PROJECT NUMBER: CGC42761 – Town of Amherst Comprehensive Plan Amendments and Zoning Code Revisions
DRAFT Project Benefits Metrics Report (PBMR)

Section 1: Benefits Overview

The Town of Amherst is formulating revisions to its Comprehensive Plan and Zoning Ordinance to incorporate new policies and context sensitive zoning provisions such as form-based code to encourage development that is consistent with the tenets of Smart Growth by ensuring more efficient use of land, infrastructure and natural resources, and result in an overall decrease in Greenhouse Gas (GHG[1]) emissions. The Town's most recent Comprehensive Plan Reviews (2012 and 2014) recommend revisions to the Plan and corresponding amendments to zoning that encourage more compact and efficient forms of development that are also context sensitive. The plan and ordinance revisions that result from this project will advance the goals laid out in the Town's Comprehensive Plan (2014) by encouraging increased density in designated activity centers, encouraging a variety of housing types and densities, and promoting infill development rather than green field development.

Recommendations from the Western New York Sustainability Plan[2] and the One Region Forward[3] Plan for Erie and Niagara Counties will be incorporated into the Plan and ordinance revisions. The application of context sensitive zoning such as form-based code and other approaches within a large first-ring suburban community such as Amherst provides an excellent model to guide similar efforts in other upstate New York suburbs.

Section 2: Expected Annual Benefits by Close of CGC Project Period - N/A

Section 3: Potential for Future and/or Long Term Transformational Benefits

Section 3: Future and Long Term Transformation Benefits				
Type	**Metric**	**by 5 years**	**by 15 Years**	**by 30 Years**
RPM	1. GHG Emissions Savings /year	3.90 MTCDE/year	7.80 MTCDE/year	15.60 MTCDE/year
RPM	2. Total Conventional Energy Savings	55,230 mmBtu	110,460 mmBtu	220,920 mmBtu
RPM	3. Gasoline Savings (or increase)	438,333 Gallons/year	876,665 Gallons/year	1,753,330 Gallons/year
RPM	4. Conventional Energy Cost Savings	$1,328,148/year	$3,208,595/year	$8,538,719/year
RPM	5. Permanent Jobs Created	TBD	TBD	TBD
RPM	6. NYSERDA CGC Investment (funding approved)	$161,250	N/A	N/A
RPM	7. Investment by Others (matching and leveraged)	$116,750 (Town of Amherst) $0 amount (leveraged)	$TBA	$TBA
SCM	8. Number of new LEED Certified Buildings or Centers with LEED-ND characteristics	TBD	TBD	TBD
SCM	9. VMT reduced	9,380,318 Miles/year	18,760,635 Miles/year	37,521,270 Miles/year

[1] See page 7 for a summary of acronyms used in this report.
[2] http://regionalcouncils.ny.gov/sites/default/files/regions/westernny/Western-NY-CGC-Plan-Report.pdf, accessed March 2016.
[3] http://www.oneregionforward.org/the-plan/, accessed March 2016.

Methods and Assumptions

Metric 1: GHG Emissions Savings/year. Using an EPA greenhouse gas equivalency calculator[4], energy savings in gallons of gasoline (Metric 3) were converted to MTCDE/year through the following formula: ((CO2e/1,000)*Gasoline Savings). At this stage, the Town assumes that the project will only have a significant impact on gasoline consumption; hence the calculation uses gasoline savings only. In the final PBMR at the conclusion of the project the Town may also seek to consider the impact and influences of new zoning provisions on development with LEED-ND characteristics.

Metric 2: Total Conventional Energy Savings. This metric is derived from the savings in gasoline only (gallons) estimated for Metric 3. Total gasoline savings for each interval is converted into mmBtu using the NYSERDA recommended factor for energy content of gasoline (0.126 mmBtu/gallon).

Metric 3: Gasoline Savings (or increase). According to United States Department of Transportation (USDOT) figures, in 2011, the weighted average combined fuel economy of cars and light trucks was 21.4 miles per gallon (MPG) in 2013[5]. Using projected VMT figures for Amherst from the Greater Buffalo Niagara Regional Transportation Council (GBNRTC), the local Metropolitan Planning Organization (MPO), gasoline savings were calculated using the following formula: ((Projected Annual VMT for the Town of Amherst)/Average MPG)*X% Percentage reduction). The percentage reduction is assumed to be 1% at 5 years, 2% at 15 years, and 4% at 30 years.

Metric 4. Conventional Energy Cost Savings. The average price/gallon of gasoline in the Buffalo-Niagara Region ranged from $2.21 to 3.29 (average $2.75) over the year November 2014 – November 2015[6]. Amherst residents were assumed to drive cars with similar fuel efficiency (i.e. there is not a significant take-up of hybrid or electric vehicles) and the price of gas is not assumed to rise considerably (assume a 10% increase every five years in the price of gas only). Based on these assumptions and a corresponding decline in VMT (Metric 9), vehicle users in the Amherst area would experience increasing annual conventional energy (gasoline) cost savings as indicated in the table at 5, 15, and 30 years following implementation of the new zoning code and any resulting development.

Metric 5: Permanent Jobs Created. The new Plan and Code provisions will not directly create permanent jobs. These new provisions could, however, enhance development opportunities that can lead to the creation of new businesses and new jobs. This question will be addressed again in the final PBMR at the conclusion of the project when a better estimate can be made about the likely development that might occur as a result of the new planning and zoning provisions.

Metric 6: NYSERDA CGC Investment (funding approved). NYSERDA's investment in Amherst will total $161,250.

Metric 7: Investment by others (matching and leveraged). Town of Amherst: $ 116,750 ($53,750 cash and $63,000 in-kind). Leveraged economic investment cannot be quantified at this stage, but the revised zoning ordinance is expected to encourage new development and redevelopment in the medium and long-term, helping to stimulate the local economy. This question will be addressed again in the final

[4] https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator , accessed April 2016.
[5] http://www.rita.dot.gov/bts/sites/rita.dot.gov.bts/files/publications/national_transportation_statistics/html/table_04_23.html, accessed March 2016.
[6] http://fuelgaugereport.aaa.com/states/new-york/new-york-metro/, accessed March 2016.

PBMR at the conclusion of the project when a better estimate can be made of the likely development and market response the new provisions.

Metric 8: Number of new LEED Certified Buildings or Neighborhood Characteristics. Assuming that the market responds positively to the new planning and zoning code provisions, the Town expects that a small number of LEED-certified buildings could be developed, and greater application of LEED-ND characteristics in mixed-use and commercial center design may also occur in Amherst. Currently, approximately 6 new commercial building permit applications are reviewed by the Town each year. During the period 2013-14 the Town processed an average of 16 commercial permits for redevelopment of commercial buildings. If that trend continues, 30 new commercial buildings and 80 redevelopment projects could be constructed in Amherst over the next five years. However, given that there are limited vacant commercial parcels in the Town, 30 new commercial buildings in 5 years is likely to be a high estimate. Additionally it is more costly to achieve LEED certification for redevelopment of older buildings. For these reasons it is difficult to predict the number of new commercial buildings in Amherst over 15 and 30 years, and therefore to estimate the impact on GHG at this stage.

The new zoning provisions will be focused on development and redevelopment of commercial and mixed-use activity centers. The new provisions should encourage development that is consistent with characteristics of LEED-ND standards. Integration of LEED-ND characteristics within the new zoning provisions will be considered during the project.

This metric will be reconsidered in the final PBMR at the conclusion of this project.

Metric 9: VMT reduced. According to the Western New York Regional Sustainability Plan, the baseline VMT per capita is 9,043 per annum (2009). Using 2015 data from the GBNRTC, the daily VMT for Amherst was 2,569,950. According to the American Community Survey the 2011-2014 Estimate of Total Population was 123,542. Based on these factors the estimated **daily** VMT/person in Amherst is 20.8 miles. The corresponding **annual** VMT/person for Amherst is 7,592 miles.

Although increasing the number of trips taken by foot or bicycle is a goal of the zoning update, more compact development will also mean fewer and shorter trips by car. A major assumption is that the new zoning provisions could incentivize a type of residential and retail/service development that will reduce the need for longer trips to destinations such as restaurants, grocery stores, liquor stores, etc. According to the U.S. EPA, mixed use development can account for a reduction in VMT.[7] An example cited in an EPA Report is Denver, CO where the redevelopment of higher density mixed-use centers was estimated to potentially reduce daily VMT by 3-3.6%[8]. Because the Amherst Plan and Zoning update is focused on new mixed-use commercial centers within the Town, it is assumed that the impact of more compact development on VMT will be similar, but may take longer to achieve in Amherst. Therefore, a 4% reduction in daily VMT is assumed after 30 years in the following increments: 1% decrease by the first 5 years; 2% reduction by 15 years; and 4% reduction by 30 years.

Section 4: Projected Impact on Regional and Local Sustainability Indicators and Goals

Comprehensive Planning and Municipal Zoning can influence land use and development at several geographic scales, ranging from a region to individual districts and parcels of land. The Planning and

[7] http://www.epa.gov/smartgrowth/pdf/transp_impacts_infill.pdf, accessed November 2015.
[8] http://www.epa.gov/smartgrowth/pdf/transp_impacts_infill.pdf, p.p. 5-6, accessed November 2015.

Zoning amendments that result from this project will be adopted at a municipal level and applied within specific commercial and mixed-use centers and upon land parcels as those areas are redeveloped. Indicators 1-6 in Table 4A below are directly applicable to the municipal or **Local** level where the Plan and Code amendments will be implemented.

Section 4A: Potential to Impact Common Planning Indicators at the Local Level			
Indicator	**Type (RSPI, CPI, Other)**	**Baseline (if known)**	**Brief one-line description of impact**
1. Community Average WalkScore (baseline measured at Maple Road/North Forest Road[9])	CPI	44	Assuming a positive market response to the new zoning ordinance, mixed-use development, including grocery stores and other day-to-day services may locate within newly developed activity centers is and result in the development of walkable neighborhoods there.
2. H+T (Housing and Transportation Affordability) Index (baseline measured at Maple Road/North Forest Road[7])	RSPI / CPI	68.42%	Encourage more businesses and services to locate within mixed-use zoning districts resulting in a modest increase in local employment. Encourage a variety of housing types to accommodate residents of varying incomes to reduce the cost of H+T as a percentage of income.
3. Number of new homes built near designated municipal centers since 2000.	RSPI / CPI	20%/5%[10]	As new zoning provisions are implemented within the Town's activity centers, the number of people who live in new housing units and employees that work nearby should increase, encouraging walking, transit use, and reducing private vehicle use.
4. Total percentage of workers commuting via walking, biking, transit and carpooling.	RSPI	12.5%[11]	Higher-density mixed-use districts will encourage economic activity while enabling residents to access services near their homes through alternative modes such as transit, bicycles, walking.
5. Vehicle miles traveled per/capita (VMT per/capita)	RSPI	7,592 miles/ year[12]	Locating services and amenities close to denser forms of housing and employment centers will help decrease VMT/capita over time.
6. Average commute time (minutes)	CPI	19.2[13] minutes	Locating services and associated jobs within activity centers can help reduce overall commuting time for Town residents.

[9] This location is a typical suburban commercial center and neighborhood where new zoning provisions may help transform areas into more mixed-use development creating new businesses and higher density forms of housing.
[10] The RSPI baseline for WNY is 20%, the One Region Forward baseline is 5% (http://www.oneregionforward.org/the-plan/, accessed November 2015. p.121). The Town will seek to exceed these baselines within its designated mixed-use activity centers.
[11] Data from the American Community Survey 2011-2014 Estimate.
[12] From 2015 data provided by the Greater Buffalo Niagara Regional Transportation Council (GBNRTC).
[13] Data from the American Community Survey 2011-2014 Estimate.

Individually these amendments will have a positive impact within the immediate areas surrounding the development. Collectively they may also positively impact the Town, such as contributing to an overall reduction of greenfield development and greater efficiencies from higher densities and reductions in the costs of transportation.

Table 4A - Methods and Assumptions

Indicator 1: Community Average WalkScore. Using the intersection of Maple Road and North Forest Road as typical of a baseline location within suburban Amherst, the December 2015 WalkScore for Amherst is 44, meaning this area of the Town is "car dependent". Walkable communities have goods and services located within walking distance of residences (for a community to be walkable, it is not enough to only have good pedestrian infrastructure).[14] Therefore, the market response to the new zoning provisions—especially as it attracts grocery stores and mixed-use development will positively impact and increase the WalkScore in areas where the new provisions are implemented.

Indicator 2: Housing and Transportation (H+T) Index. According to the website http://htaindex.cnt.org/map/, the baseline percentage of housing and transportation costs as a percentage of income is 68.42% within the census block group near the intersection of Maple Road and North Forest Road. Implementation of new planning and zoning provisions is expected to encourage new small business and housing types that should help decrease the H+T index.

Indicator 3: Number of new homes built near designated municipal centers The Town's Comprehensive Plan identifies several mixed-use activity centers where higher density and mixed use forms of development are encouraged. The new zoning provisions will encourage and permit this type of development, making those places more walkable and their amenities more accessible. Building new homes within the mixed-use activity centers creates accessible and healthier communities. The Town will monitor the development of new housing within the designated mixed-use activity centers where new zoning is implemented to determine the share of new homes built within those areas.

Indicator 4: Total percentage of workers commuting via walking, biking, transit and carpooling. The new zoning provisions will encourage and permit higher-density and mixed-use developments within activity centers near residential areas and modestly increase the number of residents who are able to walk (or bike) to work. New zoning will also allow a more flexible definition of at-home businesses. The baseline is as reported in the 2014 American Community Survey (5-year estimate 2010-2014) for the Town of Amherst.

Indicator 5: Vehicle miles traveled per capita (VMT per/capita). New zoning provisions will encourage and enable the development of mixed-use center areas and pockets of development in residential areas that enable residents to access day-to-day needs closer to home, reducing the necessity to drive long distances and therefore the VMT/capita.

Indicator 6: Average Commute Time. This indicator measures the length of time workers spend commuting to work one-way. The new zoning provisions will encourage mixed-use forms of development that may enable workers to reduce their commute time by working at home or at new facilities located closer to their residence. The average travel time to work is reported in the 2014 American Community Survey (5-year estimate 2010-2014) for the Town of Amherst.

[14] See Jeff Speck, *Walkable City* (2012).

Planning and zoning changes at the local level can positively contribute to regional land use sustainability goals, although quantifying and describing their impact at that level depends upon measures that can be appropriately applied and accurately scaled to higher geographic scales. Table 4B includes several **Regional** Sustainability Goals from the Western New York Sustainability Plan[2] that could be positively affected by the new Plan and Code amendments, however, their baseline measurement and resulting benefit at the local level may not be directly derived and applied to the regional level. The benefits of the Town's project on regional goals and strategies will be considered as it progresses and may be further evaluated and reported in the Final PBMR.

Section 4B: Potential to Impact Regional Sustainability Goals[2]	
Goal	**Brief one-line description of benefit**
1. Increase the number of local municipalities that are developing, adopting, and implementing smart growth policies. (p. 4-7)	The new Comprehensive Plan policies and zoning code amendments resulting from this project will be new to Amherst and may also be new to many other surrounding suburban communities. The new provisions are anticipated to be consistent with many principles of Smart Growth.
2. Develop mechanisms for regional land use planning assistance and collaboration. (p. 4-8)	The project will produce plan policies, zoning language, and a process that can be replicated by other WNY communities. The project includes a training session for the development community and officials from surrounding municipalities to familiarize them with new techniques.
3. Encourage and focus development in areas served by existing infrastructure. (p. 4-8)	New Plan policies and zoning provisions will encourage redevelopment within centers and areas that are served by existing infrastructure.
4. Encourage the expansion of location-efficient housing and improved infrastructure/services for existing housing that increases access to employment centers and transportation options. (p.4-10)	New plan policies and zoning provisions within existing centers will encourage efficient patterns of residential development and use of existing infrastructure and transportation options.

Summary of Acronyms

CPI – Common Planning Indicator (defined by NYSERDA)
GHG – Green house gas
LEED-ND – Leadership in Energy and Environmental Design-Neighborhood Development
mmBtu – One million British thermal units
MTCDE – Metric tons of carbon dioxide equivalent
MPG – Miles per gallon
NYSERDA – New York State Energy Research and Development Authority
PBMR – Project Benefits Metrics Report
RPI – Regional Performance Metric (defined by NYSERDA)
RSPI – Regional Sustainability Plan Indictor (defined by NYSERDA)
SCM – Sector Common Metric (defined by NYSERDA)
VMT – Vehicle miles travelled