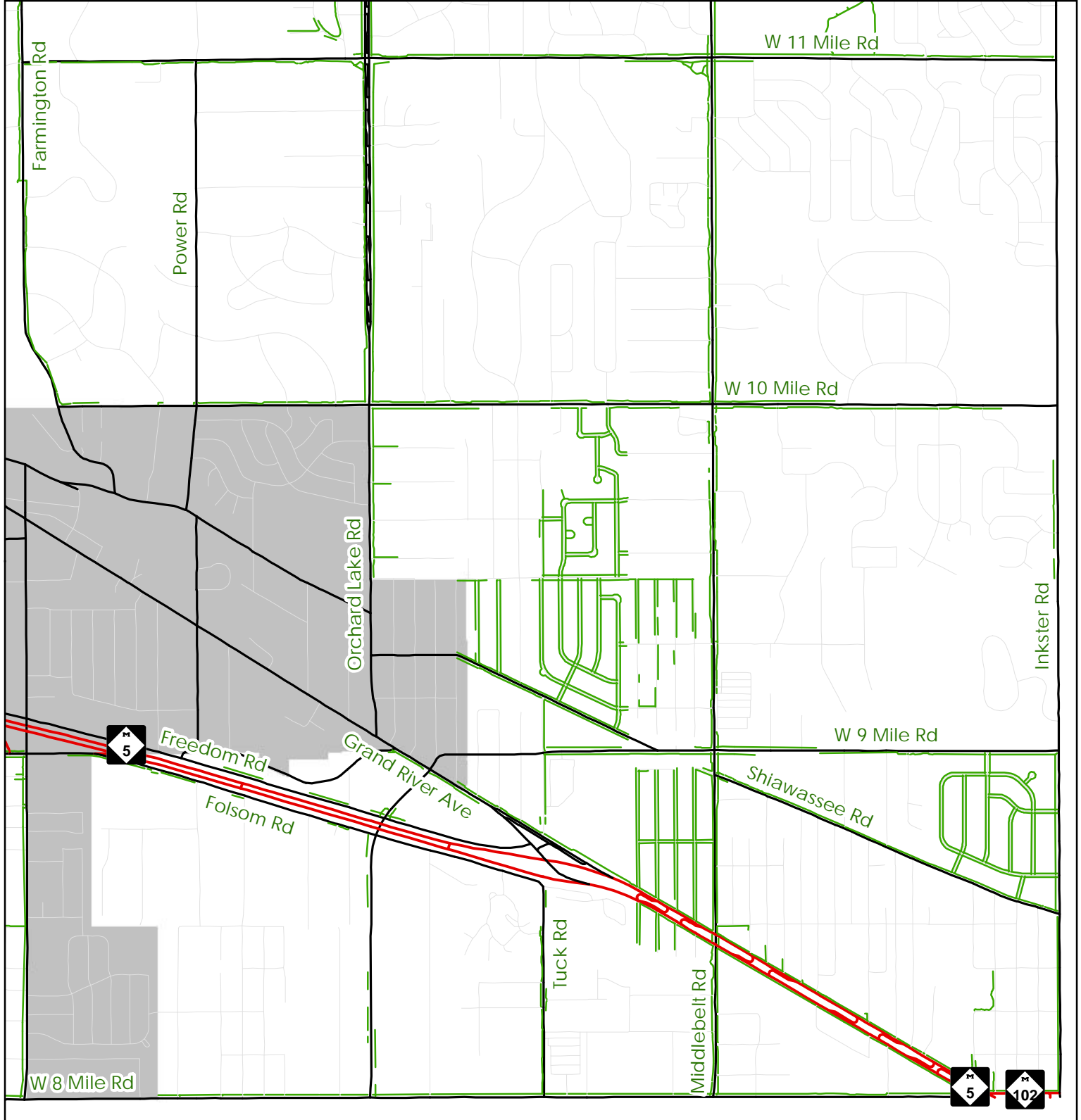
 Sidewalks



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Sidewalk Locations

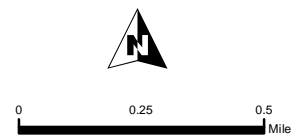
City of Farmington Hills, Michigan



SOURCE: City of Farmington Hills, 2011
Oakland County GIS, 2011

Legend

 Sidewalks



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Appendix C – Committee Biographies

Committee Members

Nancy Adadow Gray

Nancy Adadow Gray has been a resident of Farmington Hills since 1986. She has since retired from a vast and accomplished career in the field of social work. Nancy was employed in mental health by various public and non-profit organizations. In addition, she taught social work at Eastern Michigan University and Wayne State University. Nancy has an Masters of Social Work and has degrees from both Michigan State University and Columbia University of New York. Nancy is a member of Women's International League for Peace and Freedom and Women's Action for New Directions (WAND). She is committed to the promotion of renewable energy.

Cortland Book

Cortland Book has been a resident of Farmington Hills for the last 20 years with his wife Denise. He has an accomplished educational background that includes a Bachelor of Arts degree in business administration from the Detroit Institute of Technology, a Bachelor of Science degree in pharmacy from Wayne State University, and post graduate studies in clinical pharmacy from the University of Michigan. In addition to his impressive educational background, Cortland has held multiple positions in many organizations. He was president of the Old Main Street Project of Redford and served on the SEMCOG Environmental Strategy Commission, Sub-committee of Water quality. Cortland has been heavily involved in the Kiwanis International Organization including being the president of Redford South Kiwanis, president of Parkside-Detroit Kiwanis, and served as Lt. Governor Michigan Kiwanis Division 4.

Steve Kaercher

Steve Kaercher is currently the Senior Performance Engineer in the Power Generating Department of DTE Energy. Steve has a wealth of experience in the engineering field, specifically dealing with utility operations. He has been involved in multiple projects at all power plants involving equipment performance, operation and maintenance. Steve earned a BS in Mechanical Engineering and a MS in Mechanical Engineering from the University of Michigan. He is a member of the American Society of Mechanical Engineers as well as the National Society of Professional Engineers. Steve has held multiple executive positions in both organizations.

Joe Mantey

Joe Mantey has served on the City's Planning Commission since 2004. He was appointed to the Zoning Board of Appeals in 2000. He has been a City resident for the last 17 years. Joe is an economist specializing in the cost-benefit analysis of water resource projects. He also teaches economics at Oakland Community College.

Jim Nash

Jim Nash was elected in 2004 to serve as Oakland County Commissioner for the 15th district. He is currently in his fourth term in representing the citizens of eastern Farmington Hills. Jim has been a member of the Sierra Club of Southeast Michigan since 2001 and was a chair from 2003-2005. He is also a member of the US Green Building Council and the Engineering Society of Detroit. In office, Jim has been an advocate of sustainable public policies, including hosting an annual Green Building Workshop for the last six years to help educate local government officials about issues dealing with renewable energy and efficiency.

Steve Olson

Steve Olson has been a resident of Farmington Hills for the last 28 years. He lives with his wife and dog in a restored 1840's farmhouse. Following a 30 year career in marketing and advertising, Steve is now actively pursuing his environmental interest. This includes helping to initiate the 'Green Ministry' at his church. Steve has been a long-time volunteer in the city of Farmington Hills and is currently the chair of the Farmington Hills Historic District Commission. He supports the concept that 'the greenest building is the one already built'.

Rob Thies

Rob Thies is a senior systems engineer at Ford Motor Company. Rob is also a founding member of Ford's Green IT community of practice. Along with a small team, Rob recently worked on a Green PC Purchasing Initiative designed to reduce energy usage. This global initiative, which is highlighted in the 2010/11 edition of Ford's award-winning sustainability report, affected over 100,000 PCs and requires environmental and social responsibility throughout the supply chain. He and his wife strive to live as sustainable as possible at home and are active in the environmental community and local government. Rob is a graduate of Kettering University and has been a resident of the City of Farmington Hills since 2002.

Mark Zachos

Mark Zachos has served as president and general manager of Dearborn Technology Group since he founded the company in 1987. Mark has over 30 years of experience in vehicle electronics and diagnostics systems. He holds several patents on communication technology in vehicles. Mark is a member of IEEE as well as the Society of Automotive Engineers (SAE), in which he participates in several committees. Mark earned a BS in Electrical Engineering from the University of Michigan and a MS in Electrical Engineering from the University of Michigan. In addition, Mark is also an adjunct instructor at the University of Michigan – Dearborn.

Staff Liaisons**Nate Geinzer**

Nate Geinzer, Management Assistant, joined the City of Farmington Hills Management Team in late 2007. Nate is a graduate of Eastern Michigan University with a Master's Degree in Public Administration. He has served in municipal government since 2005. Nate's recent projects include overseeing the LEED Gold certified City Hall Revitalization Project, energy efficiency retrofits, implementing the City's Energy Efficiency and Conservation Block Grant Program, staffing the Commission for Energy and Environmental Sustainability, and many other initiatives. Under Nate's tenure, the City has received multiple recognitions for its work in sustainability.

Dave Movilla

Dave Movilla graduated from Troy Athens High School in 2003 and Michigan State University in 2008 with a Bachelor of Arts in Political Science Pre-Law. Currently David is finishing his Master's in Public Administration at Wayne State University and planning to graduate in early 2012. David serves as the City Manager's Office intern and is interested in a career in local government.

Appendix D – Expert Panel Session Information

**“The State of Southeast Michigan Transportation and Transportation Programs.”
(Panel #1 February 11th 2011)**

Carmine Palombo, Director of Transportation Programs, **Southeast Michigan Council of Governments (SEMCOG)**

Luke Forrest, Program Coordinator, **Michigan Municipal League (MML)**

John Swatosh, Deputy General Manager of Administration, **SMART**

“What can Farmington Hills do now that moves public transportation forward given the system today?” (Panel#2 June 10th 2011)

Steve Brock, City Manager, **Farmington Hills**

Steven Brown, Oakland County Ombudsperson, **SMART**

Megan Owens, Executive Director, **Transportation Riders United (TRU)**

Carmine Palombo, Director of Transportation Programs, **Southeast Michigan Council of Governments (SEMCOG)**

“Building a community for a more energy efficient future.” (Panel #3 August 19th 2011)

Luke Forrest, Program Coordinator, **Michigan Municipal League (MML)**

Wendy Barrett, Community Energy Coordinator, **Clean Energy Coalition**

Paul Goldsmith, Board of Directors, **United States Green Building Council**

"Where Is Energy Policy and Technology Heading in Michigan?" Prepare (Panel #4 August 26, 2011)

Hauker Asgeirsson, Manager - Power Systems Technologies, **DTE Energy**

Amy Butler, Director, **Oakland University Incubator**

Mark Clevey, Manager Renewable Energy Programs, **Michigan Energy Office**

Greg Meyer, Area Manager, **Consumers Energy**

“How Can Farmington Hills Work With its Private and Institutional Partners to Advance Transportation and Energy Initiatives?” (Panel #5 September 23rd 2011)

Andrew Wolf, Director of Facilities, **Robert Bosch, LLC**

Jim Pearse, Energy Manager, **Farmington Public Schools**

Jim Smith, Director of Planning and Business Development, **Botsford Hospital**

Appendix E – References

<http://www.ci.farmington-hills.mi.us/ReferenceDesk/2020Visioning.asp>

<http://www.fhgov.com/SustainableWeb/default.asp>

2011 Green Expo presentation link

Other web links

Transportation Survey link

Newspaper and Journal Articles

Donigan, M. (2011, February 14). Other Voices: Time to chart our mass-transit progress. *Crain's Detroit Business*, p. 7.

Warburton. "Health Benefits of Physical Activity: the Evidence." *Canadian Medical Association Journal* (2006): Print.

Internet Sources

Cities in Michigan on Walk Score. (2011). *Walk Score*. Retrieved February 25, 2011, from www.walkscore.com/MI

City of Brookfield Community Visioning Report. (n.d.). *Brookfield, WI*. Retrieved April 22, 2011, from www.ci.brookfield.wi.us/DocumentView.aspx?DID=1139

Community Visioning. (n.d.). *Sustainable Communities Online*. Retrieved April 22, 2011, from <http://www.sustainable.org/creating-community/community-visioning>

Congress for the New Urbanism. (n.d.). *Congress for the New Urbanism*. Retrieved April 8, 2011, from <http://www.cnu.org/>

Detroit Regional Transit Summary. (2008). *Semcog*. Retrieved February 25, 2011, from www.semcog.org/uploadedfiles/Programs

Detroit Regional Transit Summary. (2006). *Semcog*. Retrieved February 25, 2011, from www.semcog.org/uploadedfiles/Programs

DEQ - Climate Change. (n.d.). *SOM - State of Michigan*. Retrieved April 22, 2011, from <http://www.michigan.gov/deq/0,1607,7-135-50990---,00.html>

DEQ - Michigan Climate Action Plan. (n.d.). *SOM - State of Michigan*. Retrieved April 22, 2011, from <http://www.michigan.gov/deq/0,1607,7-135-50990-213752--,00.html>

Farr Associates : Home. (n.d.). *Farr Associates* . Retrieved April 8, 2011, from <http://www.farrside.com/>

Home. (2011). *Woodward Light Rail Plan*. Retrieved February 25, 2011, from <http://www.woodwardlightrail.com/HomeNew>

Home Page www.ridetherapid.org. (2006). *Home Page www.ridetherapid.org*. Retrieved March 25, 2011, from <http://www.ridetherapid.org/>

Home || Smart Growth Online. (n.d.). *Smart Growth Online*. Retrieved April 8, 2011, from <http://www.smartgrowth.org/>

Michigan Climate Change Advisory Group. (n.d.). *Michigan Climate Change Advisory Group*. Retrieved April 22, 2011, from <http://www.miclimatechange.us/index>

News - Resources. (n.d.). *Moving You Forward - shared vision for public transit in Washtenaw County*. Retrieved April 22, 2011, from <http://www.movingyouforward.org/news-resources>

Ocala 2035 Visioning Report. (2010). *Ocala 2035 Visioning*. Retrieved April 22, 2011, from www.ocala2035vision.org/pdf/Final%20Ocala%202035%20Vision.pdf

Playbook for Green Buildings + Neighborhoods | Strategic Local Climate Solutions. (n.d.). *Playbook for Green Buildings + Neighborhoods | Strategic Local Climate Solutions*. Retrieved April 8, 2011, from <http://www.greenplaybook.org/>

SEMCOG. (2008). 2035 Forecast for Southeast Michigan, Population, Households, and Jobs for Counties, Cities, Villages, and Townships, 2005-2035. Retrieved August 24, 2011, from <http://library.semco.org/InmagicGenie/DocumentFolder/2035SEMCOGForecast.pdf>

Smart Growth America. (2010). *Smart Growth America*. Retrieved April 8, 2011, from <http://www.smartgrowthamerica.org>

Smart Growth | US EPA. (n.d.). *US Environmental Protection Agency*. Retrieved April 8, 2011, from <http://www.epa.gov/smartgrowth/index>

Sustainable Grand Rapids. (n.d.). *Office of Energy and Sustainability*. Retrieved March 25, 2011, from mygrcity.us/departments/enterpriseservice

Sustainability Plan. (2010, June 16). *City of Grand Rapids*. Retrieved March 25, 2011, from www.grand-rapids.mi.us/download_upload/binary_object_cache/oes_CW%20FY11-FY15%20Sustainability%20Plan%20-%20Attachment.pdf

USGBC: LEED for Neighborhood Development. (n.d.). *USGBC: U.S. Green Building Council*. Retrieved April 8, 2011, from <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=148>

Visioning Interim Report. (n.d.). *Welcome to Lynnwood, WA*. Retrieved April 22, 2011, from www.ci.lynnwood.wa.us/docs/Visioning-Interim-Report.pdf

Vision Dixie : Making a Better Washington County. (2007). *Town of Leeds Utah*. Retrieved April 22, 2011, from www.leadstown.org/Documents/Other_Documents/VisionDixie-Book-SM.pdf