

TIMBERFENCE: TRUTH OR CONSEQUENCES

15 March 2011

Timberfence Parkway (aka, ‘The US Route 17 to US Route 211 Connector’ or ‘The ByPass’) will amount to lemmings paving yet another path to the cliff if new infrastructure is not planned, designed and constructed to meet realist future needs.

INTRODUCTION TO VERSION 2.0

THE OBLIVIOUSNESS OF LEADERS COMPOUNDS THE IGNORANCE OF CITIZENS.

If leaders avoid considering ideas beyond conventional wisdom and ‘Business-As-Usual’ they will not prepare citizens for the future.

If leaders avoid asking the hard questions impacting the current trajectory (reality) because the answers will not make citizens happy, then citizens will not understand the consequences of alternative actions or inactions.

If leaders do not try to understand and articulate the context of decisions they make, then citizens cannot be expected to understand or support these actions even if the actions are in citizens long-term best interest.

The cumulative impact of leadership obliviousness and inactions is that citizens will not support their ‘leaders’ regardless of the ultimate wisdom of their actions.

THIS IS THE MOTHER OF ALL VICIOUS CIRCLES AND IT PARALYZES AGENCIES, ENTERPRISES AND INSTITUTIONS..

Even if leaders ‘know’ what needs to be done to achieve a sustainable trajectory for civilization, they cannot act if citizens as voters or consumers not understand reality.

As the time and the resources for humans to make Fundamental Transformations to achieve sustainable economic, social and physical trajectories becomes more and more limited, all the “... As-Usual” actions (and inactions) become **MORE AND MORE DANGEROUS.**

The “... **As-Usual**” actions (and inactions) include:

Politics-As-Usual by Governance Practitioners, the elected and appointed leaders of Agencies – The New First Estate;

Business-As-Usual by owners and managers of Enterprises – The New Second Estate;

Excuses-As-Usual (aka, ‘traditional values’) by those with influence in Institutions – The New Third Estate, and;

Consumption-As-Usual by Citizens and their Households – The New Fourth Estate.

The most egregious of these “... As-Usual’s” is Politics-As Usual.

The leaders of both political Clans are failing to prepare citizens to make Fundamental Transformations of the settlement pattern, the governance structure and the economic system.

Current poles show the majority of citizens do not believe, and do not trust most of those leading the Elephant Clan and the Donkey Clan.

In this context, it is useful to revisit a multi-chapter Perspective by SYNERGY: **TIMBERFENCE: TRUTH OR CONSEQUENCES**. The October 2009 version of this Perspective was widely distributed among leaders in the Greater Warrenton Fauquier Community. It has been ignored.

The 22 October 2009 version found in Chapter 50 **TRILO-G** has been reviewed. There are NO substantive changes in facts, conclusions or predictions in the 15 March 2011 version. Special thanks to Bob Lee for carefully reading the 22 October 2009 version and offering suggestions to improve grammar, clarity and to correct errors.

THE CURRENT TRAJECTORY (See SYNERGY PROJECT SUMMARY on the *PERSPECTIVES* page) continues to trace an unsustainable path at the Community and SubRegional scales. It is also useful to review the section titled “Greater Warrenton-Fauquier” in Chapter 33 - “What DID I Tell You?: Anatomy of Opportunities Lost.” This chapter appears in PART TEN – THE PATH TO SUSTAINABILITY: “Cairns on a Talus Slope” of **TRILO-G**. Chapter 33 profiles four categories of ignored advice. Specific cases of ‘reality-ignored’ range from a comprehensive set of strategies contracted for by the State of Louisiana and the US Dept of Housing and Urban Development that would have prevented negative impact from Katrina to advice on creating Alpha Communities in the Countryside.

FOREWORD

The goal of SYNERGY is to facilitate the evolution of functional and sustainable human settlement patterns. Creating efficient Mobility and Access systems to support functional patterns and densities of land uses is a critical element of this evolution.

SYNERGY is constantly on the lookout for ways to help citizens understand their Enlightened SelfInterest with respect to human settlement patterns. Informed discussion of Timberfence Parkway is just such a vehicle. See Appendix Five – Item One.

“Timberfence: Truth or Consequences” is based on three mutually supportive theses:

- **To achieve a sustainable trajectory, contemporary civilization must evolve functional human settlement patterns**
- **The organic components of functional settlement patterns must achieve Balance and Critical Mass**
- **To support functional settlement patterns, Mobility and Access systems must be in Balance with the travel demand generated by the settlement patterns**

“Timberfence: Truth or Consequences” is also based on two current realities:

- **The cost of using *Large, Private Vehicles* has gone up and will go up further. In addition, new programs, policies and regulations that begin to fairly allocate location-variable costs – including the full cost of *Large, Private Vehicles* – will cause the cost of their use to go up even more.**
- **As use and utility of *Large, Private Vehicles* for Urban Mobility and Access winds down, MegaRegions, Regions, SubRegions, Communities, Villages and Neighborhoods will need new transport infrastructure so that more efficient vehicles can provide Mobility and Access for functional and sustainable human settlement patterns.**

“Timberfence: Truth or Consequences” reflects SYNERGY’s experience over the last four decades that documents:

- **Every component of human settlement NEEDS more ‘connections’ NOT ‘connectors’**
- **Every component of human settlement needs a functional Mobility and Access GRID and NOT ‘ByPasses.’**

“Timberfence: Truth or Consequences” is not a ‘position paper’ or a report that establishes and documents a ‘position.’ It is a resource which stake holders and governance practitioners can use to help make decisions on the best course of action with respect to Mobility and Access in Greater Warrenton-Fauquier.

SYNERGY apologizes in advance that this discussion of the context and lessons that can be learned from Timberfence Parkway is long. However, there are no short stories in the real world. Short stories are by definition FICTION.

In the real world, short statements and simple answers are most often fictions intended to cause citizens to take actions that turn out NOT to be in their individual or collective best interest.

This discussion of Timberfence Parkway has been made as short as possible through the use of End Notes that identify where SYNERGY has articulated relevant points in more detail. These End Notes also provide references to supporting documentation on major concepts. The End Notes have been placed in the text in this printing for easy access. See Appendix Five – Item Two

The Executive Summary and Talking Points provides an overview of the Timberfence Parkway context and strategy. Some words may not yet be familiar to readers. Most of the terms readers might not recognize (often identified by Capitalization) can be found in PART THIRTEEN GLOSSARY of *TRILO-G* or on line on the GLOSSARY page at www.emrisse.com or at <http://www.emrisse.com/ckfinder/userfiles/files/EM%20RISSE%20GLOSSARY.pdf> .

“Timberfence: Truth or Consequences” includes Five Appendices. These Appendices are transects through the four dimensional context of the Timberfence Parkway discussion.

Finally, SYNERGY’s work is usually reviewed by a copy editor. Since this is a pro bono effort, no copy editor was retained for this Perspective. The text was reviewed by a number of parties but the errors and omissions are the sore responsibility of SYNERGY.

TIMBERFENCE: TRUTH OR CONSEQUENCES

TABLE OF CONTENTS

Page		
3	FOREWORD	
5	Table of Contents	
7	Section One	EXECUTIVE SUMMARY AND TALKING POINTS
16	Section Two	BACKGROUND
18	Section Three	ROADWAY CONGESTION REALITY
20	Section Four	WHY HAVE YOU NOT HEARD ABOUT THE LIMITATIONS OF AUTONOMOBILITY BEFORE?
22	Section Five	BUT WAIT, WHAT ABOUT THAT VDOT FUNDED STUDY SHOWING CONTINUING TRAFFIC GROWTH INTO THE FUTURE?
23	Section Six	UNDERSTANDING THE BIG PICTURE
29	Section Seven	ECONOMIC REALITY TO THE RESCUE
36	Section Eight	NOT JUST RECENT CHANGE AND NOT JUST THE CURRENT ECONOMY
38	Section Nine	SO WHAT DOES ALL THIS MEAN FOR TIMBERFENCE PARKWAY?
39	Section Ten	THE REAL NEED: A FUNCTIONAL GREATER-WARRENTON MOBILITY AND ACCESS GRID
41	Section Eleven	A STRATEGIC APPROACH TO THE TIMBERFENCE PARKWAY: NOT JUST ANOTHER WISHY-WASHY PLAN AMENDMENT
43	Section Twelve	THE OUTLINE OF A POTENTIAL SOLUTION / FIRST DRAFT
45	Section Thirteen	LONG TERM GOALS AND SUMMARY

47	APPENDIX ONE	SHAPING A FUNCTIONAL AND SUSTAINABLE FUTURE IN GREATER WARRENTON-FAUQUIER
61	APPENDIX TWO	2006 PERSPECTIVE
67	APPENDIX THREE	TRANSPORT STRATEGY DISASTER and THE TRANSPORT PROBLEM
84	APPENDIX FOUR	VDOT, WE HAVE A QUESTION
88	APPENDIX FIVE	TIMBERFENCE PARKWAY MARGINAL NOTES

Section One

EXECUTIVE SUMMARY AND TALKING POINTS

Economic and physical reality does not support the arguments of the polarized camps debating the costs and benefits of Timberfence Parkway.

There can be, however, a happy ending that meets the real needs of almost all stakeholders. A successful strategy concerning Timberfence Parkway will require sorting through indicators of current and future economic and physical conditions and distinguishing reality from illusions that are based on wishful thinking and the extrapolation of past experience.

In the current discussion there are two polar perspectives:

- Build Timberfence AS SOON AS POSSIBLE, and
- Do not Build Timberfence, EVER

Both camps are suffering from misconceptions about the most likely shape of the future. Both camps believe that:

In the future there will be MORE traffic, especially traffic generated by long distance commuters living west of Greater Warrenton who will drive *Large, Private* Vehicles east to reach Jobs and Services in and near the Core of the National Capital SubRegion.

Both groups also believe there will be more and more trucks devoted to inter-Regional service as well as trucks delivering goods and services to Urban residents scattered across the Countryside.

Both camps rely on straight line extrapolations of past trends. These trends have been primed to dramatically change for 35 years. Due to The Great Recession past trends are now history, not the future. For a more detailed breakdown of positions of those favoring and opposing ByPasses and cures for Cut-Thru-Traffic including stakeholders in a Timberfence Parkway decision see Appendix Five – Item Three.

Many of the points made in this document amplify the 10 April 2008 strategy briefing presented to the Fauquier Board of Supervisors by SYNERGY. The briefing was titled “Shaping a Functional and Sustainable Future in Greater Warrenton-Fauquier.” Perhaps the theses, axioms, realities and strategies spelled out in that briefing were too abstract. For whatever reason, actions by the County (and the Town) over the past 18 months – such as the Timberfence Parkway process – do not yet reflect an understanding of the most likely future forces impacting human settlement pattern and Mobility / Access alternatives in the Radius Band Radius = 30 Miles to Radius = 60 Miles from the Centroid of the National Capital SubRegion.

This document relates the theses, axioms and strategies of the 10 April 2008 Supervisors briefing to specific decisions concerning Timberfence Parkway and presents a golden opportunity to alert citizens to the most probable shape of the future.

A summary of the 10 April 2008 presentation is included in this document as Appendix One. Appendix One articulates three theses, three little words (“no cheap energy”), three axioms, three realities and eleven strategies. The strategies are:

- I. Conceptual Framework Strategy
- II. Robust Vocabulary Strategy
- III. Citizen Information Strategy
- IV. Mobility and Access Strategy
- V. Affordable and Accessible Housing Strategy
- VI. Beyond Helter Skelter Strategy
- VII. Economic Development Strategy
- VIII. Comprehensive Parcel Consolidation Strategy
- IX. Fair Allocation of Location-Variable Costs Strategy
- X. Fundamental Change in Governance Structure Strategy
- XI. Sustainable Population Strategy

All of these strategies relate directly to the discussions concerning Timberfence Parkway. But they are not yet being given serious consideration.

The Governance Practitioners who are orchestrating the process to reinsert Timberfence Parkway (Route 17 / Route 211 Connector) into the Center District element of the Fauquier County Comprehensive Plan are correct about the need for functional networks to support Mobility and Access. The questions are:

- **What is the realistic future demand, given the Fundamental Transformations now underway?**
- **What vehicles should the network serve to meet future Mobility and Access demand?**
- **What are the priority links in a new comprehensive Mobility and Access grid?**

These are important questions but:

The overarching need is to inspire citizens to think about actions that will make Greater Warrenton a better place to live and work under ANY future scenario:

How does the Beta Community achieve Critical Mass and a Balance of Jobs / Housing / Services / Recreation / Amenity?

The very worst thing that citizens and their Agencies can do is repeat the mistakes that have resulted in dysfunctional settlement patterns such as those in Eastern Loudoun County and Western Prince William County.

If a working majority do not come to understand reality, and the result is just building a ByPass only a few land speculators and road builders will benefit. If nothing is built, no one will benefit in the long run.

There is a solution that will meet the needs of almost all the legitimate interests that have been expressed concerning Timberfence Parkway. Pursuit of the current path will lead to the opposite result.

The discussion of Timberfence Parkway provides an opportunity for citizens to understand why it is imperative to make Greater Warrenton-Fauquier an even greater place to live, work and secure a quality life: Creating Critical Mass and achieving Balance.

The potential benefits of a thoughtful discussion of Timberfence Parkway alternatives will be jeopardized if either the supporters of the ‘just build a road agenda’ or the supporters of a ‘just stop the road agenda’ prevail.

No one knows what the shape of the “Economic Recovery” will be – or if there will be even a one:

- Will employment rebound?
- Will immigration continue to atrophy?
- Will property values stabilize?
- Will incessant repetition of the ‘no-more-taxes’ mantra convince citizens they can continue to borrow from their grandchildren, sell bonds to competitors and burn through natural capital, OR
- Will the ‘too-big-to-fail’ / Business-As-Usual advocates spend Agencies – federal, state and municipal – into bankruptcy trying to resuscitate an outdated economic paradigm?, OR
- Will citizens FINALLY understand the absolute imperative of achieving a sustainable economic, social and physical trajectory for contemporary civilization?

The future is never predictable, however, one thing appears quite clear:

Economic Recovery or No Economic Recovery, the shape of Mobility and Access will not be the same in the future as it was before The Great Recession.

‘Everyone’ should have known that Fundamental Transformations were an imperative after the oil embargo of October of 1973. However, citizens and their Organizations have repeatedly hit the snooze bar for 35 years.

NOW it is time to wake up!

It is time for citizens of Greater Warrenton-Fauquier to prepare themselves for Fundamental Transformation. There must be a Critical Mass of economic, social and physical activity that supports a relative Balance of Jobs / Housing / Services / Recreation and Amenity. In other words functional human settlement patterns that convert the Beta Community to an Alpha Community. The alternative is to fall into an economic, social and physical abyss with scores of other Beta Communities outside Radius = 30 Miles in the Washington-Baltimore New Urban Region.

The energy initiative of the Town of Warrenton’s Mayor George Finch’s – now on hold – is (was?) a place to start but it is only a small part of what must be done to secure a sustainable trajectory for Greater Warrenton-Fauquier.

This document discusses Timberfence Parkway from the perspective of Regional, SubRegional and Community strategies to secure economic prosperity, social stability and ecological sustainability. These goals are a precondition for achieving a sustainable trajectory for the Greater Warrenton-Fauquier Community and for civilization.

“Stop cut-thru traffic” along with “Build a ByPass” were among the most powerful drivers of counterproductive land use and transport decisions made during the 20th century.

Scientific analysis of Roadway congestion documents that there is no basis for assuming that the need for a functional Mobility and Access grid is achieved by expanding Roadways for *Large, Private* Vehicles (aka, *Autonomobiles*).

Citizens and governance practitioners have ignored the physics of Automobility domination and traffic congestion because Automobiles SEEMED so convenient until their commutative impact overwhelmed their utility.

What about that VDOT funded study showing continuing growth in traffic? One must examine when the report was published, by whom it was written and for whom it was prepared.

One must also understand the big picture – The economic, social and physical structures of the US of A are in transition – in fact Fundamental Transformation.

One way to start down the path to an understanding of the what has and is happening to human settlement patterns is to embrace the reality that the nation-state, and especially recently expanding New Urban Regions, are grossly ‘OverHoused’ and ‘OverStored.’

Economic reality provides a window on viable future options. There may or may not be a short-term – or a longer-term – “recovery” from The Great Recession but either way LESS, NOT MORE Mobility and Access will be provided by *Large, Private* Vehicles of the sort that are feared by opponents of Cut-Thru-Traffic and would theoretically be accommodated by a ByPass.

Also, it is important to understand that it is not JUST the end of CHEAP energy that will change the future landscape and it is not JUST recent changes and not JUST the current economy that make a new course of action inevitable. Fundamental Transformation has been inevitable for decades. Citizens and Agencies have spent themselves far into debt trying to avoid this reality.

So what does this mean for timberfence parkway?

The ‘NEED’ for a new Roadway to carry ‘increased future traffic,’ especially ‘commuter’ traffic is based on projecting past trends forward without regard to the current and probable future reality with respect to the affordability and use of *Large, Private* Vehicles.

- There will be less and less ability for citizens to hold Job in the Core of the SubRegion and seek Housing and Services somewhere else
- There will be less and less ability to live west of Greater Warrenton and drive to a Job in (or closer to) the Core of the SubRegion
- Agencies will be forced by economic reality to provide Mobility and Access with more efficient shared-vehicle systems rather than subsidize *Large, Private* Vehicles.
- Agencies will not be able to afford “commuter services” to those who live in scattered Urban dwellings
- There will be no ability to truck goods long distances. Long distance trucking would have atrophied years ago but for gross subsidies. Truck fees and taxes now pay for only about 10 percent of the heavy goods vehicles impact on Roadways and almost nothing toward the impact on air and water resources.

Only one cohort that will really benefit from a garden variety ByPass to relieve Cut Thru Traffic:

Speculators in Northwestern Culpeper County and those who profit from scattered Urban land uses in western Fauquier and Rappahannock Counties.

In the long run developers, builders, new residents and old residents will suffer. Shunting the declining volume of traffic onto a ByPass will only make the economic downturn more painful for businesses on Broadview Avenue.

Timberfence Parkway also offers the opportunity to shift away from the notion that a useful “comprehensive plan” can be cobbled together from a mushy agglomeration of wishes, blobs and desire lines. The Comprehensive Plan should be a clear picture of what the future is expected to look like. The plan may present two or three alternatives of what the future will look like depending on the evolution of the most plausible alternative economic and physical realities.

The plan should not be a fuzzy document that can later be interpreted in a broad range of conflicting ways. What has happened over the past decade in West Prince William and in many locations in Fauquier County document this reality.

If a better idea about the shape of the future comes along, then a new draft plan must be articulated and subjected to a full discussion with the impacts including those at larger organic components of human settlement.

There will be no reason to want to be IN Greater Warrenton-Fauquier UNLESS this is a great place to live AND work. The real challenge is to articulate what Greater Warrenton-Fauquier must do to change the current trajectory. Those actions must be spelled out in detail.

Appendix One presents the outline and key points presented by SYNERGY to the Fauquier County Board of Supervisors in the 10 April 2008 work session.

Appendix Two provides a 2006 perspective on why the Town of Warrenton and Fauquier County should not accommodate future development in the US Route 211 Corridor west of Greater Warrenton EVEN BEFORE the onset of The Great Recession.

Appendix Three presents two recent columns on the Fall Political Football Classic (aka, the contest between the Elephant Clan and the Donkey Clan for Governor of Virginia) as it relates to Mobility and Access.

Appendix Four is the statement questioning the traffic projections for the US Route 29 Corridor from the North Carolina border to Gainesville.

Appendix Five is made up of comments and perspectives that were originally considered for inclusion in “Timberfence: Truth or Consequences.” These materials include marginal notes and drafts of material that will be revisited, revised and refined at some future time.

TIMBERFENCE PARKWAY AND GREATER WARRENTON – FAUQUIER MOBILITY AND ACCESS

DRAFT TALKING POINTS

I. CONTEXT

- A. In these times citizens ALL need to be on the same page, not fighting over misconceptions
- B. Future will not be an extension of the past: location / scale / form of new development / vehicle characteristics are already TRANSFORMING
- C. Just because an element was “on the ‘Comprehensive’ plan” is not a reason it should have been or should be again
- D. The Greater Warrenton-Fauquier Community needs a REAL comprehensive plan that is more than fuzzy blobs and desire lines based on past trends, property lines and municipal borders
- E. The plan must contain SPECIFIC alternatives (words and graphics) that reflect what is most likely to happen with demand for future urban land uses. The uses must be QUANTIFIED and located on the plan. If a better idea comes along, then subject that new idea to a full review process.
- F. Long distance commuting has been declining in the Virginia SubRegion since 1990
- G. 2007 / 2008 / 2009 vehicle trend in the US Route 211 corridor has been down, not up
- H. Within Greater Warrenton-Fauquier there is a need for CONNECTIONS, not ‘ByPasses’

- I. Urban land in the Radius Band Radius = 30 Miles to Radius = 60 Miles in the Virginia SubRegion is currently Overstored with national chain stores and Overhoused with large, scattered Urban dwellings
- J. SYNERGY's observations on future trends impacting travel demand and urban land uses. Three alternatives :
 - 1. The great recession ends quickly with "business- almost-as- usual" returns (for a while) with high gas prices and few able to afford long distance commutes (continuing the long term trend in the SubRegion)
 - 2. "Leveling out" (Fed Chair Bernanke's Vocabulary) of the great recession with high unemployment (similar to last two recessions) resulting in low housing demand in outer radius bands, enterprise profit based on cost reductions, not revenue growth and few able to afford long distance commutes
 - 3. The Great Recession continues for an extended period with little housing demand, especially for large, scattered dwellings and even fewer able to afford long commutes

Under any alternative it is, unlikely that development project(s) on which Kellerco based 2005 Route 211 projections will ever be built (there is capacity and will be demand inside R = 30 miles in the National Capital SubRegion)

II. ACTIONS NEEDED

See **TIMBERFENCE: TRUTH OR CONSEQUENCES**, Section 12 for specific recommendations to be implemented within the following conceptual framework:

- K. The primary need is a comprehensive review of mobility and access NETWORK / system to support **SMALLER, MORE EFFICIENT** vehicles and pedestrians
- L. There is a need to implement pedestrian elements and small vehicle elements ASAP
- M. The comprehensive plans of the Town and the County must contain detailed alternatives that are implemented if specific targets are met (The Cordon Line Strategy) – straight line extrapolations are a form of insanity
- N. It is imperative that none of the new links and connections open additional land for further low-density development by expanding the logical location of the Clear Edge that exists around Greater Warrenton. The first priority is to use the vacant and underutilized land that is now served by Town and County services.

O. The overarching need is for Balance J / H / S / R / A. Balance requires obtaining a Critical Mass of economic activity. That means some (right kind, right location) 'growth' INSIDE the Clear Edges around urban agglomerations (aka, Service Districts)

P. The urgent need is for unique and imaginative actions to attract entrepreneurs / Institutions who will create Jobs, Services and Balance. (0.5 % of NUR's population equals 45,000 people .)

(Mayor Fitch's energy proposal – now on 'hold' – historic urban fabric resources and dramatic countryside are a start but have proven not to be enough to generate a Critical Mass.)

Q. It is imperative to get everyone on the same page. Opposition and conflict erode potential to achieve critical mass. (Society and the environment cannot afford partisanship.

R. There is currently no basis for "build it now" or "never build anything" with respect to any specific infrastructure

Section Two

BACKGROUND

“Stop cut-thru traffic” along with “Build a ByPass” were among the most powerful drivers of counterproductive land use and transport decisions made during the 20th century. Decisions driven by these two simplistic shibboleths have resulted in dysfunctional human settlement patterns and have wasted trillions of dollars on unneeded infrastructure in the US of A especially over the past 64 years.

The entire Stop Cut-Thru Traffic / Build the ByPass conflict with respect to Automobiles originated almost 100 years ago when the wise counsel of Benton MacKaye was ignored. MacKaye, a pioneering Regional Strategist, advocated “townless highways and highwayless towns.” By that he meant that as infrastructure to support expanding use of Automobile was constructed there should be no Expressways for cars and trucks WITHIN Urbanized areas and no Urban Streets serving scattered Urban land uses in the Countryside.

In the Vocabulary of SYNERGY’s New Urban Region Conceptual Framework this means:

- **Roadways should not bisect any Community INSIDE a Clear Edge**
- **No Streets to serve Urban citizens should exist OUTSIDE a Clear Edge** See End Note One

1. The terms ‘Roadway,’ ‘Community,’ ‘Clear Edge’ and ‘Street’ all have precise definitions provided in GLOSSARY – PART THIRTEEN of **TRILO-G**. The Clear Edge is the Boundary between the Urbanside and the Countryside. The MacKaye advice has been followed in most large Urban agglomerations in Western Europe and other First World Regions.

What MacKaye, Mumford, Owen and others have been advocating for a century and what the New Urban Region Conceptual Framework delivers is:

A functional Balance between settlement pattern trip generation and transport system capacity.

From 1920 to 1956 the growing impact of the Automobile – originally touted as “the non-polluting alternative to the horse” – grew, year by year. Robert Moses is the governance practitioner best known for his contempt for MacKaye’s advice. There were many others. The low point of rational Mobility and Access strategies for Urban Regions came in 1956 and it came over the reasoned objections of many well informed engineers, planners and scientists.

The financial structure and regulations that were set up to make building the Interstate and Defense Highway System affordable (in the short run) made the goal of Mobility / Access Balance impossible to achieve. See End Note Two Also see Appendix Five – Items Four and Five.

2. While the Interstate System has had a number of short-term and medium- term benefits it also set the stage for short-, medium-, and long-term economic, social and physical pain in the US of A. This is especially true for the settlement patterns of New Urban Regions where 85 percent of the citizens of the US of A now work. See “Spinning Data, Spinning Wheels” and “Interstate Crime” as well as the sources cited therein. These are Columns 39 and 50 in Chapter 46 of *TRILO-G*.

The good news is that there is finally relief in sight. This relief should squelch support for building the ByPass and should also eliminate the need to ‘Stop Cut-Thru Traffic.’ That savior is: Economic Reality.

This document will profile Economic Reality below, but first one needs to understand traffic congestion reality.

Section Three

ROADWAY CONGESTION REALITY

There is no basis for assuming that the goal of a functional Mobility and Access grid is achieved by expanding Roadways for *Large, Private Vehicles* (aka, Automobiles).

In fact, expanding Roadways for Automobiles has NOT been a good Regional strategy for decades.

Building more Roadways INSIDE Clear Edges has not been an effective strategy to improve Mobility and Access since the time when Households with car owners were a small minority of the population. Building Roadways for Automobiles has not improved citizen Mobility and Access at the SubRegional or Regional scales in Urban areas for decades.

The higher the percentage of car ownership per Household, the less building Roadways improves Mobility and Access at the Regional, SubRegional and Community Scale. Since 1985 building Roadways has occasionally helped some at the top of the Ziggurat who can influence the planning, design, funding and construction of Roadways to meet their specific objectives but it has not helped citizens Region-wide. At the sub-Community scale, building Roadways CAN improve Mobility and Access for those who have access to Automobiles in specific corridors and for short periods of time but not in the long term and not for entire Regions or large SubRegions.

The annual Urban Mobility Report by the Texas Transportation Institute (TTI) documents that in every year since the survey started in the mid-80s, congestion has gotten worse in every large urban agglomeration in the US of A. See End Note Three

3. There have been a few year-to-year reductions in a few Regions during times of recession but over five year periods the congestion has gotten worse in ALL of the large urban agglomerations. See again “Interstate Crime” cited in End Note Two and “The Physics of Gridlock on *The Shape of the Future* – 4th Printing CD.

Careful analysis by the Surface Transportation Project shows that in those large SubRegions and Regions that built MORE lane miles of roadway per capita, the congestion grew FASTER than in those SubRegions and Regions that built FEWER lane miles per capita and effectively employed other Mobility and Access strategies. See End Note Four

4. The Washington-Baltimore New Urban Region (NUR) (of which Greater Warrenton-Fauquier is part) is the fourth largest NUR in the US of A. See “The Physics of Gridlock” and “Priority Transport Improvements” two PowerPoint presentations on *The Shape of the Future* – 4th Printing CD for a summary of the TTI data and findings through the early 00s. The TTI reports since that time, including the one just released based on data through 2007, confirm these trends.

It turns out the driver of traffic congestion is NOT Cut-Thru Traffic and it is NOT the need for new Roadways. The “problem” is cars themselves – that is why they are called Automobiles by those that understand the physics of Mobility and Access.

The land area needed to drive and park Automobiles disaggregates human settlement to the point of dysfunction at the scales of Urban agglomeration that are optimum to support the economic, social and physical well being of citizens and to achieve sustainability of a contemporary, technology and competition driven civilization.

It is not just a matter of economic structure

It is not just a matter of social stability

It is not just a matter of environmental sustainability

It is a matter of physics, PERIOD

This reality is spelled out PART THREE – THE PROBLEM WITH CARS in *TRILO-G* .

A sound-bite that reflects this reality that relates to Greater-Warrenton / Fauquier is:

The only way to help Automobile commuters is to help them become non-Automobile Commuters.

Section Four WHY HAVE YOU NOT HEARD ABOUT THE LIMITATIONS OF AUTONOMOBILITY BEFORE?

Perhaps you did hear about the Mobility and Access limitations of Automobiles for Urban travel but just ignored reality because Automobiles SEEM so convenient.

Perhaps you believe that with the existing human settlement patterns in MOST Beta Communities in the US of A, an Automobile is, for now, essential to get from where you are to where you need or want to be.

In making location and mobility decisions, you may have relied on the advice of agents or Governance Practitioners who benefit from Business-As-Usual.

There is a Mobility and Access Axiom that has been validated over and over since long before chariot congestion gridlocked Imperial Rome:

It is not possible to build a Mobility and Access system so that all residents of a functional Urban Agglomeration can go where they want, when they want in a VEHICLE.

Over the last 8,000 years the Mobility and Access technology has improved but with each generation of new technology has come an increase in the scale and complexity of functional Urban systems. The greater the area required to drive and park (stable) the vehicle, the faster Mobility and Access system becomes congested. There is much to learn from humans use of the horse for Mobility and Access in this regard. See Chapters 13 and 14 of *The Shape of the Future* (especially Chapter 13, Box 9 The Carriageless Horse) and PART FOUR – THE PROBLEM WITH CARS in *TRILO-G*.

In the work of SYNERGY, there is a focus on a Myth that obscures the Mobility and Access Axiom. There is the *Large, Private Vehicle* Mobility and Access Myth:

Automobile advocates would like citizens to believe that they can drive *Large, Private Vehicles* wherever they want, whenever they want AND with this travel demand pattern it is possible for Agencies to design and build a Roadway system to serve these vehicles so that they can arrive in a timely manner. This is a tragic Myth.

Perhaps you are among those who are hoping that by some miracle the conditions that caused Automobiles to SEEM like a good idea would return. Economic conditions that result in fewer and fewer Households being able to afford an Automobile WILL return.

However, massive subsidizes of vehicles, fuel and roadways so that Large, Private Vehicles (the Automobile) would again appear to be an alternative for even half the citizens to acquire Mobility and Access in Urban areas will NOT return.

More on this reality later but just to be very clear:

Greater Warrenton-Fauquier is part of the Washington-Baltimore New Urban Region (NUR) which is the fourth largest Urban agglomeration in the US of A. The Washington-Baltimore NUR is part of the largest MegaRegion in North America. This MegaRegion stretches from the northern boundary of the Portland (Maine) NUR to the southern boundary of the Hampton Roads NUR.

Also, do not let the fact that there are hundreds of thousands of acres of Countryside in Greater Warrenton - Fauquier distract anyone from the fact that at least 90 percent of the Households in the Beta Community derive their livelihood from Urban sources.

Cut-Thru-Traffic and use of a ByPass is NOT created by farmers and foresters going to the fields and forests and back. It is Urban citizens seeking Access to Urban Jobs and Services.

Traffic congestion in Greater Warrenton-Fauquier is URBAN traffic congestion.

The Urban land uses may be scattered and disaggregated in this Beta Community but the vast majority of land uses that generate Automobile trips is Urban and NOT NonUrban. The key parameter is that the vast majority of the Jobs and Services are in the Core of the Subregion now and for the foreseeable future. What is more, this concentration of economic activity will INCREASE in the future for reasons articulated below.

Now back to why Mobility and Access reality has not been all that clear to you.

Most likely, you were misled by advertising and ‘stories’ in advertising / Enterprise profit driven MainStream Media. See End Note Five

5. The demise of MainStream Media as the primary way for citizens to obtain and process the information they need to make intelligent decisions in the voting booth and in the marketplace is the topic of THE ESTATES MATRIX – PART TWO of *TRILO-G*.

If you give it some thought, you will realize that all the information you get about Mobility and Access is paid for – directly or indirectly – by those who profit from the Automobile industrial complex.

Because of the role of MainStream Media and advertising, the analysis presented later in this report may come as a surprise to some.

Section Five BUT WAIT, WHAT ABOUT THAT VDOT FUNDED STUDY SHOWING CONTINUING TRAFFIC GROWTH INTO THE FUTURE?

One must examine when the report was published, by whom it was written and for whom it was prepared. The report is dated 30 May 2008. The most current data cited was for 2006. Compare the market value of General Motors or the value of property in Fauquier County today with the values in May of 2006.

HNTB (nee, Howard, Needles, Tammen and Bergendoff) is a large and well respected engineering firm. It was founded in 1914 to design railroad bridges. A consulting Enterprise does not get as large as HNTB without writing reports that reflect the interests of their clients,

In this case the client was VDOT. VDOT's ancestor was chartered to build Roadways. For 85 years VDOT and its predecessors (VDH&T and VDH) have been faced with an ever expanding tide of cars. As suggested below, that this tide will ebb is not yet on the VDOT radar based on their actions and public pronouncements. See Appendix Four.

There is a colloquialism oft repeated by residents of islands in the eastern Carribean: "Little bird, he build nest one stick at a time." Roadway Agencies have built traffic congestion one Roadway project at a time.

Citizens / voters will have to tell VDOT that times have changed. In the meantime VDOT continues to fund studies to support an obsolete view of the future. Do not blame HNTB for writing a report that meets to needs of its clients.

The HNTB study takes as a given the projections that were prepared in 2005. Those projections were based on extensive proposed development in Clevengers Corner and elsewhere west of Greater Warrenton. These projections must now be viewed with skepticism given the events discussed in the following sections. Appendix Two suggests why Fauquier County and the Town of Warrenton should NOT act to provide capacity for such development, even if it did occur. Let those who profit from new development fund construction of a connection to the Core.

VDOT dat for the 211 Corridor at the Culpeper / Fauquier County line peaks in 2006 and declines since that time.

The potential of a future ByPass gave HNTB an excuse to avoid serious innovation in the alternatives for the Broadview corridor. The terrain in the corridor provides opportunity for at least two grade separations to improve corridor through-put and at the same time enhance safety and provide better access to property fronting on the Broadview Avenue right-of-way. Just build a ByPass is an excuse, not a solution.

Section Six UNDERSTANDING THE BIG PICTURE

The economic, social and physical structures of the US of A are in transition – in fact they are in the process of making Fundamental Transformations. In the 10 April 2008 strategy presentation to the Fauquier Board of Supervisors, SYNERGY called the current era ‘a time of punctuated equilibrium’ – a normal phenomenon in natural systems.

It has been clear for some time that the most important ‘investment’ citizens can make in the future is NOT a bigger house further from Jobs and Services. It is equally clear that the most important long term investment Agencies, Enterprises and Institutions can make is NOT going back to the Moon much less going on to Mars. The most important investment is rebuilding human settlement patterns so that they are functional and sustainable. The key question for citizens of Greater Warrenton-Fauquier is:

How to change the current trajectory in this Region, SubRegion and Beta Community to make Greater Warrenton-Fauquier a great place to live AND work so that it is attractive to the citizens, Enterprises and Institutions that must be attracted to achieve Critical Mass and Balance.

A Place to Start: The Spatial and Locational Parameters of The Affordable and Accessible Housing Crisis

One way to start down the path to an understanding of the what has and is happening to human settlement patterns is to embrace the reality that the nation-state, and especially recently expanding New Urban Regions, are grossly ‘OverHoused.’ There are two aspects of this problem.

During the last three decades the amount of square feet of shelter per citizen has skyrocketed. The area per individual and per Household has far surpassed the amount that can be used or supported (afforded). This is especially true given the rising cost for heating and cooling.

The primary losers are those at the bottom of the economic Ziggurat – those who face the Affordable and Accessible Housing Crisis.

A Global financial crisis has resulted from Enterprises finding ways to sell citizens more house than they could afford. The ‘OverHousing’ trend was driven by many forces but none as strong as the misconception that spending more on a house that was bigger than the Household REALLY needed was a ‘good investment.’ See End Note Six.

6. See *TRILO-G* Chapter 22 – Without Shelter and the columns and resources cited there in. While SYNERGY has been making these points concerning the Affordable and Accessible Housing Crisis for decades, only with The Great Recession are others jumping on the band wagon. See Sugrue, Thomas J. “The New American Dream:

Renting” in The Wall Street Journal 14 August 2009, Chapters 3,4 & 5 of *The Cul-de-Sac Syndrome: Turning Around the Unsustainable American Dream* by John F. Wasik (2009)

The second aspect of the ‘OverHousing’ is the building of The Wrong Size House in the Wrong Location. There are far more big, dysfunctionally located dwellings than the Happy-as-Clams at the top of the economic Ziggurat NEED and they do not WANT small badly located places. See End Note Seven.

7. See resources cited in End Note Six. Need a quick confirmation? Consider the value decline from mid-2006 to mid-2009 for dwellings OUTSIDE Radius = 30 Miles from the Centroid of the National Capital SubRegion. Now compare these values with the value of the same dwelling by the same builder in locations INSIDE the logical location of the Clear Edge (Radius = 22 Miles to Radius = 26 Miles) and thus closer to Jobs and Services.

It was recently projected by Deutsche Bank that half of all mortgages (25 million of 50 million) will be underwater by 2011.

Many dwellings (with or without mortgages) have lost value. Home equity is the primary component of Household wealth and has been relied on as a nest egg for retirement. The recent trajectory of housing values is widening the Wealth Gap and pricing more and more citizens out of Accessible housing.

The foreclosure rates and underwater mortgages in this SubRegion are not yet as bad as in California and Arizona due to the strength of economic activities in the Core of the National Capital SubRegion but that will change over the next decade for reasons spelled out below. MainStream Media is not providing much help here either. Again see Appendix Five – Item Four

In addition to being ‘OverHoused,’ during the past decade West Prince William and now Greater Warrenton has become vastly ‘OverStored.’ New retail / commercial establishments have been developed by national chains and by optimistic Community and SubRegional entrepreneurs on the unfounded assumption that the outward migration of Urban workers would continue and that there would be citizens who could afford to occupy the Wrong Size Houses in the Wrong Locations.

There is human settlement pattern dysfunction based on scattered Urban dwellings in every MegaRegion and in every New Urban Region in the US of A. However, the locational dysfunction outside Radius = 30 Miles in the National Capital SubRegion it is as bad as anywhere in the US of A.

OverHousing and OverStoring has set the stage for a long, painful readjustment in Greater Warrenton-Fauquier.

The intent of SYNERGY'S the 10 April 2008 presentation to the Fauquier Board of Supervisors contained in Appendix One was to help Governance Practitioners get a handle on what was likely to happen in the months and years ahead and to help them prepare for the Fundamental Transformations then underway – and now even more clearly underway. It was also intended to help them find ways to make Greater Warrenton-Fauquier a unique place where citizens and the owners and managers of Enterprises and Institutions would want to live AND work.

The argument was (and is) that unless Greater Warrenton-Fauquier – both the Urbansides and the Countryside – are unique and desirable this Beta Community would (and will) fall into the economic malaise that threatened in early 2008 and is worse today.

SYNERGY presented a menu of 11 strategies to the Fauquier Board of Supervisors. There were also resources described and distributed. One of the handouts was “The Next Slum,” an article from the March 2008 *Atlantic* by Chris Linenberger.

Linenberger is not just a writer or a reporter. He has also been an advisor and principle in development projects for his own account. He understands better than most, the forces that are shaping the future. At the time of the strategy presentation in April of 2008, not many of those present thought Linenberger's perspective was relevant to Greater Warrenton-Fauquier.

Since that time citizen understanding of the breadth of the residential market deflation Outside Radius = 30 Miles has changed. It is suggested that doubters from 18 months ago need to reread “The Next Slum” and then do a field survey of Brookside in the Beta Village of New Baltimore / Vint Hill. One can also survey Realtor.com by Zip Code to see the scope of the current housing deflation in their own Dooryard, Cluster and Neighborhood.

Settlement Pattern Impact of The Great Recession

Now, 18 months after the presentation to the Board of Supervisors, it is even more clear that:

- What SYNERGY has been saying since 1973
- What SYNERGY spelled out in *The Shape of the Future* in 2000
- What SYNERGY further articulated in *TRILO-G*

was correct. It is now very clear that:

There must be Fundamental Transformation of human settlement patterns to achieve a sustainable trajectory for civilization.

There are no alternatives if a democracy with a market economy is to survive.

Now others are making the same points with more and more clarity. There is a new item for the MUST-READ list. In the March 2009 *Atlantic*, Richard Florida, the author of *The Creative Class* and other best selling books published “How the Crash Will Reshape America.”

The article (and the supporting materials published on Florida’s Blog since March of 2009) is written by one of the most well respected scholars documenting the forces that drive economic prosperity in the late 20th and early 21st centuries. The publication of “How the Crash Will Reshape America” is a major milestone on the path to understanding the future of human settlement patterns.

SYNERGY agrees with Florida’s perspective that there have been two major Transformations of settlement patterns since the demise of the agrarian society of 1800. See End Note Eight

8. It is the agrarian society of the late 18th century upon which the current governance structure of the US of A is based. Fundamental Transformation of the governance structure – number 10 of the 11 strategies outlined in Appendix One – must reflect the magnitude of changes since that time: A profound transformation from a society that was 95% agrarian and 5% Urban in 1800 to one that is 95% Urban and 5% agrarian in 2000.
 - The first Transformation resulted in the rise Industrial Centers that exhibited the spacial impact of the Industrial Revolution began to emerge as new settlement patters after 1800. The Fundamental Transformation to dominance of Industrial Centers was complete by the time the US of A emerged from The Long Depression (1873 to 1896)
 - The second Transformation has been the emergence of New Urban Regions that reflect the impact of the Automobile. New Urban Regions have emerged since World War II as documented in *The Shape of the Future*.

Richard Florida points out that the current Great Recession has many characteristics that are similar to The Long Depression (1873 to 1896). It was during The Long Depression that Industrial Centers blossomed to a position of economic and social dominance in the US of A. Industrial Centers were the intermediate step between ‘cities’ that were the Urban focus of agrarian societies before 1800 and New Urban Regions which are now the fundamental building blocks of contemporary society. See End Note Nine

9. It is useful to keep in mind that “cities” as classically defined emerged between 8,000 and 5,000 years ago and existed until early in the 19th century in Great Britain and a little later in Western Europe and North America. Industrial Centers then became the dominate Urban form. These were eclipsed by New Urban Regions that emerged following World War II as documented in *The Shape of the Future – 4th Printing*. Edge Cities and other ‘Sub-Urban’ phenomena are also profiled in the book.

Economic, social and physical forces are now in the process of restructuring New Urban Regions from Automobile dependent DISPERSION to new,

more focused Urban agglomerations that achieve relative Critical Mass and relative Balance at the Alpha Community scale. These new distributions of land use are prerequisites of functional and sustainable human settlement patterns at the SubRegional and Regional scales.

SYNERGY concurs with Florida's view of this reality and on the vast changes due to The Long Depression, and the post World War II disaggregation – “Sub-Urban” settlement patterns – driven by the Automobile. In contrast, The Great Depression (1929 to 1939) had little impact on URBAN human settlement patterns. The Great Depression did have significant impact on NonUrban settlement patterns, especially in the Dust Bowl and similar areas due to the results of disastrous Openland mismanagement. See End Note Ten

10. See Pare Lorentz's film “The Plow that Broke the Plains” available from Naxos. There is a potential problem with Vocabulary and Conceptual Framework in Florida's *Atlantic* article. Readers could misinterpret Florida's use of the word “expansion” to mean geographic dispersion. However he also uses the words ‘intensification’ and ‘reconsolidation’ which negate any hint of support for continued scatteration.

Finally, SYNERGY agrees with Florida on MegaRegions see PART FOUR – USE AND MANAGEMENT OF LAND in *TRILO-G*. There are no substantive disagreements between Florida's perspectives and SYNERGY's perspectives if the Vocabulary is reconciled.

Florida points out correctly, in the future, citizens must live, on average, far closer to Jobs and Services to stay competitive and to increase what he terms, healthy economic metabolism. This, in spite of the important role of new communications and information processing technology. Further these ‘new’ settlement patterns must be attractive to the primary creator of economic prosperity – the Creative Class. Also see Owen, David, *Green Metropolis: Why Living Smaller, Living Closer, and Driving Less Are the Keys to Sustainability.*”

What is most important to understand is that in fact the ‘future’ patterns of land use that are needed are EXACTLY the ones that the market has favored for 50 years. This is documented by Dwelling and commercial property square foot values using the ‘same-building-same-builder-but-different-location’ method of market evaluation. This market preference has been overwhelmed by the forces outlined in ROOTS OF THE HELTER SKELTER CRISIS – PART ONE of *TRILO-G*.

The main limitation on Florida's work is the same one that is hampering the Metropolitan Center's (Brookings Institution) *MetroMonitor* as well as the efforts of *American, 2050* and other Institutional efforts to make sense out of current trends:

The data for Communities, SubRegions, Regions and MegaRegions is confusingly aggregated by municipal and state borders and by poorly understood ‘Census defined’ geographies rather than by the organic components of human settlement.

To complicate matters there is almost no use of Radial Analysis by Agencies. Enterprises make extensive use of the Radial Analysis technique for competitive / proprietary purposes. A compounding problem is that the Centroid used by Enterprise Radial Analysis is determined by the individual Enterprise’s facilities and competitive interests, not on the organic structure of human settlement.

What Florida apparently does not realize is spacial reality INSIDE the Clear Edges around the Cores of New Urban Regions – especially in the largest MegaRegions. The settlement patterns WITHIN the Clear Edges are Swiss cheese due to the vast amount of vacant and underutilized land. This is especially true in the station areas of shared-vehicle Mobility and Access systems.

Yes, the Urban area in New Urban Regions ‘expanded’ dramatically over the past 40 years but not because there was an imperative to expand. It was NOT because there was no space to grow (intensify) INSIDE the Clear Edges. The Urban area expanded because Cheap Energy allowed – encouraged – choices that are no longer affordable. It was never a lack of “space.” See End Note Eleven

11. See “Blueprint for a Better Region,” (Google this title for access to an auto-run presentation of this very helpful information program). Also see “Five Critical Issues” a PowerPoint program on the CD with *The Shape of the Future – 4th Printing* and see PART ONE – THE ROOTS OF THE HELTER SKELTER CRISIS in *TRILO-G*.

Section Seven ECONOMIC REALITY TO THE RESCUE

MainStream Media and Agency spokespersons are on constant lookout for any faint sign of economic “recovery.” The potential of there NOT being a recovery in the foreseeable future – a scenario that is plausible based on Richard Florida’s analysis (with which SYNERGY concurs) – is unthinkable to most Governance Practitioners. See End Note Twelve

12. “The U.S. economy’s downward slide is slowing with more Regions seeing signs of stabilization since mid-June, according to the Federal Reserve’s latest snapshot.” From “Fed Sees Signs of Hope for Economy: Outlook for Jobs Remains Dismal.” *WaPo* 30 July 2009 A-14.

In an economy where 70 percent of the economic activity is consumer consumption (and the level of consumption is unsustainable) and where consumers and their Agencies are already in deep debt to pay for what has already been consumed, there is good reason for concern.

When consumers do not feel confident, they do not spend making conditions worse. Of course if consumers did spend and debt continued to grow, conditions will get worse faster.

SYNERGY calls existing conditions the Business-As-Usual Economy and those that hope it will continue for a while longer ‘Tiger Riders.’ See End Note Thirteen

13. See “Riding the Tiger” Column 124 in Chapter 46 of *TRILO-G*. Also see Chapter 29 – Prospering on a Finite Planet: The Economic Sphere - Global Resource Reality in *TRILO-G*

There is a prevailing assumption – reinforced by Enterprise owned MainStream Media – that admitting what is happening in the economic sphere will make things worse. That is a tragic reality of an economy based on consumer consumption but the alternative – sweeping reality under the rug – is even worse.

The problem is exacerbated by political partisans from the Elephant Clan screaming incessantly that everything would fine if THEY were in power. Over the past 35 years both of the major political Clans have made similar, if not equal contributions to the Global Financial Meltdown.

The economy has been pulled out of every recession since World War II by the sale of Automobiles and by building houses. Those are the two forces that directly and indirectly set the stage for the current economic meltdown.

The only temporary relief for the Auto industry depression seems to be the Cash for Clunkers program. Will there be a need for ‘Cash for Clunker dwellings’ programs? No, to pursue such a program will only make the settlement patterns dysfunction worse and deepen Agencies debt.

Two Options

There may or may not be a short-term – or even a longer-term – “recovery” but either way LESS, NOT MORE Mobility and Access will be provided by *Large, Private* Vehicles of the sort that are feared by opponents of Cut-Thru-Traffic and would theoretically be accommodated by building a ByPass. See Appendix Four.

The current economic reality makes decisions such as: What to do about Timberfence Parkway? a slam dunk because there are two basic options. Either:

- The economy will move out of The Great Recession and (temporarily) regain a trajectory something like the Mass OverConsumption of the 2002 to 2007 Boom, OR
- The economy will NOT move out of the Great Recession for a long time.

There is a third, intermediate option in which the recession “levels off” but there is little real economic growth and unemployment stays high. While there will be SubRegional and Regional variations, the Mobility and Access / travel demand for Grater Warrenton-Fauquier will be the same due to its location vis a vis the Centroid of the National Capital SubRegion.

Option One – Right now the signs are not good for a quick resumption of the 2002 to 2006 trends. See Appendix Three – Item Six

Even if massive federal Agency spending results in a way to reverse deflation (or even temporally resume the Mass OverConsumption Growth trajectory) that will not help Greater Warrenton-Fauquier much because of its SubRegional location.

Option Two – Under the second option – a long period of recession / depression – humans will only achieve a sustainable trajectory after a period of deflation that brings about a more substantive Balance between consumption and resources.

This new Balance will result from a new ‘spatial fix’ in Florida’s Vocabulary or ‘Balanced, functional human settlement patterns’ in SYNERGY’S Vocabulary.

That is what happened with the rise of Industrial Centers which became dominate by the end of The Long Depression (1873 to 1896). The difference is that in 1896 the US of A had huge untapped reserves of natural resources, new technology with which to access and consume these resources and a FAR smaller population. Perhaps most important, the population was motivated to be productive. Too many in the current population believe they are ENTITLED to consume and to be entertained.

Either way: Option One – Emerge from The Great Recession and deflation soon; OR Option Two – Not emerge from The Great Recession and deflation, there will be LESS TRAFFIC outside Radius = 30 Miles NOT MORE TRAFFIC.

The same is true for some intermediate option – Fed Chair Bernanke’s “leveling off,” for example. A long slow ‘recovery’ with high unemployment (as happened in the last two recessions), more foreclosures, tight money / credit – especially for those without good credit scores – contraction of consumer spending, increased Household savings and Enterprise profit driven by cost cutting, now increased revenue.

Future energy costs are key to every future scenario. See Appendix Five – Item Seven, Eight, Nine, Ten and Eleven

Under Option One, Option Two or anything in between there will be LESS roadway demand, not more. That is because there will be:

- Fewer *Large, Private* Vehicles
- Fewer long trips in any private vehicle
- Fewer Households

Fewer Households? Yes, FEWER Households. For now, the population is still growing due to immigration and hold over optimism but even if this does not dramatically reverse there will be fewer Households due to multi-generational occupancy of Units and multiple-unrelated-individual occupancy of Units. This Household size change will be required to adsorb the oversized dwellings and excess space in buildings converted from Enterprise and Institutional (office / commercial) use to shelter.

As pointed out below, NONE of these trends are new. They did not START with the current economic downturn and they are not JUST a reflection of the current economic conditions.

Before Going Into More Detail, Let Us Sketch Out the Mobility and Access Ramifications of the two polar Options:

Option One: The US of A and the Washington Baltimore New Urban Region moves Out of The Great Recession soon.

If the Regional Economy does (at least temporarily) move out of The Great Recession here are order-of-magnitude numbers to illustrate the probable realities facing those who must rely on *Large, Private* Vehicles for Mobility and Access:

- \$5.00 a gallon gasoline (or equivalent taxes on goods and services to subsidize Autonomobility) with continued traffic congestion that make long commutes unbearable,

OR

- \$10 a gallon gasoline (or equivalent taxes on goods and services to subsidize Autonomobility) with less congestion but NO Fundamental Transformation of human settlement patterns, OR
- \$7.00 gallon gasoline (or equivalent taxes on goods and services to subsidize Autonomobility) with less congestion but ONLY IF there is Fundamental Transformation of human settlement patterns. This is the level of Automobile fuel cost in many in First World nation-states.

For an summary of what could keep gasoline prices low see Appendix Five – Item Ten

The reason gasoline prices will rise in any ‘recovery’? Humans have burned through four billion years of accumulated natural capital in the past 113 years and there is no longer an abundant source of CHEAP ENERGY that can be converted to fuel for Urban activities, especially for Mobility and Access, the main use of imported petroleum. (See ‘Three Little Words’ in Appendix One and Appendix Five – Items Seven through Eleven)

The reason for high energy costs is a condition termed “Peak Oil.” Humans have burned through much of the planet’s easy-to-access petroleum reserves which are an important part of natural capital accumulated over the past four billion years. It would be economic and political suicide for those nation-states with the largest remaining reserves Russia, Brazil, Saudi Arabia / Middle Eastern Sheikdoms, South East Asia, Norway, Canada (as well as those with natural gas reserves such as the US of A) to sell these resources at low prices just to temporarily maintain unsustainable and profligate patterns of energy use and waste. Variance of the price of crude oil since mid 2008 (even controlling for speculation) demonstrates what will happen to petroleum prices if the economy ‘recovers.’

Yes, the Sun is an abundant sources of ‘free’ energy (energy income) BUT the available solar energy – and solar dependent energy, e.g. biomass, wind, wave and ocean current sources – are dispersed and cyclical. The energy demand to support an Urban civilization is focused and constant.

There are high costs associated with the capture and transport of ‘free’ solar energy. In addition, extensive capture of solar energy and its derivatives can have adverse impact of natural systems just as has happened with the rapid consumption of carbon based fuels.

There are many alternative energy sources but none will be CHEAP. This is especially true for energy sources that can be used to fuel *Large, Private* Vehicles that are the sine qua non of long Automobile commutes and long distance truck transport. See again Appendix Five – Items Seven through Eleven

The good news is that cheap fuel is essential to support dysfunctionally scattered Urban land uses. Take away cheap fuel and settlement pattern dysfunction atrophies quite quickly.

Some energy alternatives that are now being hyped will turn out to be pipe dreams. Some energy alternatives on the horizon place severe limitations on quality of life when compared to recent human experience based on rapacious use of carbon based energy and other resources.

New vehicle technology is not a silver bullet that will solve the Mobility and Access Crisis caused by dysfunctional human settlement patterns.

Efficient hybrids and electric vehicles will be small and slow OR they will be heavy and VERY expensive. That reality is again a matter of physics.

In fact small and slow is good, not bad from not just a resource conservation perspective but from a quality of life and mental health perspective – unless the objective is maximum consumption – the moral perspective of cancer cells.

The inevitable reality is that ALL the energy sources will be EXPENSIVE – hydrogen, bio fuels, wind, waves, ocean currents, ultra-deep drilling to capture geothermal resources, safe nuclear, clean coal and all the rest. It will also be expensive to capture known and future discoveries of deep water petroleum reserves and to extract useful products from sources such as oil shale and tar sands.

As pointed out in THE PROBLEM WITH CARS, even FREE fuel for *Large, Private* Vehicles will not SOLVE the Mobility and Access Crisis because of human settlement patterns dysfunction created by the space to drive and park Automobiles. There is no reason to explore this point here because there is no probability of abundant, Cheap Energy. For those who dream of a quick fix again see Appendix Five – Items Seven through Ten. For the outlines of a potential cheap energy windfall see Appendix Five – Item Eleven

Beyond the End of CHEAP Energy

And it is not JUST the end of CHEAP energy that will change the future landscape.

Citizens and their Organizations in the US of A have not been paying the full cost of their actions vis a vis settlement patterns. They have borrowed from their grandchildren, from their competitors and from their planet.

The first world, and the US of A in particular, has borrowed from China, Japan, India and Russia via trade balance and, by selling Treasury Bonds that competitors have used as their reserve currency. Now Russia, China, Brazil and India are all in the process of shifting currency reserves away from the dollar. Whether one looks at personal debt, Household debt, Enterprise debt or Agency debt, the current deficits are record-setting and unsustainable.

A sustainable trajectory requires payment for what has already been wasted and then for Fundamental Transformation to patterns and practices that do not waste resources in the future.

The bottom line is that even if there is temporary – even perhaps a decade long – relief from The Great Recession, the vast majority of citizens will not be able to afford long commutes, and will not be able to afford *Large, Private* Vehicles. They will not be able to afford McMansions – or even modest bungalows, spit levels and ramblers – in scattered locations.

Option Two: The Region does NOT move out of The Great Recession for a long time

Well, the results will be the same.

The difference is that citizens and their Organizations will be even less able to pay the cost of Mobility and Access. The Mobility and Access costs will not rise as fast as in Option One because of lower rates of consumption, however, there will be more citizens and Organizations that cannot afford even more modest costs.

There will be a few at the top of the Ziggurat who have money to burn. However, the bottom 90 to 95 percent of the population will have to embrace lifestyles that are characterized by a much more Spartan existence as compared to the Mass OverConsumption of the recent past.

In this circumstance, traffic congestion will be the LEAST of their problems.

And then there is the REAL long-term problem:

The overarching, long-term problem is that no society can sustain democracy with an expanding and deepening Wealth Gap. When those at the bottom of the Ziggurat KNOW that they have NO hope of getting out of poverty and deprivation, bad things happen. Civil disobedience and socialist revolutions are what has happened most often over the past century when promised benefits are not really accessible no matter how hard one works. Bad things will happen faster with contemporary information transfer technology.

Either Get Out (Option One) or Not Get Out (Option Two) of The Great Recession – the Result vis a vis Timberfence Parkway is the Same.

Citizens will not be able to afford long commutes.

Most citizens will not be able to afford *Large, Private* Vehicles to overcome locational dysfunction.

Citizens will not be able to afford ‘drive-til-you-qualify’ home buying. See End Note Fourteen

14. Richard Florida recommends that to preserve prosperity – rather than Mass OverConsumption – the focus on expanding home ownership will have to be abandoned. The reasons Florida gives for this change make sense from the perspective of maintaining prosperity and increasing economic metabolism and quality of life. Also see Sugrue, Thomas J. “The New American Dream: Renting” in The Wall Street Journal 14 August 2009, Chapters 3,4 & 5 of *The Cul-de-Sac Syndrome: Turning Around the Unsustainable American Dream* by John F. Wasik (2009) and the Blog posting “The American Dream Amended” by E M Risse 18 August 2009.

Citizens will not be able to afford to ‘get more house for the dollar’ by choosing a dysfunctional location. The focus will be on “the not-so-big-house” and on quality of life, not on ‘Bigger is Better’ housing and primary residences as an ‘investment.’ Again see End Note Fourteen

Citizens and their Organizations will finally come to realize that:

- NO ONE can afford dysfunctional human settlement patterns
- A stable and sustainable society cannot afford to avoid fairly allocating the costs of contemporary civilization – especially location -variable costs.

Section Eight

NOT JUST RECENT CHANGE AND NOT JUST THE CURRENT ECONOMY

It is helpful to step back and look at the current reality as a Regional Strategist / Urban Theorist would.

As noted above over the past 30 years the extent of New Urban Regions has expanded. However, even in the late 80s and the 90s the percentages of long distance commuters living at the edge of the Washington-Baltimore New Urban Region was declining. Between 1990 to 2000 there was a significant decline in the percentage of long distance commuters living in Page, Shenandoah, Frederick Counties in Virginia and Berkeley, Morgan, Hampshire and Hardy Counties in West Virginia.

The reason for this trend was that extreme commutes had become unbearable in cost (even with relatively cheap gasoline) AND in quality of life. It was not the home end of the trip that changed but the Jobs / Services end. Where Jobs are located is critical. The distribution of Jobs in the National Capital SubRegion has not changed in any significant way since the mid 80s. See End Note Fifteen

15. See “Where the Jobs Are” Column 31, in Chapter 46 of TRILO-G. Some major employers in HIGHER R = X locations such as WorldCom and AOL in the early 90s are no longer significant players in the SubRegion’s Job market. SYNERGY has suggested that one reason that these Enterprises have failed was that they could not attract the type staff that Florida argues are the key to prosperity work to places like “Wal*Mart in the Weeds” – the location of AOL and WorldCom ‘campuses.’

The decline of long commutes for a growing percentage of population in jurisdictions near the boundary between the Washington-Baltimore New Urban Region and the Appalachian Urban Support Region resulted in designation of a separate Winchester MSA in the Shenandoah Valley. Culpeper and King George Counties were dropped from the Washington MSA. That was NOT because of the emergence of Balance in those jurisdictions but due to a new configurations of disaggregation and dysfunction. These changes and the evolution of new Census designated geographies such as ‘Micropolitan Areas’ were driven by political pressure and rampant New Urban Region obliviousness. See End Note Sixteen

16. See the PowerPoint “New Urban Region Conceptual Framework” in Chapter 49 of *TRILO-G*.

The transformations that started three decades ago are accelerating due to The Great Recession and the forces outlined by Richard Florida, Thomas Sugrue, SYNERGY and others.

The current trends in US Route 211 Traffic noted in Section Five reflect this SubRegional reality.

The data on recent population trends in SubRegions, Regions and MegaRegions of the US of A and especially in the National Capital Subregion is very clear. Property values in the area INSIDE Radius = 5 Miles have held their ground or increased and the population has grown. Those OUTSIDE Radius = 5 Miles have declined. See End Note Seventeen

17. See the Brookings Institution MetroMonitor for trends thru mid-2008. The same is true for the trajectory of vehicle use as documented by the Texas Transportation Institutes 2009 Urban Mobility Report based on 2007 data.

A more fine grained analysis using Organic Component data would show that stability is focused on areas that are not just close to the Centroid of the Core but in the Radius = 1 Mile around a number of METRO station platforms and several other key locations such as Reston Town Center.

A majority of citizens need to realize that they must take the lead in pushing for Fundamental Transformation to settlement patterns, Fundamental Transformation of governance structure and Fundamental Transformation of economic systems. See End Note Eighteen

18. Fundamental Transformation of economic systems does NOT mean abandonment of competition and the market, it means arming citizens with the information they need to make intelligent choices in the marketplace and Agencies with the ability to ensure a level playing field. Agencies can be trusted with these new powers ONLY when there is Fundamental Transformation of governance structure to put citizens, not political clans in control of governance at all scales. This reality is the message of NEED FOR A NEW METRIC FOR HUMAN WELL BEING, PART FIVE of **TRILO-G**.

The new settlement patterns must have Critical Mass as well as a sustainable Balance of Jobs / Housing / Services / Recreation / Amenity at Village, Community, SubRegional and Regional scales.

Section Nine SO WHAT DOES ALL THIS MEAN FOR TIMBERFENCE PARKWAY?

The ‘NEED’ for a new Roadway to carry ‘increased future traffic,’ especially ‘commuter’ traffic is based on projecting past trends forward without regard to the current and probable future reality with respect to the affordability and use of *Large, Private Vehicles*. As noted in Section One:

- There will be less and less ability for citizens to have Job in the Core of the SubRegion and seek Housing and Services somewhere else
- There will be less and less ability to live west of Greater Warrenton-Fauquier and drive to Jobs and Services in and near the Core of the SubRegion
- The economy will force Agencies to provide Mobility and Access with more efficient shared-vehicle systems rather subsidizing *Large, Private Vehicles*.
- Agencies will be forced by economic reality to abandon “commuter services” to those in scattered Urban dwellings in the Countryside
- There will be no ability to truck goods long distances. Long distance trucking would have atrophied years ago but for gross subsidies. Truck fees and taxes now pay for only about 10 percent of their impact on Roadways.

Only one cohort really benefits from ‘ByPass’ to relieve Cut Thru Traffic:

Speculators in Northwestern Culpeper County and promoters of large lot Urban Dwellings in Fauquier and Rappahannock County. In the long run developers, builders, new residents and existing residents will continue to suffer. In the short run, shunting traffic onto a ByPass will only make the downturn more painful for businesses on Broadview Avenue.

There will be no reason to want to be in Greater Warrenton-Fauquier unless it is a great place to live AND work. The BIG challenge is to articulate what Greater Warrenton-Fauquier must do to achieve Critical Mass and create Balance that has little to do with the decline of value of scattered Urban dwellings to the west that are served by long commutes. More on that in Section Twelve.

Section Ten THE REAL NEED: A FUNCTIONAL GREATER-WARRENTON MOBILITY AND ACCESS GRID

Returning to a point touched on earlier:

There IS a real need for LINKS and CONNECTIONS to evolve a functional Mobility and Access Network for Greater Warrenton

There is a need for a way to get from US Route 17 north of the Lee Highway intersection to US Route 211 West of the Broadview / Shirley intersection without using Broadview Avenue.

But there are many other NEEDS too. Some may be more important than this connection for example:

- Connect Academy Hill Road east of US Route 29 ByPass to the north (Dumphries Road) and to the south (Meetze Road) Academy Hill Road provides dead-end access to Whites Mills, Millfield, Woods of Warrenton and is a disaster waiting to happen.

Just as important are connections WITHIN the current Town Borders:

- It is important to connect Walker Road to East Shirley Avenue west of the US Route 29 ByPass
- There is a critical need for connections parallel to, and ON BOTH SIDES of Shirley Ave, Boradview Ave and Lee Highway
- The Town of Warrenton is STILL in 2007 and 2008 approving development without inter-parcel connections raising serious doubt about the development review process in the Town
- The system of 'Greenways' need to accommodate more than recreation and exercise. There is good reason for some recreational-only Links for walking and bikes but limiting use of the corridors that are important Links and Connections serving Greater-Warrenton is inappropriate.
- Concern for pedestrian / bike access is a great start, however, attention needs to be paid to means of vehicle transport that fall between push scooters / roller blades and *Large, Private* Vehicles – Segways, adult tricycles, golf carts and perhaps Smart Cars.

It is critical to remember that the more Links and Connections there are, the less any one Link or Connection must carry a 'Cut-Thru' burden.

All the missing Links and Connections – in the Town and in the County – need to be identified, mapped and included in a comprehensive up date of both Town and County documents.

It is imperative that these new Links and Connections do not open additional land for low density development and thus expand the logical location of the Clear Edge around Greater Warrenton.

Section Eleven A STRATEGIC APPROACH TO THE TIMBERFENCE PARKWAY: NOT JUST ANOTHER WISHY-WASHY PLAN AMENDMENT

In the Foreword the eleven strategies presented to the Fauquier Board of Supervisors on 10 April 2008 were listed. The complete summary of the presentation can be found in Appendix One.

Here is a brief summary of how the Timberfence Parkway issue relates to these eleven strategies:

- I. Conceptual Framework Strategy and
- II. Robust Vocabulary Strategy

This discussion of Timberfence Parkway has been presented in the context of the New Urban Region Conceptual Framework. The discussion relies on the Vocabulary developed to articulate that framework.

- III. Citizen Information Strategy

Before citizens can support Governance Practitioners initiatives, they must understand the issues. A series “build it now” and “do not build it ever” public hearings reported in ‘He said, She said, stories (aka, ‘balanced journalism’) will not prepare citizens to make intelligent choices. Those who are already partisans in the discussion will just shout louder. The result is that citizens cannot inform their representatives of their support for intelligent actions. This report is intended to supply perspectives that place the decision in context.

- IV. Mobility and Access Strategy

Changing the Comprehensive Plan is all about Mobility and Access but if there is not an understanding of what is at stake and what the real alternatives are, the result will be more of what one can now see in Eastern Loudoun and Prince William Counties:

Transport facilities that are not in Balance with settlement patterns and thus yield traffic congestion.

- V. Affordable and Accessible Housing Strategy

To achieve a sustainable future trajectory, a first step is a Balance of Jobs with Housing. The next step is to put Affordable Housing in locations that are Accessible to Jobs and Services.

- VI. Beyond Helter Skelter Strategy

More, not less Helter Skelter will result if there is a ‘ByPass’ that encourages more dysfunctional, unBalanced development in Northern Culpeper County and more scattered large

lot Urban development in Fauquier and Rappahannock Counties.

VII. Economic Development Strategy

As noted below, there must be a new, aggressive effort to create Critical Mass and Balance in Greater Warrenton - Fauquier. This will not come from ‘recruiting’ a large Enterprise and hoping the employees will live and work in Greater Warrenton-Fauquier.

One path to creating a Critical Mass and Balance in the Beta Community would be to attract Enterprises and Institutions that are committed to creating an Alpha Community in Greater Warrenton-Fauquier because they want to live and work in such a place. The 11 strategies could provide an armature for this effort.

VIII. Comprehensive Parcel Consolidation Strategy

As the cost of Mobility and Access goes up, more and more of the scattered Urban dwellings – both McMansions and McRanchers – will become prime candidates for a “Cash for Clunker Location” programs. It is elementary that large parcels – whether the ownership is public, joint / common or private – do not generate Urban service demands and Urban traffic that 1, 3, 5, 10, 15 and 20 acre parcels do.

IX. Fair Allocation of Location-Variable Costs Strategy

As noted in the 10 April 2008 presentation and in this report, a fair allocation of location-variable costs is an absolute necessity. Fairly charging for Urban services will help implementation of the Comprehensive Parcel Consolidation Strategy and provide the revenue to pay for cashing out dysfunctional settlement patterns.

X. Fundamental Change in Governance Structure Strategy

Another key issue, some specifics are outlined in Section Thirteen.

XI. Sustainable Population Strategy

A natural product of creating a sustainable Critical Mass and Balance will be a sustainable population.

Section Twelve

THE OUTLINE OF A POTENTIAL SOLUTION / FIRST DRAFT

With the Strategic parameters presented in the last 10 Sections in mind what should be done with Timberfence Parkway ?

NB: THIS SECTION MUST BE EXPANDED TO REFLECT SUGGESTIONS BY THOSE WHO HAVE READ AND UNDERSTAND THE PRIOR 10 SECTIONS.

As part of a Town-wide and Center District-wide Access and Mobility Update, include a Roadway from US Route 211 to US Route 17 including the current Timberfence Parkway right-of-way on the County plan. Off set the access to Winchester Street extended from the Eastern Bypass / US Route 17 North interchange so that the new Roadway does not become part of ‘Beltway.’ A north-bound US Route 17 ByPass to south-bound Winchester street ramp will suffice. (The Street names in the area north of Lee Highway / Winchester street intersection need to be changed.)

Place all the other critical Links and Connections on the plans to create a network for all of Greater Warrenton – Town of Warrenton, urbanized area of the Center District of Fauquier County and any areas of concentrated Urban land use outside the Center District. A quick survey of the clarity and comprehensiveness of the transportation element of the Center District “comprehensive” plan suggests there is a pressing need for improvement in this area.

With respect to the Connection that includes Timberfence Parkway the plan should outline specifications for the corridor:

- Create emergency vehicle use as soon as possible using an augmented pedestrian system.
- Create break-away emergency access to adjacent Dooryards and Cluster where future connections can be made (See English Chase access to Fisher Lane south of Shirley Avenue.)
- Create a detailed design that insures safe use of all Links and Connections by pedestrians and bikes as well as other vehicles
- Outline a process to create Links and Connections that involves impacted Dooryards and Clusters
- Accommodate Segways, motorized wheel chairs, low power / low speed / low noise scooters and mopeds, golf carts, and perhaps Smart Cars with speed limiting / traffic calming techniques.
- Establish travel demand thresholds for any further Roadway improvements. Straight line projections of past trends are a form of insanity.

- BEFORE any Roadway is constructed in the Timberfence corridor there must be a pathway that is designed for pedestrians and small vehicles in place. This pathway must stay open for use during ANY subsequent construction in the corridor. (Building Links and Connections only to close them down to build Roadways for Large, Private Vehicles sends the wrong message about what is important for future Mobility and Access.)
- Limit the Roadway to two lanes within the existing Rights-of-way
- Ensure that unless there is further review and specification via a Comprehensive Plan Amendment that if a Roadway is built it will be a toll facility. (If there is a REAL need for moving *Large, Private* Vehicles, an Enterprise will step forward to build it as a public / private partnership.)
- If a toll Link is built specifications should include:
 - No toll to go to and from Old Gold Cup or Silver Cup
 - Reduced tolls for vehicles with more than two occupants
 - Reduced tolls for those who live in the Town of Warrenton and a slightly higher toll for those who live in the County/ See next section concerning change of Borders between Town and County
 - Design and regulations to insure traffic meets reasonable standards for speed and noise

Finally, as noted in Section 10, it is imperative that no Link or Connection open new land for low-density development and in this way expand the land within the logical location of the Clear Edge around Greater Warrenton. This can be accomplished by focusing on Links and Connections WITHIN the Urban fabric.

Section Thirteen LONG TERM GOALS AND SUMMARY

The upgraded circulation plan must be in harmony with and promote broader goals of the Town and the County. Specifically the plan should support evolution of:

- A Critical Mass of economic, social and physical activity at the Alpha-Community, Alpha-Village and Alpha-Neighborhood scales
- A Balance at Alpha Neighborhood and Alpha Village scales within Greater Warrenton-Fauquier with functional pattern and densities of land use
- New governance structures that reflects contemporary economic and social reality. This would include:
 - A new Village-scale governance structure for 2nd largest Urban agglomeration – New Baltimore / Vint Hill
 - A new Neighborhood-scale governance structure for all the other Services Districts
 - Transition Fauquier County away from providing Urban services except on a fee basis sponsored by two or more Village-scale or Neighborhood-scale Agencies. This will encouraging the creation of new Agencies at the Cluster- scale and Neighborhood-scale as needed.

Timberfence Parkway should be a demonstration first link in a greatly expanded pedestrian and small vehicle (bicycle, low powered scooter, golf cart, Smart Car) system in Greater Warrenton as an important element of “Greater Warrenton is a very special place to live and work” effort.

The most important short term goal will be to give residents an opportunity to understand the impact of the Fundamental Transformations that are on the horizon, especially those impacting the use and utility of *Large, Private Vehicles*.

Among the goals of future actions would be:

- Non-Automobile tourism and shared-vehicle tourism
- Balanced Villages of consisting of Balanced Neighborhoods
- Revised Agency Borders and Boundaries to reflect existing economic, social and physical reality, not just history
- Preserve and enhance what is unique of Greater Warrenton and Greater Warrenton-

Fauquier

- Create special place, not just a place with more roadways for lemmings to drive and more grass for lemmings to mow.

The current economic woes will not be solved by waiting out another recession and hoping it will be over soon. It will not be solved by tinkering.

Intelligently addressing the future will require Fundamental Transformation of human settlement patterns, Fundamental Transformation of governance structure and Fundamental Transformation of the economic system. Anything less will be uncivilizing.

As noted in Section One:

To achieve a sustainable trajectory for civilization, the Mobility and Access systems must be in Balance with the demand generated by the settlement patterns.

What every component of human settlement NEEDS is more ‘connections’ NOT more ‘connectors.’ Every component of human settlement needs a functional Mobility and Access grid and NOT more ‘ByPasses.’

The cost of using *Large, Private Vehicles* has gone up and will go up further. In addition, new programs, policies and regulations that begin to fairly allocate the location-variable costs – including the full cost of *Large, Private Vehicles* – will cause the cost of their use to go up even more.

As use and utility of *Large, Private Vehicles* winds down, MegaRegions, Regions, SubRegions, Communities, Villages and Neighborhoods will need new transport infrastructure for efficient vehicles to provide Mobility and Access for functional and sustainable human settlement patterns.

Fauquier County has had 35 years to prepare for intelligent Fundamental Transformation. So far very little has been done other than least common denominator efforts to take the sharp edges off of Business-As-Usual. It is time to get to work.

APPENDIX ONE

SHAPING A FUNCTIONAL AND SUSTAINABLE FUTURE IN GREATER WARRENTON-FAUQUIER

This is the outline of a workshop presented to the Fauquier County Board of Supervisors on 10 April 2008. Based on feedback from attendees, SYNERGY expanded the notes as presented here. The presentation was well received by the Supervisors, however for the reasons spelled out in Strategy III, the implementation of the recommended actions have not yet been given high profile billing.

INTRODUCTION

Three Theses

The “future” will not be an extension of the past.

Traditional (“Business-As-Usual”) strategies are not working now and will not work in the future.

We are living in an era of “Punctuated Equilibrium.”

A “Punctuated Equilibrium” is a common occurrence in natural / organic systems. An example is water reaching the boiling point and turning from liquid to gas.

It is foolhardy to assume: “Hey, there have been six recessions since WWII, and this is just another one...”

Thanks to Terry Nyhous for your invitation to address this work session.

Terry’s stated goal is to “open a dialogue about critical issues facing Fauquier County” and thus Greater Warrenton-Fauquier. Our presentation is intended to contribute to that dialogue.

Also, thanks to Don del Rosso of the *Fauquier Times Democrat* (“Out with the old, in with New, Risse pushes mind set fix,” 9 April 2008). His interview questions helped us understand:

- How much has changed since we moved to Greater Warrenton-Fauquier six years ago
- How much our understanding of the Countryside and the urban enclaves in the Countryside has changed
- How much is the same and not getting any better.

Based on these understandings, the draft outline distributed to the Board prior to the presentation was edited and the number of strategies expanded to 11 to make our objectives more clear.

It may be useful to review END NOTE ON VOCABULARY before reading further.

Three Little Words

“**No Cheap Energy**”– especially portable, concentrated sources of energy necessary to efficiently power *Large, Private* Vehicles.

The problem is NOT just rising gasoline and diesel prices and falling house values due to this Community’s growing isolation from jobs in the Core of the National Capital Subregion.

Rising energy costs are driving up the price of food, shelter, communications, lighting, heating and cooling and all aspects of Mobility and Access.

In fact, the entire contemporary economic, social and physical Ziggurat of Community, Subregional, Regional, Continental and First World civilization has become dependent on cheap energy

Three Axioms

Do it with your friends – any action to secure functional settlement patterns by Fauquier County must be done with the Towns in the County as well as the surrounding jurisdictions. No Town, Service District or County is an organic component of human settlement due to the economic, social and physical transformations that have taken place since Fauquier County was formed.

Do NOT do it in Cars, aka *Large, Private* Vehicles or Automobiles

There are NO Villains. Everyone is doing what they believe in the best interest of their Agency, Enterprise, Institution or Household (See important End Note Concerning Vocabulary with respect to the capitalization and definitions of these terms.)

Three Realities

Humans have burned through natural capital – not just forests, soil, ground water, surface water and marine resources but **petroleum** which has been described as the “most precious, versatile resource on the planet”

“Growth” is not equal to Safety, Happiness OR Prosperity, and for sure, not all three.

Most of what is advertised as “green” is just a new excuse for more Mass OverConsumption. It was called “Green Greed” in a recent *WaPo* story. For many examples, look at the latest issue of *Virginia Business* or the ads for Home Depot. Last week we received a “Green” Bank of America Visa credit card application that allows us to earn “Earth Smart Points” while we continue to buy more and more stuff.

Some Incredibly Bad Advice

WaPo 7 April 2008, “Economic Woes Render Growth Debate Moot.”

A Loudoun County Supervisor is quoted: “Prior Boards have focused on land use, and in my opinion, it’s time to focus on finance and budgets.”

If you believe that,

- (1) You will not be prepared for the next “growth cycle” if it occurs. That is what has happened after the last four “Oil/Auto and Real Estate Recessions:”

1973-1975 (Oil, REIT Mortgages, Land Speculation)

1980-1982 (Oil, Savings & Loans Collapse, Land Speculation)

1990-1991 (Jobs, Housing)

2001-2003 (Dot Coms, Housing)

After each recession, human settlement pattern has become more dysfunctional.

Plus...

- (2) If the next “growth cycle” NEVER comes, Greater Warrenton-Fauquier will sink into chaos with all the other Beta Communities because citizens, and their Organizations (Agencies, Enterprises and Institutions) did not take intelligent actions necessary to facilitate “growth” within a sustainable context. (See the important End Note on Vocabulary.)

To create Balance and sustainability there is an absolute necessity for Fundamental Change – Fundamental Transformation – not just “growth.”

To its credit the above *WaPo* story updates and confirms aspects of “The Next Slum”

from March 2008 *Atlantic* . See the predictions by Prof. Art Nelson from VA Tech / Alexandria Campus.

ELEVEN STRATEGIES

The Shape of the Future – Part Four – Six Overarching Strategies for Transforming the Human Settlement Pattern establishes the context for the following eleven strategies. These eleven strategies outline what Fauquier County (and Greater Warrenton-Fauquier) must do now to address the Mobility and Access Crisis, the Affordable and Accessible Housing Crisis and the Helter Skelter Crisis.

I. Conceptual Framework Strategy

Embrace Regional reality – This is not 1910 or 1950 or 1973 or even 1990

- County policy must focus on Regional and Subregional reality. See the Radius Analysis of the foreclosure rates in the 7 April 2008 Bacon’s Rebellion column “Two Spheres of Fraud” concerning shelter.
- Current municipal and state borders confuse most critical issues facing citizens.
- There is an organic structure of human settlement patterns and the governance structure must evolve to reflect this reality.

[Resources, The *Shape of the Future* and *TRILO-G*]

II. Robust Vocabulary Strategy

First step: Stop using confusing words such as:

“rural”

Even in Fauquier County, less than 10 % of the Households rely on nonurban activities for their livelihood.

95% of the Households who moved here over the last decade rely on urban income, even if the “out go” supports some nonurban activities.

Perpetuating the myth of “rural” is a cause of economic, social and physical dysfunction. How about “Countryside?” Come up with own word or phrase, but do not use words which mean different things to different people such as:

“sprawl”
“local”
“city”

[Resource, most S/P writings, Key Word: “Vocabulary.” Also see PART THIRTEEN – GLOSSARY in *TRILO-G*]

III. Citizen Information Strategy

The Fauquier Board of Supervisors could not now implement any of the following eight Strategies because citizens do not yet understand the problems; that there are alternatives; or the ramifications of continuing “Business-As-Usual.” For these reasons, citizens would not now support most of the needed actions by the Board or by other Agencies, Enterprises or Institutions.

Citizens want “answers” to the Mobility and Access Crisis, the Affordable and Accessible Housing Crisis and the Helter-Skelter Crisis, but:

- Citizens are not yet willing to consider rational answers because they have been led to believe there is a quick fix:
“Vote for me, and I will solve your problems with no pain. (If that did not happen the last time you voted for me, it was the other parties fault...”

“Buy this product and you will be carefree...”

“All the problems are someone else’s fault, and if they would just change...”
- Citizens have no reliable source of information with which to make decisions *in the voting booth or in the marketplace*.
For proof see most “letters to the editor” or listen to most comments at “public hearings” on topics related to human settlement patterns.

The “Fourth Estate” first identified in 1837 is history. MainStream Media are now profit-advertising-consumption-driven Enterprises.

- MainStream Media has no choice because they are Enterprises and live on ad revenue and entertainment, they are not rewarded for providing the information citizens need

- It is not MainStream Media’s fault, it is the fault of citizens for not evolving new sources of information over the past 50 years. Given all the communication tools now available, citizen ignorance and Geographic Illiteracy are self-inflicted wounds.

The future of democracies with market economies depends on informed citizens. (We were pleased to hear that there was a proposal for an Agency information officer at the County level. This was a first step, however, the proposal was withdrawn after opposition from citizens. See note above re citizens support of needed actions.)

[Resource, PART TWO – THE ESTATES MATRIX in *TRILO-G*]

IV. Mobility and Access Strategy

Limit the use of and reliance on Large, Private Vehicles aka, Automobiles for Mobility and Access.

Celebrate the opening of a Zip Car Outlet on Main Street, not another Large, Private Automobile dealership. Encourage a Balance of Jobs and Housing.

Do not encourage “commuting.” The only thing that will help commuters is to help them become “former” commuters. Among the multi-jurisdictional efforts Fauquier County can support are:

- Raise the gas tax.
- Implement broad based usage fees on the basis of vehicle-miles-driven, especially single-occupant-vehicle- miles-driven. Fees must relate the cost of all driving to the costs of driving on that street, roadway or expressway at that time.
- Relate all fees and taxes used for transport to the miles driven and the contribution to congestion.
- Move away from general sales and property taxes to support transport.
- Re-lower the speed limit.
- Building more roads without Fundament Change in human settlement patterns is a waste of resources.
- Impose an Abuser Fee on officers-of-the law that do not enforce laws including those on speeding and violation of HOV regulations.

- Hybrids are hokey; Smart Cars and Segways are a first step. Single-occupant Hybrids running with the traffic flow in the HOV lanes - 78 to 82 MPH on I-66 unless drivers are riding brakes - are saving little or no gasoline. (They are not saving any gas per capita by any measure and some industry studies suggest at those speeds they are no more efficient than other cars of a similar size due to wind resistance and power train design.)
- The key question is: Do we have the time to phase in Mobility and Access alternatives?

[Resource, PART THREE – THE PROBLEM WITH CARS in *TRILO-G*]

V. Affordable and Assessable Housing Strategy

It is an absolute necessity that the Greater Warrenton-Fauquier Community achieve a Jobs/Housing (J/H) Balance. However, that is only the first step on the road to optimizing the Jobs/Housing/Services/Recreation/Amenity (J/H/S/R/A) Balance for every organic component of the Community

Habitat for Humanity can only do so much. Right now 60 to 70 percent of the citizens cannot afford the current housing options on the market.

Moreover, those citizens and the work they do are essential to achieving J/H/S/R/A Balance in the Community.

If house prices continue to drop and more can afford the existing dwellings, the current housing stock still will consist of “the wrong size house in the wrong location” vis a vis J/S/R/A Balance.

The fact is that Single Household Detached (SHD) housing cannot be made “Affordable,” for the majority of those in the market for housing IF it is also Accessible to Jobs/Services/Recreation/Amenity.

This is a matter of physics, geometry, the economics of housing construction and the housing market. There are three alternatives:

- Wealth transfer to subsidize construction, maintenance and accessibility of dwelling Units that have greater inter-Unit separation than the occupants could otherwise afford
- Significantly raise the wages of those in the lower half of the economic food chain and provide cheap energy to fuel Mobility and Access necessary to overcome the cumulative impact of inter-Unit separation. (See “Three Little Words” above)

- Accept the fact that Multi-Household Dwellings and Single Household Attached Dwellings will make up the majority of the housing stock in any Neighborhood, Village and Community

It turns out that well-designed dwellings in multiple-Unit-type configurations, when accompanied with Services, Recreation and Amenity, have the highest market value per square foot. That includes the value of the Single Household Detached Dwellings in the Neighborhoods, and Villages that make up an Alpha Community.

[Resources, 7 April 2008 column “Two Spheres of Fraud,” S/P writing Keyword “Affordable and Accessible” and "How to Build a Village."]

VI. Beyond Helter-Skelter Strategy

There is a Helter-Skelter Crisis because the Helter-Skelter human settlement pattern is the sum total result of current Agency programs, policies, projects and regulations as well as the actions of Enterprises, Institutions and Households.

In spite of great intentions and many good efforts, Greater Warrenton-Fauquier is heading for a 50/50 mish-mash of urban and nonurban land uses.

- There must be a Clear Edge between the Urbanside and the Countryside. That means a Clear Edge around each of the urban enclaves in Greater Warrenton-Fauquier.
- The County must rethink the plans for all the Service Districts to optimize the Balance of J / H / S / R / A at all scales beyond the Dooryard.
- Demonstrate how those who want to support the evolution of a functional and sustainable Greater Warrenton-Fauquier can invest in new buildings as well as new and renewed infrastructure – both green infrastructure and the built environment.
- There must be one or more detailed Concept Plans for the use of every parcel inside every Clear Edge – in Fauquier County that means every parcel in every Service District. At the present time economic and functional plans for the area within Service Districts would yield far more development than there is a market.
- The “Next Larger Component” Plan Process should be applied to all development proposals.
- Touting “mixed use” and “traditional neighborhoods” is FRAUD unless the project contributes to Balance at Neighborhood, Village and Community scales.

- One option would be to lay out Alpha Neighborhood scale “Lewenz Villages” in one or more of the Service Districts.

[Resources “The Role of Municipal Planning in Creating Dysfunctional Human Settlement Patterns,” 22 Jan 2002, and most S/P writings. Key Words: “Helter Skelter”]

VII. Economic Development Strategy

Market what is unique and special about Greater Warrenton-Fauquier, now and in the future.

- The Town of Warrenton’s aggressive recycling program and Mayor Fitch’s waste product energy generation and Urbanside energy conservation efforts are a good start.
- Programs to support food production within the Community and expand farmers markets is an important effort.
- Access to a green Countryside is a positive but there needs to be 95% nonurban and 5% urban Balance in Fauquier County, not 50/50 Mish-Mash that is now evolving.
- Provide access to Countryside points of interest via shared-vehicles and via bike, foot, Segway and horse, not by Large, Private Automobiles.
- The overarching theme needs to be Live/Work/Invest in a REAL alternative to Fairfax/Loudoun/Prince William.
- As with Strategy VI, demonstrate how those who want to support the evolution of a functional and sustainable Greater Warrenton-Fauquier can invest in new buildings as well as new and renewed infrastructure – both green infrastructure and the built environment.
- Start an “Each-one-recruit-one” program to encourage investment. As noted in Strategy VI., an Alpha Neighborhood scale “Lewenz” Village in one Service District would be an intelligent next step.
- Pursue Community scale “import replacement” / “Go local” but go far beyond “Self-Reliant Communities in a Global Age” by Shuman.
- Above all strive to achieve Balance at Neighborhood, Village and the Greater Warrenton-Fauquier Community scales.

[Resources, “Self-Reliant Communities in a Global Age” by Shuman and most S/P writings, Key Word: “Balance”]

VIII. Comprehensive Parcel Consolidation Strategy

Since 1607, Virginians have been subdividing land. A new strategy must include:

- Subdivision recycling
- A new “sliding scale” to move urban uses inside Clear Edges
- Transfer of Property Rights

[Resource, THE USE AND MANAGEMENT OF LAND Forthcoming]

IX. Fair Allocation of Location-Variable Costs Strategy

This is perhaps the most important strategy, and this strategy relates directly to the Fauquier County budget and tax rates:

- Rely on “fee-for-use / service / benefit” whenever possible. Flat fees and general taxes do not reflect the locational difference in the cost of service delivery.
- Urban uses inside the Clear Edge are different than Urban uses outside the Clear Edge, say “hello” to Henry George.

[Resource, most S/P writings. Key Word: Location-Variable Costs]

X. Fundamental Change in Governance Strategy

Governance structure must evolve to match Organic Structure of human settlement patterns.

New governance structure must include new staff structure.

New governance structure must include new staff expertise.

[Resource, most S/P writings. Key Word: “Governance Structure”]

XI. Sustainable Population Strategy

The prior 10 strategies are of no value unless there is a sustainable Balance between resources and demand. The most important element in this equation is population.

Greater Warrenton-Fauquier has no obligation to “accept” or “accommodate” relocation from the Core of the National Capital SubRegion. In fact, to achieve functional and sustainable patterns and densities of land use, the area inside the Clear Edge around the Core of the Subregion (inside Radius = 22 to 26 Miles) requires substantial increases / relocation of population.

[Resource “The Beltway to Easter Island,” 5 May column and most S/P writings. Key Word “Population.” Also ASAP and Albemarle County are now conducting an important study of the optimum population for Greater Charlottesville-Albemarle.

- Programs to support food production within the Community and expand farmers markets is an important effort.
- Access to a green Countryside is a positive but there needs to be 95% nonurban and 5% urban Balance in Fauquier County, not a 50/50 Mish-Mash that is now evolving.
- Provide access to Countryside points of interest via shared-vehicles and via bike, foot, Segway and horse, not by Large, Private Automobiles.
- The overarching theme needs to be Live/Work/Invest in a REAL alternative to Fairfax/Loudoun/Prince William.
- As with Strategy VI., demonstrate how those who want to support the evolution of a functional and sustainable Greater Warrenton-Fauquier can invest in new buildings as well as new and renewed infrastructure – both green infrastructure and the built environment.
- Start an “Each-one-recruit-one” program to encourage investment. As noted in Strategy VI., an Alpha Neighborhood scale “Lewenz” Village in one Service District would be an intelligent next step.
- Pursue Community scale “import replacement”/”Go local” but go far beyond “Self Reliant Communities in a Global Age” by Shuman.
- Above all strive to achieve Balance at Neighborhood, Village and the Greater Warrenton-Fauquier Community scales.

[Resources, “Self-Reliant Communities in a Global Age” by Shuman and most S/P writings, Key Word: Balance]

Where to from Here?

Your first response may be **well yes, but...**

“Would not these strategies put us 10 years ahead of ourselves? After all, not 5 percent of the population in this Region is willing to consider alternatives to Business-As- Usual.”
OK!

Back to Strategy I, 5% of Region's Population is 500,000 people. That many people would fill up Fed Ex Field six times and is eight times the current Greater-Warrenton Fauquier population.

How many friends do we need? Not that many, see Strategy XI.

Is this “Realistic?” Will it Happen? Can it Happen?

What is “real?” The “conservative” approach to the future is to shrink the ecological footprint.

Will it Happen?

There have been missed opportunities for decades See Chapter 33 – What Did I Tell You in *TRILO-G* (Upper Mohawk Valley, 1968 / Highlands, 1971 / Overhills, 1973 / Katrina, 1975 / 18-Point Warrenton-Fauquier Program, 2003 / Subregional Certificate Program, 2004 / Town of Warrenton Implementation of Strategy VI at no cost, 2004 / PROPERTY DYNAMICS, 2005)

Can it Happen?

Greater Warrenton-Fauquier is one of the few places where there is any chance for Fundamental Transformation without severe pain. Success in the future depends on citizens, and their leaders.

Jared Diamond’s Bottom Line in *Collapse*

The societies that Collapse:

Fail to create intelligent, realistic plans for the future, and
Fail to reconsider traditional values when conditions change.

Readings

Items Distributed:

“**The Next Slum**” by Chris Leinberger from March 2008 Atlantic.

“**The Problem With Cars**” PART THREE in *TRILO-G*

Short List of Key Books:

Jared Diamond, "*Guns Germs and Steel*," provides a Conceptual Framework to help understand human settlement patterns.

Jared Diamond, "*Collapse: How Societies Choose to Fail or Succeed*" What happens to societies that run out of resources and do not change traditional strategies.

Robert Reich, "*Supercapitalism*," a very good description of the current crisis in democracy and the wealth gap.

Jane Jacobs, "*The Coming Dark Age*." You know her earlier book *Death and Life of Great American Cities* but the more she wrote, the better she got.

Michael Shuman, "*Going Local: Creating Self-Reliant Communities in a Global Age*." Shuman's new book is "Small-Mart" and well worth reading too.

Claude Lewenz, "*How to Build a Village*." Blueprint for a small-scale, non-Automobile dependent place to live and work.

End Note on Vocabulary

The use of a robust and consistent Vocabulary is essential to creating an understanding of human settlement patterns and the strategies required evolve functional and sustainable patterns and densities of land use. *The Shape of the Future* published in 2000 includes a Lexicon and a list of "Core Confusing Words" that should be avoided when considering human settlement patterns. (See Strategy II Above.)

This effort was expanded and refined during the preparation of *TRILO-G*. The resulting GLOSSARY is PART THIRTEEN in *TRILO-G*. GLOSSARY can also be found on the *RESOURCES* page at www.emrisse.com and at <http://www.emrisse.com/ckfinder/userfiles/files/EM%20RISSE%20GLOSSARY.pdf>.

The GLOSSARY contains the current definitions of words and phrases that may be unfamiliar to first-time readers. Typeface and Capitalization are used to identify words and phrases with

specific meanings in the work of SYNERGY/Planning. If the reader sees a capitalized word that is “normally” not capitalized, check the GLOSSARY. For example “Agency” is used in a number of places in this document. The GLOSSARY defines “Agency” as follows:

Agency

Agency is one of three forms of **Organization** beyond the scale of the **Household**. The other two are **Enterprise** and **Institution**. An **Agency** is an **Organization** created to carry out a governance function at any level or scale: multi-national, nation-state, state / province, region, subregion, municipal or sub-municipal. An **Enterprise** is an **Organization** created to generate profit, a monetary return on investment of time, effort and resources. **Institution** is an **Organization** created to achieve some purpose other than governance or profit. The phrase ‘**Enterprise, Institution and Agency**’ is intended to encompass all human Organizations beyond the scale of the **Household**. A **Household** is composed of the occupants of a single dwelling Unit.

APPENDIX TWO

*The following material was published in the **Fauquier Times Democrat** in January of 2006 and reflects information on the settlement pattern and traffic congestion at that time.*

24 January 2006

TRAFFIC IN GREATER WARRENTON

Mayor Fitch, in his end of the year report in the *Town Crier* reminds us that there is traffic congestion in Warrenton-Fauquier. Fitch reports that there is a joint Town of Warrenton-Fauquier County committee studying the issue. It is good that the Town and the County are talking. The fact that there are two governments representing Warrenton-Fauquier instead of one multi leveled governance structure is an historic tragedy but that is “another story.”

It is good someone is thinking about the issue because congestion is projected to continue to get worse, much worse. The unvarnished truth is that the Town and County working alone or together can do almost nothing about the growing traffic congestion except to accelerate or delay decisions that will in the long term negatively impact citizens of the Town and the County over coming decades.

The factors which will determine traffic congestion are:

- The location of jobs, houses, services, recreation and amenities (aka, the settlement pattern) in the Virginia portion of the National Capital Subregion, and
- The transport system implemented to provide mobility and access for this distribution of activity.

The Town and the County have for 40 years avoided suggestions to lead or support any action that would create a mobility system designed to support a sustainable settlement pattern. In fact the municipal (Town and County) controls, in conjunction with the municipal, state and federal policies, programs and projects have had a major role in distorting the settlement pattern market (land and buildings) and thwarting the evolution of Balanced Communities in the Piedmont of Virginia. That too is “another story.”

Where Jobs have located, and will continue to locate, is driven by regional, national and global factors. That is especially true in the Washington-Baltimore New Urban Region. Our region is the fourth largest urban region in the United States and the seat of government for the most powerful nation-state on the planet.

Where Houses, Services, Recreation and Amenities are located are subject to a greater level of regional, subregional and community influence. It is obvious from the existing conditions that the Commonwealth and its political subdivisions (sic) have done little to effectively shape the future in an intelligent manner.

Within Virginia, municipalities have almost no meaningful power to shape the future when acting in ones and twos. What they can do is to help citizens make more intelligent decisions in the voting booth and in the market place. Smarter decisions would support implementation of Fundamental Change in settlement pattern and Fundamental Change in governance structure.

Culpeper County's decision to approve the construction of thousands of houses near Clevengers Corner provides a perfect example of what the Town of Warrenton and Fauquier County can and cannot do. The Town and County can do little to directly influence the forces that are subsidizing projects in the US Route 211 corridor. The options are these, they can:

- Wring their hands and curse the stupidity of the decision, and
- Plan to accommodate the huge increase in traffic between the scattered houses to the west of Greater Warrenton and the jobs and services to the east of Greater Warrenton. All the schemes that accomplish this will result in added costs and inconvenience for the citizens of Warrenton-Fauquier

Or they can:

- Start the education process to help insure there is no market for more scattered houses to the west of Greater Warrenton. This will happen when citizens realize that when all the costs are accounted, for they cannot buy "more house for the money" in West Nowhere, and
- Help overcome the advertising and pandering politicians that suggests it is possible to build a roadway system so residents of scattered houses can get wherever they want to go, whenever the want to go there.

Back in 2005 when the Clevengers Corner issue was being debated we drafted a letter for the Town Council (and later a similar letter for the County Board of Supervisors) to send to developers of Clevengers Corner. The ideas in this letter would form the basis for an educational campaign.

So far the only action has been to "discuss the options." As noted above, all the "options" under consideration will make things worse—more congestion, more traffic, wider roads, more reason for people to continue to make bad location decisions.

A updated copy of our draft letter can be found at the Fauquier Times Democrat / Fauquier Citizen website and is reproduced below. Citizens need to let their representatives know Business-As-Usual is a dead end.

E M Risse, SYNERGY

.....
Revised DRAFT of Letter prepared for the Town of Warrenton and Fauquier County:

From: Town of Warrenton and County of Fauquier

To: Centex Homes

Re: Clevengers's Village and Adjacent Vacant Land in the Route 211 Corridor

Copies to:

County of Culpeper
County of Rappahannock
Rappahannock Rapidan Regional Commission
The *Fauquier Citizen*
The *Fauquier Times Democrat*

Dear Sir/Madam:

Early last year the Town of Warrenton and Fauquier County received a report on future traffic in the US Route 211 Corridor that was prepared for the Rappahannock Rapidan Regional Commission. We are sure you are aware of this report but have enclosed an additional copy for your review and use.

The governing bodies of The Town of Warrenton and Fauquier County are taking this opportunity to state our position concerning the dramatic PROJECTED increase in US Route 211 Corridor traffic volumes.

According to the enclosed 26 April 2005 report by Kellerco the traffic increases on US Route 211 and through the Core of Greater Warrenton will be primarily due to Centex's Clevengers's Village project. We also understand that there is additional vacant land in Culpeper and Rappahannock Counties owned by professional and armature speculators who would like to cash in by selling out for urban development. Additional urban development would be induced by your project if Clevengers's Village is a marketing success.

It is unfortunate that in Virginia, there is no agency responsible for balancing the carrying capacity of the transport system with the travel demand of proposed land uses. Further, Virginia municipalities are not empowered to carry out or participate in, meaningful subregional or

regional planning or actions that will create a balance of housing, services, recreation and amenity in functional proximity to existing and new jobs.

We cannot speak for future Town Boards or Boards of Supervisors but it is reasonable to assume that the Town of Warrenton and Fauquier County will try to take actions similar to those taken by other Virginia Towns and Counties to protect their residents from the traffic generated by scattered urban development. These actions have failed to solve the growing congestion problem which in turn exacerbates the scatteration of urban land uses in the Countryside.

With respect to land use and transportation planning within our jurisdictions, our goal is to provide mobility and access for our citizens. Having no control over regional job location, and in many ways prevented from creating Balanced Communities we have no choice but to take actions which make the subregional and regional problem worse.

Within the existing governance context we are attempting to create a functional grid of roadways and pathways to serve the needs of our current and future citizens. We see no advantage to spending our resources or aggravating our citizens by building a “bypass” to serve traffic generated by your project and related projects in Culpeper County and elsewhere in the US Route 211 corridor.

Even if we were to do everything in our power to serve the interests of your future project buyers, we could not create (or even endorse plans) for roadways or rails that would overcome the roadblocks that are emerging to the east of Greater Warrenton in the Subregion. These bottlenecks will close off access to jobs and services in Prince William County as well as in Fairfax, Arlington, Alexandria and the Federal District.

This means that anything we do to help your residents get to US Route 17 north of Warrenton or to US 29 east of Greater Warrenton will just take away capacity from residents of Greater Warrenton and the other urban enclaves in Fauquier County when they need to travel toward the core of the National Capital Subregion.

The question for subregional and regional consideration is whether Clevengers’s Corners is a rational place for new urban development that provides many houses, few services and almost no jobs.

Common sense and technical analysis suggests that housing should be close to the jobs those residents will seek. While there is impressive percentage growth of jobs in the Radius = 20 to Radius = 30 miles (Prince William and eastern Loudoun Counties), the vast majority of jobs are now and are projected to be in 2025 within Radius = 20 miles of the core of the National Capital Subregion.

There is now a Shelter Crisis in National Capital Subregion. Affordable and accessible housing that is near the vast majority of the job locations is hard to find. We have been shown data that indicates that there is ample space for new affordable and accessible housing closer to the core of the subregion. As noted above, this is where the vast majority of jobs are now located and

where they will be concentrated for the foreseeable future. We believe that maintaining prosperity in the future will require that communities evolve a balance of not just jobs and housing but of jobs / housing / services / recreation / amenity.

Historically a family could “go out farther” and buy “the same house for less money.” That was the case for those who bought houses during the 80s and 90s near Clevengers Corner as compared to a similar house “on the DC side of Warrenton.” This “solution” was never a very satisfactory one as those who now live near Clevengers’s Corner testified at the Clevengers’s Village hearings.

Now events to the east of Greater Warrenton make a “move farther out” an even worse shelter strategy for families, regardless of resources. There is some prospect that limited improvements in vicinity of the I-66/US Route 29 Interchange will be made in the next decade. There is now funding for a modest amount of additional widening of I-66 east of the US Route 29 Interchange once the current project is completed. There are no plans and no funds for improvements between Fauquier County and the improved portion of I-66 in Prince William County.

We have been advised (and a trip along US Route 29 and US Route 15 makes this obvious) that there is development now underway in eastern Fauquier County and in western Prince William County that will generate more traffic than all the funded improvements will support.

Fauquier County will be working with the Town of Warrenton and with the governance structure in the Service Districts to help our residents find jobs and services in these urban enclaves. Due to development in western Prince William County there will soon be no way for those living in Greater Warrenton or in Greater Vint Hill/New Baltimore to get to jobs and services closer to the core of the National Capital Subregion—in Fairfax, Arlington and Alexandria.

Fauquier County and the Town of Warrenton will be working with the private sector to help Greater Warrenton evolve so that it achieves a balance of jobs / housing / services / recreation / amenity. The goal is that Warrenton-Fauquier will become a Balanced Community made up of a number of urban enclaves within a conserved and protected Countryside.

We have been told by planning professionals that you have two options that do not involve generating the volume of traffic projected in the Kellerco report:

- 1) Work with Counties and subregional agencies to trade the density you have at Clevengers Corners for the right to build in more suitable locations closer to the places where prospective buyers have jobs or could seek employment. We understand that the transfer of development rights is not currently authorized as a tool of municipal government (county, city or town) in the Commonwealth but that private and multi jurisdictional agreements that will have the same result are possible.
- 2) Replan Clevengers Corner to be essentially a self-contained urban enclave with a balance of jobs / housing / services / recreation / amenity and minimize external traffic generated

by the “village.” After all that is exactly the sort of place that future buyers would really like to live if you can deliver such a place.

We would work with you on either of these efforts and encourage other government agencies and private and not-for-profit organizations to do the same.

We want you to be aware of our position but also want you to inform you prospective buyers that if they plan to buy a in your project and then drive to jobs to the east of Warrenton using US Route 211 or other roadways through Fauquier County, they have – as they used to say over at the middle school – “another think coming.”

APPENDIX THREE

The following columns concerning the Fall 2009 Virginia Governors contest between the Elephant Clan and the Donkey Clan were published on the dates noted.

1 September 2009

TRANSPORT STRATEGY DISASTER*

CREATIVE OBFUSCATION OF REAL SOLUTIONS TO THE MOBILITY AND ACCESS CRISIS IS THE FAVORED STRATEGY FOR WINNING THE FALL POLITICAL FOOTBALL CHAMPIONSHIP

The political football season is upon us. As it now stands, the championship match up between the Elephant Clan and the Donkey Clan will be decided by which team is best at playing Hide-The-Ball on Mobility and Access for one more election cycle.

So far one team is playing Hide-The-Plan. The other team has surfaced a grab bag of schemes that were rendered irrelevant 35 years ago. They are proudly calling this smokescreen a “plan.” They hope not one notices that it is an AntiPlan.

THE ELEPHANT CLAN ANTIPLAN

If the 15 Theses for purifying the ‘family’ by the politician at the top of the Elephant Clan ticket does not turn off the majority of voters, the fantasies about paving the way to Jobs, Mobility and Access should.

The Elephant Clan ‘plan’ prints out at 9 pages of small type. When the political rhetoric is pruned out, there is not ONE idea that is relevant to the economic and physical reality of September 2009. Jim Bacon in his recent posts has outlined many aspects of this new reality.

Most of the ideas in the AntiPlan have not been relevant since the 1973 OPEC oil embargo. The embargo SHOULD have awakened everyone about the resources and strategies needed to support survivability of a technology driven democracy with a market economy.

*** This is the first of two Fall 2009 essays on the politics of transport in the Commonwealth of Virginia.**

Lets look under the hood: The Elephant Clan AntiPlan is headlined by a scheme to sell off the ABC stores to raise money. Please do not step in the elephants droppings!!

If an intelligent investor had an asset that would only bring \$500 million on the open market but was a \$100 million-a-year cash cow, would they SELL it? That is 20 percent a year ROI! OH! You are going to sell it to a friend, well THAT is different ...

Every other component of the ‘plan’ is just as ill conceived because the AntiPlan has NOTHING to do with the future needs of Virginians’ with respect to Mobility and Access. For example of obliviousness check out where the plan was announced:

Arlington County is a fine place to launch a forward looking Mobility and Access plan. A location in the Core of the largest economic engine in the Commonwealth will get a lot of attention.

The Elephant Clan spin masters needed, however, to move the announcement site about two and a half miles South. If anyone in a Clan leadership position understood the topic of Mobility and Access they would have selected a spot overlooking Columbia Pike not I-66.

TRANSPORT SYSTEMS TO MEET CITIZEN MOBILITY AND ACCESS NEEDS

The light rail line Arlington County is hoping to build in the Columbia Pike corridor is the type of transportation infrastructure that will be needed to address the Mobility and Access Crisis now and to meet future needs. The last thing Virginia needs is more roadways for more *Large, Private* Vehicles.

Shared-vehicle systems will provide Mobility and Access to serve the functional settlement patterns necessary to support prosperity in the emerging economic, social and physical context.

In the March 2009 *Atlantic*, Richard Florida (the author of *The Creative Class* and other best selling books) published “How the Crash Will Reshape America.” The article (and the supporting materials published on Florida’s Blog since march of 2009) documents the forces that will drive economic prosperity in the 21st century.

Florida suggests that to preserve prosperity – and move beyond unsustainable Mass OverConsumption – the settlement patterns that support – and are required if citizens rely on Automobiles for Mobility and Access – will need to be restructured. SYNERGY calls that restructuring the Fundamental Transformation of human settlement patterns.

Florida calls these new patterns and densities of land use “a new spacial fix.” SYNERGY calls these new configurations functional human settlement patterns. It documents beyond a shadow of a doubt that this is not a ‘future’ vision. It is in fact the settlement pattern that has been favored by the market for at least the last 50 years. The problem is that least common denominator patterns have been foisted on citizens instead as documented by PART ONE – THE ROOT OF THE HELTER SKELTER CRISIS in *TRILO-G*.

The reasons Florida gives for Fundamental Transformation make sense from the perspective of maintaining prosperity and increasing economic metabolism and quality of life. (Also see Sugrue, Thomas J. “The New American Dream: Renting” in The Wall Street Journal 14 August 2009, (see Bacon’s Rebellion Blog posting “The American Dream Amended” 18 August 2009) and Chapters 3,4 & 5 of *The Cul-de-Sac Syndrome: Turning Around the Unsustainable American Dream* by John F. Wasik (2009)

UNDERSTANDING THE BASICS

While shared-vehicles such as METRO and Arlington County’s Light Rail are a step in the right direction, there is a Mobility and Access axiom that has been validated over and over since before chariot congestion gridlocked Imperial Rome:

It is not possible to build ANY Mobility and Access system so that ALL the residents of a functional Urban Agglomeration can go where they want, when they want IN A VEHICLE and arrive in a timely fashion.

Over the last 2,400 years the Mobility and Access technology has evolved. However, as transport technology evolved so did other economic, social physical parameters of emerging Urban civilization. With each improvement of the transport systems has come a parallel increase in the scale and complexity of functional Urban systems. The greater the area required to drive and park (stable) the vehicle, the faster any Mobility and Access system becomes congested. There is much to learn from humans use of the horse in this regard. See Chapters 13 and 14 of *The Shape of the Future* (especially Chapter 13, Box 9 The Carriageless Horse) and PART THREE – THE PROBLEM WITH CARS in *TRILO-G*.

There is a corollary to the overarching Vehicle Mobility and Access Axiom that deals specifically with Automobiles. Those who are familiar with the past work of SYNERGY know all about the Myth that obscures this Automobile corollary, it is the *Large, Private Vehicle Mobility and Access Myth*. Automobile advocates work to perpetuated this Myth:

Citizens can drive *Large, Private Vehicles* wherever they want, whenever they want AND with this demand pattern it is possible for Agencies to provide a roadway system to serve these vehicles so that everyone can arrive in a timely manner.

This is physical impossibility. But this is the tragic Myth that both political Clans in Virginia and across the US of A hope voters will cling to at least until November. The Clans will do their best to obfuscate the fact that there is no miracle – physical, economic or political – that will bring back the conditions that caused Automobiles to SEEM like a good idea to provide Mobility and Access.

THE NEW WORLD

The world has changed. The economic conditions that result in a society where only a few Households will be able to afford an Automobile MAY well return.

However, cheap fuel and subsidies that are massive enough to make the Automobile appear to be a reasonable alternative for even a slim majority of citizens to acquire Mobility and Access will NOT return.

Even with cheap fuel, there is no basis for assuming that the goal of a functional Mobility and Access can be achieved by expanding Roadways for *Large, Private* Vehicles (aka, Automobiles).

Building more Roadways INSIDE Clear Edges has not been an effective strategy to improve Mobility and Access since the 1920s and then only for the small minority of the Households that could afford a Automobile.

Building Roadways for Automobiles has not improved citizen Mobility and Access at the SubRegional, Regional or MegaRegional scales in Urban areas for decades.

The higher the percentage of car ownership per Household, the less building roadways improves Mobility and Access at the MegaRegional, Regional, SubRegional and Community Scales.

Since 1985 building roadways has occasionally helped some at the top of the Ziggurat who can influence the planning, design, funding and construction of roadways to meet their specific objectives but it has not helped citizens Region-wide.

At the sub-Community scale, building Roadways CAN improve Mobility and Access for those who have access to Automobiles in specific corridors and for short periods of time but NOT in the long term and NOT for entire MegaRegions, Regions or even large SubRegions.

The annual Urban Mobility Report by the Texas Transportation Institute (TTI) documents that in every year since the survey started in the mid-80s, congestion has gotten worse in every large urban agglomeration in the US of A.

Analysis by the Surface Transportation Policy Project has shown that in those large SubRegions and Regions where MORE lane miles of roadway per capita were added, the congestion grew FASTER than in those SubRegions and Regions that built FEWER lane miles per capita and

effectively employed other Mobility and Access strategies. (See “The Physics of Gridlock” and “Priority Transport Improvements” two PowerPoint presentations on *The Shape of the Future – 4th Printing* CD for a summary of the TTI data and findings through the early 00s. The TTI reports since that time, including the one just released based on data through 2007, confirm these trends.)

It turns out traffic congestion is NOT driven by the lack of new Roadways. The “problem” is the *Large, Private* Vehicles themselves – that is why they are called Automobiles.

The land area needed to drive and park Automobiles disaggregates human settlement to the point of dysfunction at the scales of Urban agglomeration that are effective in supporting the economic, social and physical well being of citizens in an Urban society.

Functional settlement patterns are necessary to achieve sustainability of a contemporary, technology and competition driven civilization and *Large, Private* vehicles will not provide Mobility and Access for these settlement patterns..

It is not just a matter of economic structure, it is not just a matter of social stability, it is not just a matter of environmental sustainability, it is a matter of physics, PERIOD. This fact is validated by the market decisions of those who have a choice. This reality is spelled out PART THREE – THE PROBLEM WITH CARS in *TRILO-G* .

THE BOTTOM LINE

The cost of using *Large, Private* Vehicles has gone up and will go up further. In addition, programs, policies and regulations that begin to fairly allocate location-variable costs – including the full cost of *Large, Private* Vehicles – will cause the cost of their use to go up even more.

As use and utility of *Large, Private* Vehicles winds down, MegaRegions, Regions, SubRegions, Communities, Villages and Neighborhoods will need new transport infrastructure for efficient vehicles to provide Mobility and Access for functional and sustainable human settlement patterns.

If the Regions within Virginia are to be competitive in the provision of goods and services and in attracting those citizens who will be needed to support economic prosperity, they will require transport infrastructure to support functional human settlement patterns.

LOOKING THROUGH THE WRONG END OF THE TELESCOPE

The simple minded delusion that there is a ‘NEED’ for a new roadway to carry ‘increased future traffic, especially ‘commuter’ traffic, is based on projecting past trends forward without regard to the current and probable future reality.

With respect to the affordability and utility of *Large, Private Vehicles* within the context that Florida, Bacon, SYNERGY and others foresee:

- There will be less and less ability to have a Job in the Core of SubRegions or Regions (where 85 percent of the citizens now work) and live somewhere else
- Agencies will be forced to provide Mobility and Access with more efficient shared-vehicle systems rather than subsidizing *Large, Private Vehicles*.
- Agencies will not be able to afford to provide “commuter services” to those who live in scattered Urban dwellings
- There will be diminishing ability to truck goods long distances. Long distance trucking would have atrophied years ago but for gross subsidies. Truck fees and taxes now pay for only about 10 percent of the heavy goods vehicles impact on Roadways and almost nothing toward the impact on air and water resources.

How did Virginia get to this place? VDOT’s ancestor was chartered to build roadways. For 85 years VDOT and its predecessors (VDH&T and VDH) have been faced with an ever expanding tide of cars. That this tide will ebb is not yet on the VDOT or political Clan radar based on their actions and public pronouncements.

There is a colloquialism oft repeated by residents of islands in the eastern Carribean: “Little bird, he build nest one stick at a time.” Roadway Agencies have built traffic congestion one roadway project at a time.

Citizens / voters will have to tell governance practitioners that times have changed.

THE OUTLINE OF A REAL PLAN PROCESS

What would a REAL plan process to create Mobility and Access look like? Here are some elements of a Commonwealth Mobility and Access Plan which will enable Regions and SubRegions to obtain a sustainable trajectory:

Set up a democratically elected body to carry out the following steps:

- Step One: Determine the area needed for current and future (at least 50 years) Urban land uses in functional and sustainable patterns and densities. This total will be between 5 and 10 percent of the land area in the Commonwealth.
- Step Two: Allocate the area for future development by Region based on the carrying capacity of the Regions and SubRegions. Allocation of the total Urban area in each Region must be based on an intelligent, democratically determined criteria. Provide for a review of the allocation every five years.
- Step Three: Draw a Clear Edge around all Urbansides to indicate the boundary between the Urbansides and the Countryside. The total area within the Clear Edges would provide for each Region's allocation in Step Two. The area within the Clear Edges would ALSO include Openspace at all scales (Dooryard, Cluster, Neighborhood, Village, Community, SubRegional, Regional) equal to half the total area within the Clear Edges.
- Step Four: Inside the Clear Edges around the Core of New Urban Regions (and large Urban agglomerations in Urban Support Regions) design shared-vehicle systems to serve station areas that have a Balance of J / H / S / R / A.

These four steps would provide Mobility and Access to support economic prosperity, social stability and physical sustainability.

THE RESULTS OF A FOUR STEP PROCESS

Within New Urban Regions:

The excess roadway capacity within the Clear Edges that results from the creation of Balanced and functional settlement patterns supported by shared-vehicle systems can be devoted to Openspace and Recreational uses.

In the Countryside – outside the Clear Edges around Urban agglomerations of all sizes – there is already adequate roadway capacity when relative Balance is achieved WITHIN the Urbansides.

Inter Regional Mobility and Access:

To conserve energy; move freight and some long distance passenger service from truck and air to more efficient rail systems.

Implement interregional weight distance fees to pay the cost of maintaining InterRegional facilities.

A fair allocation of the full location-variable costs and a carbon tax on transportation fuel will result in a Balance of Urban systems, Conservation of resources and reduced need for travel and infrastructure without lowering quality of life / health safety and welfare / happiness and safety of citizens. A fair allocation of Mobility and Access costs will generate support for Regional import replacement and thus reduced total transport demand and total energy consumption.

The questions is:

Will citizens hold those who seek public office to a realistic standard of honesty with respect to what is possible in the future?

It is daft to think that after years of subsidizing dysfunctional human settlement patterns there is some way to improve Mobility and Access (or provide Jobs) without Fundamental Transformation of settlement patterns and Fundamental Transformation of governance structure that results in a fair allocation of location-variable costs.

EMR

30 September 2009

THE TRANSPORT PROBLEM*

THE TRANSPORT PROBLEM IS NOT WHAT THE POLITICAL CLANS WOULD LIKE VOTERS TO THINK IT IS

The Commonwealth's quadrennial political football classic is ratcheting up to peak frenzy. Many agree that the number one 'PROBLEM' in the state's most populous New Urban Region is "The Transport Problem"

In the words of *WaPo* columnist Robert McCartney: "If you're a candidate for governor coming to debate in Northern Virginia, you'd better be able to say simply and plainly how you'd raise money to repair and improve the roads." (*WaPo* B-1 18 Sept 09)

That spin on the "The Transport Problem" (aka, the Mobility and Access Crisis) is in complete harmony with conventional wisdom and spawns questions such as:

"Where will the money come from to fix up and expand the roadway system?"

"What are we going to do to help commuters trapped in congestion?"

As pointed out in "Transport Strategy Disaster" (Bacon's Rebellion Blog, 1 Sept 2009) both political Clans have been trying to avoid addressing the fundamental realities underlying "The Transport Problem." Since that essay was completed, the picture has changed but it has not improved in any significant way.

THE ELEPHANT CLAN ANTIPLAN AND THE DONKEY CLAN SOUND BITES PLUS PROCESS.

Jim Bacon's perspective in "McDonnell's Transportation Plan: Disaster on Wheels" (Bacon's Rebellion Blog, 19 Sept 09) are RIGHT ON. The Elephant Clan has NO Mobility and Access strategy beyond – "vote for me. You know you can trust me to find money to fix the transportation problem from sources that are not called a 'tax' – really!! You can trust me, I believe the same things you do."

*** This is the second of two Fall 2009 essays on the politics of transport in the Commonwealth of Virginia. "Transport Strategy Disaster" was published 1 September 2009.**

WaPo tends to agree on the transparency of the Elephant Clan ploy. See editorial “Drinking Games: Robert F. McDonnell’s transportation plans rest heavily on privatizing hard-liquor sales in Virginia. Is it sober?” 26 Sept 09.

The Business-As-Usual interests, including MainStream Media is frustrated that the Elephant Clan is not committed to a new source of revenue to throw at “The Transportation Problem.”

Until very recently the Donkey Clan also had no strategy to solve “The Transport Problem.” As *WaPo* put it editorially on 20 September: “Mr. Deeds’s Dilemma: It’s Political Suicide To Urge Higher Taxes, and Folly Not To.”

As of 23 September, the Donkey Clan HAS a ‘plan.’ (“My Transportation Plan” Creigh Deeds, (*WaPo* Page A-29, 23 Sept 09). The plan consists of nine popular transportation sound bites and a ‘bipartisan’ process. The process is based on the program employed by Gov. Gerald Baliles in 1985 / 86. Business-As-Usual interests like to point out that this was the last substantial increase in transportation funding in the Commonwealth. The mid 80s were also the point at which it became very obvious that more money was not ‘the answer’ to the Mobility and Access Crisis.

This has resulted in the evolution of The Three Legged Stalemate. On the one hand are those who want to find money to throw at the problem. On the other hand there are those who, for a variety of reasons – “do not raise taxes,” “let someone else pay” and “starve the beast of government” among them – do not want to spend money. A third perspective is that spending money is needed but spending it on the same things that have not worked in the past will only make things worse. This is the Three Legged Stalemate.

In addition, the climate for bipartisan compromises has changed since the mid 80s as noted below. Before getting to that reality, what about the Donkey Clan transport sound bites?

THE LIMITED VALUE OF SOUND BITES

Every one of the nine Donkey Clan sound bites requires a set of detailed, specific conditions and caveats. The devil is in the details and without the specifics every sound bite could be ‘accomplished’ in a way that makes Mobility and Access worse, NOT better. At first blush, most of the ideas sound ‘good’ but are detrimental unless there is a clear definition of what exactly the sound bites mean.

For example the first Donkey Clan sound bite is “Bring high-speed rail to Virginia.” Here the parameters of success are very clear:

Unless there are supportive land uses in the station areas of a high-speed rail system (including across-the-platform connections to SubRegion-serving shared-vehicle systems) building high-speed rail lines will NOT improve Mobility and Access in the Commonwealth’s three New Urban Regions.

These three New Urban Regions are where over 85 percent of the economic activity is concentrated and nearly that percentage of the population of the Commonwealth lives and works. Every one of the sound bites requires similar specific caveats.

“SPECIFICS” BEHIND THE GENERALITIES?

On 27 September, *WaPo* published responses from the Donkey Clan and Elephant Clan candidates titled “My (Specific) Promises to Northern Virginia.” We leave it to others to judge which Clan representative makes the most effective promises.

However, with respect to “The Transport Problem” each trots out a list – or by vague reference embraces – the Business-As-Usual wish list of ‘projects.’ The named projects are examples of just what one would hope were NOT the “content” behind the sound bites – if the objective is Mobility and Access for a majority of the citizens in the Commonwealth.

The Elephant Clan is STILL proud that they unveiled the AntiPlan overlooking I-66 instead of Columbia Pike. For the reasons spelled out in “Transport Strategy Disaster” that is NOT a good thing.

AND THE DONKEY CLAN PROCESS?

After carefully articulating the parameters of the sound bites and a full evaluation of all the projects on the Business-As-Usual wish list, the next hurdle is the probability of having a better outcome from a bipartisan process than was the case over that last four years – or the last two decades.

Based on the last decade of transport funding conflict in Virginia (and almost every other topic on state and national political agendas) signing a bipartisan bill to raise money for the nine sound bites is wildly optimistic – or a good excuse for nothing at all getting done.

There is no question that Business-As-Usual likes the Donkey Clan ‘plan’ better than the Elephant AntiPlan because it is presumed that it would entail spending more money. The 24 September *WaPo* editorial was titled “Honesty on Transportation: Mr. Deeds has leveled with Virginia voters, Will they listen?” *WaPo* has consistently confused solving “The Transport Problem” with spending money on what has not worked, is not working and will not work in the future.

The real question is: Will citizens vote for the nine sound bites and a bipartisan process or will they vote for another no tax promise?

BUT WAIT JUST A MINUTE!!

The PROBLEM IS that MONEY is NOT 'THE PROBLEM' with Mobility and Access.

Pretending that money is "The Problem" and pretending that building more of the same infrastructure is "The Solution" leads to repeating the wrong questions and perpetuating the myths outlined in "The Transport Strategy Disaster."

The REAL questions are, will Commonwealth Agencies:

“Start to prepare citizens for the future now?, OR

“Will they allow the drivers of the Mobility and Access Crisis to fester for yet another election cycle?

It is just a matter of time – and time is running out – before the lack of Mobility and Access will explode with devastating impact on the economic, social and physical well being of every citizen in Virginia.

STOP LYING TO CITIZENS

The first step is to stop lying to citizens.

Traffic congestion is NOT the problem, and

More roadways for *Large, Private* vehicles to carry passengers, goods and services are not the 'answer' REGARDLESS of who pays or if it is called 'tax' or manna.

Of course there is a need to invest in infrastructure.

Of course it will take a lot of money to make up for past neglect of infrastructure.

Of course it would be nice to have a fair distribution of costs and a rational nexus between use of and payment for transport infrastructure. If that had been the strategy for providing Mobility and Access when the Commonwealth took responsibility for roadways 85 years ago there would not be a Mobility and Access Crisis now.

But we are where we are and it is time to come clean:

THE PROBLEM is almost exclusive reliance on *Large, Private* vehicles to provide citizens with Mobility and Access. It does not work.

Exclusive reliance on *Large, Private* vehicles did not work in times of cheap energy and it will be a disaster to pretend it is a viable option as the cost of energy goes up.

It turns out that *Large, Private* vehicles have NEVER been a good option to provide the majority of citizens with Mobility and Access.

Even in relatively Balanced Urban agglomerations – and in spite of massive subsidies, direct and indirect – more than half the citizens are too young, too old, or have other conditions that isolate them when the only source of Mobility and Access is *Large, Private* vehicles (aka Automobiles). It is clear that Automobiles have provided Mobility and Access for an even lower percentage of the citizens in intensively developed Urban areas (the ones with the lowest per-capita consumption of energy and resources) and in areas of intensive poverty.

LOOKING BACK

The peak economic and social efficiency for *Large, Private* vehicles came in the mid-fifties. At that time a junior in high school could earn enough money in one summer to buy a very serviceable *Large, Private* vehicle. If Junior paid attention in shop class and read the owner's manual they could keep the vehicle running at an affordable cost. Society wide erosion of Mobility and Access has been caused by two forces over the past 50 years:

- Ever more complex and expensive Automobiles
- Ever more dysfunctional settlement patterns

As Urban agglomerations grew larger and higher percentages of Households which are forced to rely on Automobiles for their Mobility and Access, congestion, delays and deaths grew.

In every large Urban area in the US of A traffic congestion has grown every year for over two decades in spite of billions in roadway construction. At the same time community and environmental destruction has escalated.

When viewed from a Regional perspective Automobiles are a splendid means of driving consumption but they are not an efficient means of Transport. The larger the Urban system (Region), the more inefficient Automobiles become. That was true with artificially cheap fuel. As energy cost rise, new technology cannot paper over the fundamental problem with reliance on Automobiles for Mobility and Access.

Scholars and independent researchers have been predicting citizens would reach the end of the road for reliance on Automobiles since the 1920s. The “non-polluting alternative to the horse” turns out to be no more efficient than its four legged predecessor due to the same reality of physics:

The space to drive and park the Automobile disaggregates Urban settlement patterns to the point of gross dysfunction for Urban economic and social activities. (See THE PROBLEM WITH CARS – PART IV of *TRILO-G.*)

THE DEBT CHASM

There is a gaping hole in the road ahead for *Large, Private* vehicles: It is called debt. This debt chasm is made up of: The rising cost of energy, the rising cost of mitigating of environmental impacts, the growing balance of trade deficit, the growing military costs of energy security, the cost of past deficit spending (Household, Agency, Enterprise and Institution), the Wealth Gap and most of all the cost of evolving functional, sustainable human settlement patterns.

Citizens in Virginia, the US of A and in the First World have burned through Natural Capital in an attempt to cover the costs of patterns and practices of consumption that are unsustainable.

Now humans must learn to live on Natural Income.

Pay for past sins of Mass OverConsumption and debt and start living on income or bid goodbye to democracies with market economies. Only brutal, totalitarian, dictatorships can maintain the vast disparities in wealth, happiness and safety that result from an inequitable allocation of resources.

With the rising cost of energy, a growing number of Households will not be able to afford *Large, Private* vehicles. They will also not be able to pay their fair share of the cost of dysfunctional, scattered settlement patterns. These dysfunctional patterns are dictated by the space needed to drive and park *Large, Private* vehicles. (See THE PROBLEM WITH CARS noted above.)

As outlined in “Transport Strategy Disaster” (Bacon’s Rebellion Blog, 1 Sept 09) after Agencies stop lying to citizens about the shape of a viable, sustainable future, the next step is to articulate human settlement patterns that are sustainable. A four step process to accomplish this is laid out in “Transport Strategy Disaster.” THEN Mobility and Access systems can be designed to serve these functional settlement patterns.

THE BASIC PARAMETERS

A sustainable future requires a Fundamental Transformation in human settlement patterns. Settlement patterns must accommodate a society in which 95 percent of the citizens rely on Urban activities to support their Households. The way to create places where citizens are happy and safe is to have:

Balanced Communities inside the Clear Edge around the Cores of New Urban Regions and Urban Support Regions, and

Balanced But Disaggregated Communities in the Countryside outside the Clear Edge around the Cores of New Urban Regions and Urban Support Regions.

Some would like to profit from creating more Urban places. There are already too many half-built ‘places’ with vacant and underutilized land. These dysfunctional places must evolve to

become Balanced Places by repairing the scattered and unconnected Urban fabric that now exists.

One of the most effective tools to create more functional settlement patterns is the creation of shared-vehicle systems serving functional and Balanced Urban activities in the station-areas.

Failure to understand this reality is why the Elephant Clan choose the wrong place to announce their AntiPlan as articulated in “Transport Strategy Disaster”

The future will not arrive over night but in the long term there must be:

- Fewer and fewer *Large, Private* vehicles
- More and more energy efficient shared-vehicle systems for passengers and freight
- Less reliance on vehicles of any kind

The decline in the overall use of vehicles will reflect the fact that vehicles – especially *Large, Private* vehicles – will become more and more expensive.

In addition, with functional settlement patterns, more and more citizens will already be where they want and need to be, or a short walk away. The human body requires exercise and walking, not vehicles and walking is the most efficient way to Access nearby destinations for most citizens.

With functional human settlement patterns, shared-vehicle systems can provide high value trips necessary to support quality of life but vehicles will NOT be needed for most trips now requiring *Large, Private* vehicles due to settlement pattern disaggregation.

A functional Balance of transportation system alternatives will often include:

- A Network of paths and roadways to provide Mobility and Access via walking / human powered vehicles / small self propelled vehicles
- Shared Vehicles – jitneys, short term rental vehicles, car pools / Personal Rapid Transit / street cars / light rail / heavy rail
- IntraRegional Rail (often mischaracterized as ‘commuter rail’)
- InterRegional Rail / High Speed Rail
- Boats
- Aircraft

When the total costs of location decisions are equitably allocated, a diverse, functional system of Mobility and Access options will facilitate the transport of goods, services and passengers by the most efficient and functional mode.

When the total costs are fairly and equitably allocated to support CONSERVATION and NOT CONSUMPTION, Regional and Subregional import replacement will provide a more efficient way to supply many (but not all) Regional needs. This will reduce the total transport demand.

And what about those ‘commuters’ to whom both the Elephant Clan and Donkey Clan pander?

There is no way to ‘help’ those who now rely on *Large, Private* vehicles for long commutes except to help them become non-commuters by evolving Balanced Communities.

THE FUTURE OF DEMOCRACIES WITH MARKET ECONOMIES

What is the alternative to a fair allocation of resources, evolving more effective, democratic governance and creating better informed markets? Totalitarian dictatorships.

Dictatorships from the right or from the left are the only way to forcibly maintain gross disparity in wealth that has been derived from consumption of natural capital by using contemporary technology and abusing economies of scale. The Wealth Gap has been growing for two decades. The Wealth Gap will continue to grow at an accelerating rate due to settlement patterns that require costly and inefficient vehicles to secure Mobility and Access.

Unless there are functional human settlement patterns that facilitate Mobility and Access without resort to inefficient vehicles, only a few at the top of the Ziggurat will be able to rely on vehicles – the rest walk for ALL their trips. There are working models of the future under these conditions – it was formerly called The Third World.

When the majority at the bottom realize there is no way to work their way up, chaos will be the order of the day, of the year and of the decade.

The existence of large, complex Urban agglomerations is the only configuration of human settlement that has demonstrated the capacity to maintain a competitive, technologically driven “modern” society. Large New Urban Regions attract and support not just ‘workers’ but the Creative Class upon which positive evolution of civilization depends.

Evolution of governance cannot not stop with democratic Region structures to govern New Urban Regions and Urban Support Regions but must extend to the smaller scales of organic human settlement.

Governance Agencies close to the governed are an absolute necessity in a society of educated citizens. The most important Agency is at the smallest practical scale for direct democracy, the Cluster. Representative democracy at the Neighborhood, Village, Community, SubRegional and Regional scales are also critical.

Pretending to 'solve' The Transportation Problem' by throwing money in the roadway will only prolong the lies and Myths, perhaps past the point of no return.

There must be far more investment in infrastructure in the future. Collectively, citizens and their Organizations have been paying nowhere near the cost of the current trajectory.

A sustainable future will require money to be raised and spent but not for roadways for *Large, Private* vehicles.

In the short term the problem is how to stop lying to citizens without causing them to abandon all hope. It is unrealistic to assume either Clan will be able to make this change before election day.

However, the next day...

EMR

APPENDIX FOUR

The following question was submitted to VDOT concerning the US Route 29 Corridor study on 12 OCT 2009

WE HAVE A QUESTION:

Why does VDOT 'assume' there will be more *Large, Private* vehicles using the US Route 29 Corridor in 2017 than there were in 2007?

We have provided below, based on the recent work at SYNERGY, some of the reasons citizens should question ANY assumption of growth in *Large, Private* vehicle travel in the US Route 29 Corridor – or in any other InterRegional corridor in the Commonwealth:

High fuel prices drive down travel demand, especially travel in *Large, Private* vehicles. The ONLY thing that is keeping the cost of fuel low in October of 2009 is The Great Recession.

Going forward there appear to be three broad options with respect fuel prices and thus travel demand in *Large, Private* vehicles in the US Route 29 Corridor or anywhere else:

1. **The Great Recession will end soon with a return to the 2002 / 2006 economic / consumption trajectory.** Not many predict this outcome but if it occurs fuel prices will go back up making *Large, Private* vehicles economic dinosaurs. Economic reality will reshape travel demand and functional Mobility and Access systems.

The configuration of these transformations can be predicted by considering the impacts of high fuel / energy price events over the past four decades. All serious examinations of the growth / consumption scenarios point to more compact human settlement patterns served by shared-vehicle systems and much smaller, lighter, slower and safer vehicles for IntraRegional Mobility and Access. InterRegional (and MegaRegional) Mobility and Access will depend on more efficient shared-vehicle systems.

2. **The Great Recession does not end soon.** With a long recession / depression few will be able to afford a *Large, Private* vehicle much less the fuel to take long trips. Economists suggest that a 'recovery' from a long recession / depression may be similar to the 'recovery' following The Long Depression (1876 to 1893). That economic transformation ushered in a new settlement pattern – the rise of the Industrial Center that eclipsed the society that was 95 percent agrarian / 5 percent Urban (aka, The 'Cities' / Agrarian Society) that evolved over the prior 12,900 years. The Industrial Center (the settlement pattern template of the Industrial Revolution) was dependent on the evolution of railways for Mobility and Access.

The shape of the settlement pattern that will replace the *Large, Private* Vehicle Settlement Pattern that has evolved since 1920 can be projected based on an understanding of economic activity and the trajectory of property values of organic components of human settlement (measured Radius Band by Radius Band) over the past three decades. This new settlement pattern must be – like the ‘**The Great Recession Ends Soon**’ alternative scenario – more efficient and compact. These patterns and densities of land use will by necessity rely far less *Large, Private* vehicles because of economic and physical reality – high fuel costs and the space required to drive and park *Large, Private* vehicles.

3. There is middle ground between these two polar options. This is often called **The ‘Modest’ Recovery**. A ‘modest’ recovery is the current Federal Reserve prediction and that of many economists. Under this scenario there will be little employment growth in the US of A or Virginia because of Global outsourcing and increased application and productivity of machines and technology. This has been the case in the ‘recoveries’ from the last two recessions.

In the modest recovery scenario Enterprise ‘profit’ will be based on cutting costs – including employment – not revenue growth. Stock and commodity markets will continue to reflect speculative activity rather than citizen prosperity. The wealth gap will continue to widen. This is not a context where there will be growth in travel demand in *Large, Private* vehicles. The same long term trends to more compact and efficient patterns of settlement will be evident.

Whatever future scenario is closest to evolving reality there will be a smaller and smaller role for *Large, Private* vehicles to provide citizens with Mobility and Access.

The key question is: Will there be resources left under ANY scenario to carry out the transition to a sustainable trajectory without dire, society-disrupting poverty and conflict?

Humans will need to learn to embrace the joys of living ‘smaller’ and living ‘closer’ to the Jobs, Services and Recreation. They will need to live ‘smaller’ and ‘closer’ if they are to maintain an acceptable quality of life in a technologically based Urban society.

As Urban society has evolved, few humans in any location on the planet find reversion to hardscrabble subsistence agriculture or hunter / gatherer existence an attractive option.

Economic reality will force the federal, state and municipal Agencies to stop subsidizing the travel between dysfunctionally scattered origins and destinations. This means there will be less use of *Large, Private* vehicles for both passenger and freight. Urban dwellings in remote locations will continue to lose value.

These scenarios reflect the reality that humans have come to the end of cheap energy – aka, Peak Oil. Peak Oil (aka, Hubbert’s Peak) is an issue of ‘WHEN.’ It is NOT an issue of ‘IF’ as noted in Appendix Four of SYNERGY’S study “Timberfence: Truth or Consequences” citing a number of recent studies including the UK Energy Research Centre.

In fact citizens are already facing “peaklike” conditions.

Food riots in poor nation-states, economic turmoil in nation-states with declining petroleum reserves (e.g. Mexico) and high / fluctuating fuel and energy costs are all “peaklike” conditions. These conditions will grow more severe as the Industrial Green Revolution based on cheap petroleum and abundant water exacerbates the process of shifting to more expensive energy sources.

There is no cheap replacement for the carbon / fossil based energy – the ‘natural capital’ that has been accumulated over the past 4 billion years. Humans have burned through much of this natural capital in the last 200 years – and especially the last 116 years of industrial growth / Mass OverConsumption since the end of The Long Depression. Citizens must learn to live on natural (solar) ‘income’ now that stored natural capital is becoming more scarce and more expensive.

There are MANY alternative energy sources but NONE of them will be cheap compared to carbon / fossil based sources. In addition, no known energy source is as well suited as petroleum to fuel *Large, Private* vehicles. If there was such a source, it would be in wide-spread use now.

There is no question that fossil sources of fuel are finite and becoming more and more costly to bring to market. The same is true for petroleum substitutes.

The Energy Return On Energy Invested (EROEI) for ethanol is at or below one when all the costs and subsidies are considered. The same will be true for all petroleum substitutes that rely on irrigation for growth and / or water for processing. It is also true for hydrogen, ‘safe’ nuclear, ultra-deep geothermal, direct and indirect solar conversion as well as recent deep off-shore and ultra-deep terrestrial petroleum discoveries.

VDOT and its consultants should have been preparing for the advent of Peak Oil since at least 1973. Instead they have been blindly continuing the subsidy of travel in Large, Private vehicles.

As a result of Business-As-Usual, there has evolved a Perfect Storm of dysfunctional and untransportable human settlement patterns. State Agencies say municipalities are responsible of ‘land use’ (aka, human settlement patterns) and municipal Agencies say the Commonwealth is responsible for Mobility and Access.

If VDOT was not preparing for Peak Oil and the decline of *Large, Private* vehicles, then the Governor, the legislature, the Commonwealth Transportation Board and concerned citizens should have required that they prepare. They did not and now the price must be paid.

Back to the US Route 29 Corridor: Can VDOT or its consultants name ANY growth curve which is dependent upon a finite resource that has continued to grow geometrically? SYNERGY has identified no scientifically verified example of a sustainable growth curve with the configuration similar to the growth in vehicle miles traveled by *Large, Private* vehicles over the past 50 years in the Commonwealth. Why is VDOT relying on an unprecedented condition as the basis for public action in the US Route 29 Corridor?

EMR

APPENDIX FIVE

Appendix Five is made up of comments and perspectives that were originally considered for inclusion in **TIMBERFENCE PARKWAY**. These materials include marginal notes and drafts of material that will be revisited, revised and refined at some future time. As noted in the Foreword, the material in all five of the Appendices can best be thought of as transects through the four dimensional context of the Timberfence Parkway discussion.

1. A CLASSIC

Timberfence Parkway provides a classic example of how the debate over a garden variety ‘development’ issue can be used to focus citizen attention on the overarching issues that must be addressed to achieve a sustainable trajectory for human civilization.

The use of more complex issues such as preservation of dwelling Unit value are also effective. **PROPERTY DYNAMICS**, the topic of **PART TWELVE** of **TRILO-G** focuses on citizen actions that erode and enhance property values at the Dooryard-, Cluster-, Neighborhood-, Village- and Community-scales.

2. SYNERGY EXPERIENCE

SYNERGY has been dealing with ‘Stop Cut-Thru Traffic’ and ‘Build the ByPass’ in Virginia since 1972.

Fairfax County where the principal of **SYNERGY** worked for 30 years is known as the epicenter of Stop Cut-Thru Traffic non-solutions. Back in the day, most municipal governance practitioners in Fairfax County were responsive to pleas to cut off Cut Thru Traffic. Today’s traffic congestion in Fairfax County is in large part due to short-sighted solutions to Cut-Thru-Traffic problems. In Fairfax County, Supervisor Audrey Moore was the Queen of Dead End Streets and Duchess of Cul de Sac Clusters and Neighborhoods. Former Supervisor (and current Virginia Secretary of the Commonwealth) Kate Hanley may hold the world record for attempts to take connections off a County Comprehensive Plan.

Among the functional and dysfunctional major ByPasses that **SYNERGY** has advocated for and against are the Fairfax Parkway, the Western ByPass, the Charlottesville ByPass and many others both inside and outside the Commonwealth.

3. THE TIMBERFENCE PARKWAY PRO AND CON ADVOCACY POSITIONS

There are several distinct perspectives on Timberfence Parkway:

- The Safety and Mobility Crowd. They advocate building a roadway to accommodate the flood of future commuters and trucks that will support scattered Urban land uses.
- The Anti Cut Thru Traffic Crowd. They are energized by concerns for safety on their Streets and fears of future traffic volume growth.
- The NIMBY Crowd. NIMBYs chant 'Not In My Back Yard' and do not understand the future downsides of living in a cul de sac Cluster.
- The BANANA Crowd. BANANAs do not want to pay for building any new infrastructure and thus support the position Build Absolutely Nothing Anywhere Near Anything.
- The Just Build it Crowd. They support the idea that building something (anything) is good for 'the economy.'
- The Good Government Crowd. They understand the need for a comprehensive Mobility and Access grid but mistakenly believe that achieving this objective requires building more roadways for more Automobiles.

Several of these cohorts are supported and / or funded by Land Speculators, by the Scattered Urban Development Industry and by their Agents who seek the construction of a Roadway to support Business-As-Usual.

Everyone needs to keep in mind that just because something is or was on a 'comprehensive' plan does not mean that it is a good idea, especially if the context and data have changed.

4. SOMEONE TO BLAME FOR THIS MESS

There is no benefit to be gained from rehashing how the citizens of Greater Warrenton-Fauquier and their Agencies got to this point with respect to Timberfence Parkway. As SYNERGY often points out, there are NO VILLAINS in the evolution of dysfunctional human settlement patterns.

Dysfunctional human settlement patterns are the cumulative result of billions of decisions that citizens and their Organizations THOUGHT were in their best interest but turn out NOT to be in their best interest.

We have met the enemy and he is us.

It makes some citizens feel better to blame ‘someone’ for the current Mobility and Access Crisis – including traffic dysfunction in Greater Warrenton. If it helps, blame the incompetent, dysfunctional structure of Agencies responsible for managing transport and transport infrastructure in the US of A.

- There is a nation-state-wide Mobility and Access Crisis – no one has yet gotten it ‘right.’
- Commonwealth of Virginia has dominated transport decisions impacting MultiRegional, MegaRegional, Regional, SubRegional, Community, Village and Neighborhood interests. This mis-allocation of authority and responsibility has exacerbated the dysfunction generated by nation-state-scale action since the 1920s.
- Between 1950 and 1970 there were a number of intelligent Regional and SubRegional plans for more functional settlement patterns in the National Capital SubRegion in which Greater Warrenton-Fauquier is located. In addition, there were detailed plans for improving Mobility and Access. However, there has been to this day NO federal, state, Regional, SubRegion or municipal strategy to implement or coordinate these plans.
- Municipalities such as the Town of Warrenton and Agencies that perform municipal functions (such as Fauquier County) are overwhelmed, and under authorized to take effective actions.

5. CLEARING SOME UNDERBRUSH

Let us clear away some intellectual underbrush.

A place to start is pointing out that there are no grounds for claims that citizens in the vicinity of Timberfence Parkway “did not know” there was a Roadway planned along the Timberfence alignment. Any person seeking to buy a house should have seen the clear signs demonstrating plans for a future roadway. They should have sought information on future circulation plans. Some opponents of the Parkway say they tried to get answers and were led astray or provided incorrect information. The evidence on the ground, however, is overwhelming. Some who oppose additional construction in the Timberfence Parkway right-of-way have admitted this in testimony.

If there was NOT a planned major roadway between Old Gold Cup and Silver Cup, why would the developer provide a 110 foot wide swath of land for a two lane roadway? Why would the current Street pattern exist? Why the wooden barricade at the current southern end of the Parkway? Why call a roadway from Bear Wallow Road to a barricade a “Parkway”? Why the berms along the roadway?

If a home buyer did not seek the information, then their agent has a professional obligation to inform them.

If there was not a large sign in all the model homes and a prominent note on all the sales brochures informing buyers of the planned roadway that was the fault of the developer and of the builder.

If the developer and the builder did not provide the information it was deception and responsibility of the Town and the County to see that notice was given.

The bottom line is no one should be in the market for a home that does not practice due diligence.

At the other end of the spectrum, to compare the Timberfence Parkway with the Eastern ByPass (US Route 15, US Route 17 and US Route 29) around Greater Warrenton is unfounded. There may have been reasons to oppose the location of the US Route 29 ByPass. It may have been foolish to approve residential development on Academy Hill Road east of the ByPass with only one means of ingress and egress. However, that is unrelated to building Timberfence Parkway.

6. THE GREAT RECESSION ENDING SOON?

The following are ‘current indicators’ (28 Aug 2009) related to Option One – The Great Recession will end soon. The indicators change from day to day and only in hindsight – when a critical mass of data is available – can the economic context of a given timeframe be determined with certainty. The summary prepared in late August 2009 presents a current snapshot. Also see Appendix Four.

MainStream Media and the gambling venues called ‘stock markets’ and ‘futures markets’ grasp at every bit of good news to hype the return of Business-As-Usual. (See “Stop the Market Insanity” CNN-Money 28 August 2009) Recall that there were four major stock market rallies during The Great Depression. One in 1932 nearly got Herbert Hoover reelected.

At this point, Option One does not look very promising:

- The total economy of the Euro Zone is now in deflation for the first time since World War II. In mid-summer, Great Britain’s economy was shrinking at the fastest rate since records on this metric have been kept. In August, the economies of France and Germany were reported to have moved out of recession. The critical question is the shape of the recovery curve and will other nation-states in the Euro Zone follow suit.
- The US of A economy shrank more slowly in the second quarter than in prior quarters but is it just being held together with bailing wire (aka, bail outs) and day trader gambling?
- The Chinese economy is said to be near the crest of an expansion bubble. Over 20,000,000 industrial workers were been laid off in the past year.

- The shelter / development industry in most of the US of A is in deflation. The only “hopeful signs of recovery” are data indicating that the rate of decline in the shelter sector has slowed. Sale of existing homes showed signs of growth in July. Many of these sales were fire sales of foreclosed properties. Deutsche Bank predicts that half of all home mortgages will be under water by 2011. The problems with commercial and retail space will surface over the next four years as notes come due.

Typical of the ‘news’ on the shelter industry was this from WaPo: “The battered housing market appears to be on the mend, with sales climbing nationally and prices leveling off even rising in some spots. But swelling unemployment and the related delinquencies and foreclosures threaten to upend these gains...” in “Housing Market on the Brink of Recovery, Relapse: Sales, Prices Stabilize, but More Foreclosures Are Expected” *WaPo* 30 July Page A-14.

There are exceptions to the shelter / built environment decline: The Zentra (and immediately adjacent areas) of SOME New Urban Regions and the entire Core of a few New Urban Regions are not in shelter deflation. By-in-large, those are locations where dwelling unit prices did not escalate dramatically between 2002 and 2006. In other words, no Boom, no Bust.

Dwelling unit prices in many Regions are now back down to 2002 levels. The question is: Will they go much lower? Even in The Great Depression house prices did not free fall as stock prices did.

Over the last 6 decades Dwelling values have, on average, gone up at about the rate of inflation. This reinforces the perspective that ‘investing’ in a primary dwelling is not a ‘financial’ investment – as the 2006 to (? ongoing ?) Housing Bubble documents. (See Sugrue, Thomas J. “The New American Dream: Renting” in *The Wall Street Journal* 14 August 2009, Chapters 3,4 & 5 of *The Cul-de-Sac Syndrome: Turning Around the Unsustainable American Dream* by John F. Wasik (2009) and the Blog posting “The American Dream Amended” by E M Risse 18 August 2009.)

For now, the New Urban Regions (NURs) that fall all or part in Texas are far better off than the NURs that fall all or part in California and Arizona. The Washington-Baltimore NUR has a foot in each camp. The Baltimore SubRegion is not looking very promising while The National Capital SubRegion is one of the more fortunate due to federal spending.

Even though Greater Warrenton-Fauquier is in the National Capital SubRegion, the Zentrum of the SubRegion is 40 miles away and the logical location of the

Clear Edge around the Core of the SubRegion is between Radius = 20 Miles and Radius = 30 Miles. Greater Warrenton-Fauquier is from 10 to 30 miles from the areas that will have the greatest beneficial impact of enhanced federal Agency spending.

- Employment is in deflation as noted in the material quoted above. Most economists predict the employment recovery – if it comes – will be like ‘the recovery’ following the 1991 and 2001 recessions – flat with respect to employment due to the replacement of labor by technology, machines and outsourcing. Most predictions are that the employment situation will get worse before it gets better on the Regional and MegaRegional scales.

7. CONSUMPTION AND ENERGY OVERVIEW

Contemporary, competitive First World civilization has evolved Agencies, Enterprises and Institutions with programs, policies, incentives, products and advertising to drive CONSUMPTION, not CONSERVATION.

That is especially true for the production and consumption of energy. One example is sufficient to illustrate the folly of Mass OverConsumption in energy:

For over a century, the policy of energy Agencies and Enterprises has been to provide the lowest rates for the BIGGEST energy consumers, discouraging conservation.

Collectively the actions that drive consumption (aka, Mass OverConsumption) are UNSUSTAINABLE. On a finite planet, Mass OverConsumption is a dead end. Continued geometric growth / consumption is not sustainable, PERIOD. At some point it must come to an end either through intelligent, intentional Fundamental Transformation or due to a COLLAPSE.

In any ecosystem – from ants in a glass tank to rabbits in Australia to humans on a finite planet – a point is reached when the level of consumption passes the holding capacity of the environment. See ***Collapse: How Societies Choose to Succeed or Fail*** by Jared Diamond and Item Eleven below.

Energy consumption by humans has been growing for a million years. The rate of consumption has dramatically increased in the last 13,000 years due to the evolution of agricultural technology and the emergence of Urban civilization. Over the last 13 millennium during which Urban society has evolved, population and consumption grew at a steady, modest rate for 12,800 years. See Chapter 1 Box 2 in ***The Shape of the Future***. Since 1800 there has been dramatic growth of both Planet-wide population and consumption.

In 1800 there were 900, 000, 000 humans on the planet and they each consumed about 31,250 Kcal/person per day. In 2000 there are 6,700,000,000 humans and they each consume 400,000 Kcal/person per day. That is a 95 times increase in total consumption.

In 1800 there was perhaps 90% of the non-renewable natural capital remaining (fossil-based energy, top soil, forests, marine life, metals, etc.). And that was after the Roman Empire's voracious appetite for conquest, gold, grain, wine, timber and other raw materials caused mass desertification in North Africa and the Middle East and similar devastation had befallen other parts of the Planet – e.g. what Mesoamericans did in central Mexico, etc. Again see Jared Diamond's *Collapse*.

In 1896, at the end of The Long Depression, there were still perhaps 85% of the non-renewable natural capital remaining. However, by this time a few humans had new tools to access and consume natural capital and change natural systems in unprecedented ways.

In 1945, at the end of World War II, many more humans had the technology, knowledge and desire to consume natural capital and to waste renewable resources. Global communications, markets and advertising spread the desire to consume to every continent, every Region and almost every SubRegion on the planet.

By 2000 there were perhaps 45 % of the non-renewable natural capital left and it is being burned up at an accelerating rate. In addition, the RENEWABLE resources of almost every class – from water to top soil, to fisheries to plant and animal species to... (you fill in the blanks) – have been over-consumed and polluted. Many “renewable” resources are beyond the threshold of renewability. There is widespread agreement that almost ALL resources are being consumed or polluted at an accelerating rate. World Watch publishes book after book that document the erosion of resources and no one seriously challenges their facts.

There are still enough resources left – perhaps – to maintain most of the current lifestyle amenities that humans now enjoy but ONLY if there are Fundamental Transformations and these Transformations start soon.

There are two aspects of the accelerating consumption – per capita consumption and more and more humans who each consume:

- The immediate need is to slash per capita consumption primarily driven by industrial / technology Enterprises and the cumulative impact of consumer Mass OverConsumption
- As soon as possible citizens need to understand that it is in their individual and collective best interest (and especially in the best interest of their offspring) to produce fewer and fewer new agents and exponents of consumption.

On a finite planet, MORE is NOT better when it comes to population . See *The Shape of the Future*, Chapter 8 (Stability– The Social Impact of the Human

Settlement Pattern), the section on “Overarching Social Issues– Population and Conflict.”

Organizations – Agencies, Enterprises and Institutions – thrive on consumption and growth. Only citizens – individually and collectively (in Households and in societies) – thrive on conservation. “Conservation Organization” is an oxymoron.

The most important and effective strategies to reduce per capita consumption and maintain anything approximating the contemporary (aka, ‘modern’) lifestyles and standards of living all involve – directly or indirectly – evolving more functional human settlement patterns.

More efficient distribution of human activities reduces the demand for travel. Functional settlement patterns require less use of vehicles for travel. In addition, rational land use patterns facilitate a shift to smaller and more efficient vehicles and the efficient use of share-vehicles.

Functional human settlement patterns also require less heating and cooling, less resources to make a given amount of space habitable. The list of advantages of functional settlement patterns over scatteration and disaggregation is long and fully documented in *The Shape of the Future*, Part Two. Also see Owen, David, *Green Metropolis: Why Living Smaller, Living Closer, and Driving Less Are the Keys to Sustainability* and Jensen, Derrick. “Forget Short Showers,” *Orion*, July / Aug 2009.

These are matters of physics and not of policy or preference. It turns out that a well informed (aka, ‘free’) market supports more efficient patterns of human activity. The market has been warped by forces articulated in *TRILO-G, PART ONE – THE ROOTS OF THE HELTER SKELTER CRISIS*.

Since the most desired patterns and densities of land use are more efficient and functional, the best way to achieve them is to fairly allocate location-variable costs rather than subsidizing disaggregation of civilization in an effort to drive Mass OverConsumption.

This is not only true for energy conservation and to solve the Mobility and Access Crisis but for the production and distribution of food, the distribution and use of water and the collection and recycling of waste.

Functional human settlement patterns are a requirement of economic prosperity, social stability and physical sustainability. They directly or indirectly impact every aspect of the economic, social and physical spheres of human existence.

8. CHEAP ENERGY OPTIMISM

There are many energy “options” – alternative sources of energy to replace (compete for market share with) electricity, steam and carbon based fuels. Some of these alternatives are new, some have been around since before humans started burning wood and coal and long before Edison harnessed direct current.

Optimistic hype based on limited / experimental applications / unique circumstances and failure to consider the impact of subsidies or externalities all make this or that energy source seem like a silver bullet when advocated by Enterprises and Institutions that benefit from one or another energy source. The blatantly foolish, emotion laden image advertising by energy Enterprises and their Institutions as well as the ‘balanced journalism’ of MainStream Media make it hard to sort fact from fiction. See *TRILO-G*, PART TWO – THE ESTATES MATRIX.

At-scale production with fully allocated costs of any known energy alternative that makes a significant dent in the current use of carbon / fossil-based fuel will have a high cost.

Based on what is known at this time, the potential for achieving a sustainable trajectory for human energy consumption is limited to one option: Profound Energy Conservation, PERIOD.

The only strategy to make a profound difference in the trajectory of energy consumption is Fundamental Transformation of human settlement patterns. That is because well over half the energy consumed by humans is used to provide Mobility and Access to dysfunctional human settlement patterns and to heat and cool buildings that are dysfunctionally located, designed, managed and maintained.

Every alternative to the dominate carbon-based fuels has a downside if they are required to produce anything approaching the volume of energy now produced by petroleum, coal and natural gas much less their flexibility in transport and application.

In spite of Institutional and Enterprise advertisements and propaganda to the contrary, there is a limited / finite supply of natural gas – just as there is for all the other fossil-based energy sources.

Biofuels are a favorite ‘answer’ to power vehicles. Ethanol from corn, sugar cane, soy beans, sunflowers, palm nuts, jatropha, etc. is a strategic dead end. This has been clearly demonstrated by the impact on food prices by the diversion of corn to produce ethanol. But for massive subsidies, ethanol would be an even more minor factor in the energy picture than it is now.

There MAY be a way to produce a portable fuel at \$30, \$40 or \$50 dollar-per-barrel equivalents. However, most of the techniques under consideration have been around since 1973 when it was obvious that an alternative to petroleum would be needed. Production-scale applications are not the same as laboratory experiments. At-scale processes with known technologies that could

produce enough energy to replace the energy currently extracted from petroleum, coal and gas would disrupt both markets and natural processes.

If there was a way to produce CHEAP carbon based energy, that technology would already be in production. It is not being produced because the reality is that it is too expensive and / or other limitations. For example, Coal to Liquid (CTL) technologies were developed between World War I and World War II to fuel the Nazi war machine. The technology was dusted off again to blunt the impact of apartheid sanctions on South Africa. When the petroleum was again available, the technology was shelved again.

Another illustration of the discontinuity of at-scale production comes from solar driven wind energy. It has been estimated that to produce the amount of energy now being consumed by Great Britain (with far lower per capita consumption rates than in the US of A) it would require a wind farm ten miles wide all the way around the British Isles. Such an installation could have negative impacts on weather across Western Europe to say nothing of the cost and the aesthetic impact.

Similar dramatic impacts have been suggested from tide and ocean current generators. The same metrics apply for oil shale / tar sands, deep ocean oil wells, ultra deep geothermal wells and other strategies to expand new energy sources.

Where does the energy come from to isolate hydrogen gas for a “hydrogen economy?” What IS “safe nuclear?” There is still no solution for storing the waste from old (unsafe?) nuclear processes and what is the cost of making sure nuclear technology and / or nuclear waste products do not get in the ‘wrong’ hands? Even low-tech dirty bombs would have devastating impact.

Even if the cost of energy can be reduced, it is likely that Agencies will be required to tax the fuels both to hold down consumption and to cover cost of overcoming negative secondary impacts – storage of nuclear waste, sequestration of CO₂, etc.

In some quarters, there is feverish interest in a solar / electric future. The central problem with ALL solar based energy sources is that the energy which arrives on the surface of the Planet (heat / light / wind / tides, etc) is dispersed and periodic while the demand is focused and out of sync with much of the demand.

Optimization of the Urbanized area in the US of A where 85 percent of the citizens live and work would take up less than 5 percent of the land area. The reality of dispersed source / focused demand creates problems for collection, transmission, distribution and storage of energy in the form of electricity. At the present time more electric energy is wasted in the collection, generation, transmission and distribution than is delivered to end users.

Every conceivable energy strategy MAY be PART of an ‘solution’ but it is more likely they will pencil out at \$300 a barrel equivalent than at \$30 dollars a barrel.

In response to early discussions of Timberfence Parkway, one respondent expressed the hope that there might be a major breakthrough with lithium batteries soon and then “citizens could all drive as far as they want for pennies.” (How much it would cost to CHARGE those high efficiency batteries is, of course, another matter.)

The nation-state of Bolivia has 50 % of the known lithium reserves and it is not hard to guess how willing Comrade Morales would be to giving away that lithium so that 5 percent of the humans can have cheaper batteries for another two decades.

There are two strategies on the horizon to increase the supply and lower the cost of energy beyond the ones that have proven NOT to be ‘cheap.’ These two examples demonstrate the complexity of achieving a sustainable energy balance after centuries of squandering cheap energy (natural capital) and building Institutions to protect the interests of Energy Enterprises that depend on Business-As-Usual .

- **MicroGrid / Conservation** is being fought tooth and nail by the Big Grid Electric Power Enterprises and their supporting Institutions. SYNERGY has first hand experience with this having worked for years to develop synergistic modular integrated utility systems (MIUS) and comprehensive recycling / reuse systems at the Neighborhood- and Village-scales. The MicroGrid strategy, by the way, requires Fundamental Transformation to functional human settlement patterns
- **Coal to Liquid (CTL)** is being fought by the Petrochemical Enterprises and their supporting Institutions who want to maintain their monopoly on portable energy supplies. One problem with Coal to Liquid is that it generates twice as much CO₂ per BTU as gasoline and thus has a total cost in the neighborhood of \$8 a gallon / \$300 a barrel – even after billions of Federal money is spent on subsidies to sequester the excess CO₂.

Even with optimum utilization of ALL the options, there is no ‘cheap’ energy on the horizon and no real alternative to significant and meaningful conservation. The most effective and least disruptive conservation strategy is to evolve functional human settlement patterns.

With respect to Mobility and Access, keep in mind that even with FREE energy, *Large, Private* Vehicles cannot supply Mobility and Access to the most functional and market-desirable patterns and density of land use as documented in *TRILO-G*, PART FOUR – THE PROBLEM WITH CARS.

9. BIOFUELS – ILLUSIONS, POTENTIAL AND CAVEAT

Carbon / fossil-based energy is an important component of the ‘natural capital’ that has been accumulated over the past 4 billion years by conversion of the ‘natural income’ from the Sun.

Humans have burned through much of this natural capital in the last 200 years. Most of it has been consumed over the 116 years since the end of The Long Depression (1873-1896). This period has been characterized by significant population growth, hyper industrial / technology driven economic expansion and massive consumer consumption (aka, Mass OverConsumption).

The consumption of natural capital accelerated dramatically after 1950 and especially from 1980 to 2007. Citizens must learn to live on natural (solar) 'income' now that stored natural capital is becoming more scarce and more expensive.

There is no question that fossil-based sources of fuel – including natural gas – are finite and becoming more and more costly to bring to market. The same is true for petroleum substitutes.

As noted in last section there is NO CHEAP replacement for carbon / fossil-based energy. Beyond cost, there is the issue of efficiency. The Energy Return On Energy Invested (EROEI) for most substitutes for carbon-based energy to fuel – especially fuel for vehicles – are below 1.0 when all the costs and subsidies are calculated. In other words, it takes more energy to produce a gallon of vehicle fuel than is generated by using that fuel.

Low EROEI values hold, not just for liquid fuels to replace gasoline, diesel and kerosene (jet fuel) but for hydrogen, 'safe' nuclear and ultra-deep geothermal. They also apply to the recent deep off-shore and ultra-deep terrestrial petroleum discoveries.

It is not that there is just no CHEAP replacement for natural capital energy, there is no NET source of energy other than harnessing solar income. As noted in the last section, solar income is dispersed, not concentrated. Many of the direct and indirect solar income sources have high costs of capture and conversion. These facts do not dampen the ardor for biofuels.

ILLUSION

One of the problems with achieving broad citizen support of a comprehensive energy conservation effort is the wan hope, myth and or illusion that among the many alternative energy sources, there MUST be a silver bullet. Technology will come to the rescue! Right?

Often, one hears that 'the answer' is biofuel – especially as a substitute for gasoline, diesel and kerosene (jet-fuel). It is true that biofuels – bio-diesel, bio-jet fuel, ethanol, syngas (green gasoline), and others – CAN be produced from plant material in many forms. IF there is an abundant supply of CHEAP plant material and IF the cost of the replaced fuel is high enough to make the biofuel competitive. Those are big IFs.

Biofuels are manufactured from biomass – previously living organisms (plant and animal). There are several classes and subclasses of biomass. The class with the most accessible energy (sugars) are seeds – corn, soybeans, sunflowers, palm nuts, jatropha, etc. – and sugar cane. Since only the seeds are used, the biomass per acre is low except for sugar cane. Even more important, there is competition with food and other uses as noted concerning corn based ethanol in the prior

section.

A second major class of biomass are plant materials other than seeds. Here the potential energy is encased in cellulose and harder to extract. This class is termed Cellulosic Biomass and is broken down by source: Clean Cellulosic Biomass (purpose-harvested forest products, switch grass, prairie grass, perennial shrubs, etc.), Residual Cellulosic Biomass (forestry byproducts, corn stover and process residues such as seed hulls and sawdust) and Urban Biomass (municipal waste, construction and demolition debris, etc.) There are other classes such as kelp, alga and others which also have energy potential.

Each class has its own supply and processing limitations and its own set of advocates seeking support (subsidy) as a way to produce energy. There is potential in every biomass alternative but the issue is total cost and secondary impacts. Massive harvest of any natural occurring or cultivated source of biomass has a cost and an impact.

The EROEI has been less than 1.0 for seed based ethanol produced to date and it is projected to be less than 1.0 for ALL bio fuels that rely on Industrial Agriculture for production due to the cost of fertilizer, heavy equipment, water for irrigation and / or processing. There are inevitable natural system dysfunctions generated by cultivation of monocultures and other externalities such as soil and water pollution that have to be considered when biomass is produced by Industrial Agriculture.

The core problem with Industrial Agriculture is that it is NOT CHEAP when ALL the costs are considered. As the crop subsidies for corn, soy beans, sugarcane, etc. indicate, it is easy for Agencies to become cash cows for Industrial Agriculture. When Industrial Agriculture is relied on to produce biomass, bioenergy becomes expensive AND there is the inevitable competition for land, and water that drives up the price of alternative crops – primarily FOOD.

First World nation-states have become addicted to cheap energy AND cheap food. The majority of the first world citizens can tighten their belts vis a vis food costs. For the rest of the Planet, higher food prices means starvation.

The exploding world wide population and the technology driven growth in per capita consumption since 1800 means that MOST of the natural income (direct and indirect solar energy) is already committed.

The replacement of natural capital with natural income has to be carried beyond simple minded exploitation of biomass for many reasons including the fact that combustion of biofuels also releases carbon dioxide.

Biomass SHOULD be PART of the answer to sustainable energy supplies but not via Industrial Agriculture that competes with food and fiber production for sustenance and shelter and disrupts natural systems upon which the Earth's ecosystem depends.

BIOMASS POTENTIAL

The first step to use of biomass is to capture the bioenergy potential from the Urban and NonUrban waste stream. The key to capturing the energy value for the waste stream is to unlock it from the cellulose. This is the strategy is the basis for the Town of Warrenton to become energy self-sufficiency. (The Warrenton initiative is now on hold for a number of reasons.)

There are SubRegions where forestry and agricultural waste could be used to generate SubRegionally important levels of energy. These areas are not close to Regional Cores (the focus of energy demand) and often lack institutional capacity to implement innovative solutions without very substantial subsidies.

There MAY be a strategy to move beyond these limitations near the Cores of New Urban Regions.

To understand how to tap a new biomass resource, first consider the origins of large Urban agglomerations in the US of A. Start with the reality that the earliest Urban settlements were located where cargo and passengers changed modes of travel – for example; ports, portages. Those historic transfer points that grew to be large Urban settlements in the early years of the Republic – and grew to be Industrial Centers in the later part of the 19th century – were located where there was fertile hinterland to produce food and fiber for the Urban residents.

As canals, railways and later roadways evolved to transport food and fiber, this proximity of fertile land became less important. As Industrial Centers morphed to become New Urban Regions, the Urbanized area expanded into the surrounding agricultural land. This point has been made repeatedly by those concerned with agricultural preservation. This waste of ‘prime’ agricultural land has been deplored for a century.

From a nation-state-wide perspective, the Cores of New Urban Regions occupy less than five percent of the land but are now the location of over 75 percent of the population, 85 percent of the jobs and of the total economic activity. These areas are also the focus of the energy demand.

Over the past 50 years, most of former agricultural land within 50 miles of the Centroid of prosperous New Urban Regions has been developed at very low densities. The farther from the Centroid, the lower the density. Much of this land is now devoted to mown lawns (aka, Short Grass Pollution) discussed in *TRILO-G*, PART FOUR – THE USE AND MANAGEMENT OF LAND.

**There may be a silver lining in the gross waste of the fertile land resource:
Convert the unused potential growth potential to bio mass harvest.**

Data from the authors 0.2 acre lot during the past two 8 month growing seasons indicates that the lot has produced about 1,600 pounds of biomass – about four tons per acre. This lot is inside the Clear Edge around the small Urban agglomeration of Greater Warrenton.

The biomass comes not from 'crops' or from mown grass clippings but from perennial landscape materials grown in mulched beds – perennial flowers, shrubs, buffer hedges and a small herb garden – and is produced with almost no irrigation water. The goals for this five year re-landscaping project were to optimize landscape attractiveness, minimize cost and the amount mown grass (Short Grass Pollution). If one were to add goals of maximizing biomass production consistent with the aesthetic and economic goals and if research was conducted on the most efficient and attractive plants for energy production it is feasible that the biomass production would double.

This level of biomass would produce about 75 gallons of biofuel on the 0.2 acre lot per year. With a 50 miles per gallon vehicle that would result in fuel for 3750 miles a year which is about the number of miles the author now drives. Obviously a larger lot would produce more energy.

The same yield per lot from the Single Household Detached Dwellings in Greater Warrenton would produce 3,000 tons of bio mass. This product would NOT compete with food production, would require little or no supplemental watering. Unlike mown grass, a mulched bed does not have to be watered, mowed and fertilized. The biomass produced on the lot is now hauled to the land fill in garbage trucks (or put on the curb to be chipped and then hauled to the land fill). With revised policies and procedures, this material could supply some of the biomass needed to put the Warrenton energy self sufficiency project back on the burner.

There are larger implications that can be derived from this information. The quantity of mown lawn (Short Grass Pollution) in the Chesapeake Bay watershed – and the wasted energy and pollutants that flow from this mown grass are large and growing. Mown grass in the watershed has been shown to be over fertilized and consumes vast amounts of water because mown grass is not well suited to the Mid-Atlantic climate.

Recent research indicates that in Fairfax and Montgomery Counties alone there are 275,000 acres of mown grass. Using the same production figures for a far more benign landscaping in the two counties would yield over two million tons of biomass each year. This is not from crops like switch grass or from forest harvesting but from attractive residential landscaping and is close to the energy demand.

Based on these numbers, the National Capital SubRegional numbers are impressive. Within logical location of Clear Edge (between Radius = 20 Miles and Radius = 30 Miles) there are about 1.5 million acres. Much of this land is in unproductive / least-common-denominator ground covers. Based on Greater Warrenton production rates this underutilized land could produce 8 million tons of bio waste per year AND add to the value and energy savings of the dwellings.

This alternative would reduce the cost, noise, energy consumption and pollution from Short Grass Pollution that is articulated in *TRILO-G*, PART FOUR – THE USE AND MANAGEMENT OF LAND.

There are important steps to take from the existence of biomass production potential and the use of biomass to produce energy at the Community, SubRegional and Regional scales.

Establish market mechanisms and Agency programs and policies to:

- Rationally allocate the costs of dysfunctional settlement patterns and the current destructive use and management of land
- Create a connection between the cost of energy used – especially for vehicles as well as heating and cooling – and the amount of energy produced by the biomass.

There are two other sources of funds that can be used to encouraged conversion from Short Grass Pollution to biomass production.

In addition to the biomass the author's 0.2 acre lot produces herbs, bulbs and plants that have a market value of about \$1,000 a year. To date these materials have been donated to organic farmers to resell and for public space landscaping / beautification and given away as gifts.

There is second and more important benefit from which to generate income / incentive to abandon Short Grass Pollution – credit for Carbon sequestration from mulched beds.

Rodale Institute has some compelling data – with confirming research by universities – on the most effective and efficient way to increase production and rebuilding top soil. At the same time this method dramatically increases carbon sequestration and water retention. Rodale advocates abandoning the Industrial Green Revolution and replacing it with a REAL Green Revolution.

The cost of fertilizer derived from petrochemicals faces the same cost reality as other aspects of Peak Oil. So does the energy to support Industrial Agriculture.

Trying to compensate for the loss of top soil and soil fertility with a temporary fix of fossil-fuel based nitrogen has the same unsustainable downside as trying to replace gasoline with compressed natural gas.

Details of this process and the data to support it is beyond the scope of this brief introduction to the potential of biomass production. For the details request the press kit from Rodale Institute at (610) 683-1400.

The overarching biomass potential is:

- Convert underutilized land now committed to dysfunctionally scattered Urban land uses to the production of biomass and products, and
- Accomplish significant carbon sequestration at the same time.

The net income (revenue and credits) from these activities can be used to off set the economic burden of a fair allocation of location-variable costs that result from the disaggregation of Urban land uses – primarily Single Household Detached Dwellings.

There is a second important social and economic factor in play here. The ONLY ways to secure REAL conservation are:

- Draconian price / tax / fee strategies, OR
- Broad-based citizen understanding of AND PARTICIPATION in Fundamental Transformation.

The tried and true way to induce Enterprises to convert to sustainable activities is to support these changes is with the revenue from draconian price / tax / fee to fund the subsidies that drive Enterprise Agriculture – whether it is Industrial Agriculture, corporate green agriculture or family farm agriculture.

There are a growing number of small scale ‘doing the right thing’ citizen cooperative activities such as the corn (green fuel) granaries for heating fuel in Tacoma Park and Mount Rainier, MD but not many will follow this path and so will have a small impact on the overall energy consumption equation. See again Jensen, Derrick. “Forget Short Showers,” *Orion*, July / Aug 2009.

The better solution is to provide incentives to the millions of citizens who own underutilized land in almost every Community, in every Region where there are fertile, naturally watered lands that have been converted to scattered Urban land uses. At the same time this will lower the impact of fairly allocating location-variable costs.

CAVEAT

The First World addiction to cheap food and cheap energy have resulted in Industrial Agriculture supplying food with unhealthy amounts of salt, sugar and fat. See Kessler, David A. *The End of Overeating: Taking Control of the Insatiable American Appetite* and Shell, Ellen Ruppel, Cheap: *The High Cost of Discount Culture*.

One of the best ways to overcome these health and economic threats is through Urban agriculture and making a connection between the production of food and the consumption of food.

There is a growing “food, not lawns” movement and other Urban agriculture initiatives that are discussed in *TRILO-G*, PART FOUR – THE USE AND MANAGEMENT OF LAND. These activities contribute to more healthy and economical food supply chains. There is potential for competition for underutilized urban land. As the authors ‘herb farm’ suggests these activities can be synergistic not counterproductive.

(NB: Because 'local' is one of the Core Confusing Words when addressing issues of human settlement pattern, the author avoids use of "local," "Locavore" and 'buy local.' There is a second reason. Because of the inherent good sense of 'buy from within your Community and SubRegion activity' Industrial Agriculture and Big Box Supermarkets have now started to saturate their ads with misleading reference to 'local.')

10. KEEPING GASOLINE PRICES DOWN

For illustrative purposes it is SYNERGY's position that IF:

- There is wide-spread citizen support to implement Fundamental Transformation of human settlement pattern – the sort of intensification that the shelter market demonstrates citizens have actually preferred for the past 35 years (See *TRILO-G*, ROOT CAUSES OF THE HELTER SKELTER CRISIS) and which Richard Florida and others predict must evolve to support wide-spread future prosperity, and
- There is an end to unwarranted, blanket subsidies ("What is good for General Motors is good for America) of Automobile and long distance truck transport, and
- There is a fair allocation of location variable costs

Then gasoline will cost from \$3.00 to \$4.00 a gallon over the next decade due to the existing petroleum reserves / refinery capacity and shrinking demand.

11. DIAMONDS IN THE SKY

What combination of circumstances might result in 'cheap energy?' The following Cargo Windfall is as plausible a scenario as any of the 'cheap-energy-is-right-around-the-corner' myths that now exist:

An advanced civilization living on a planet in orbit around Alpha Centauri or Beta Centauri might have discovered a large meteor that is on a collision course with their planet. They held a planet wide election and choose an escape party. They loaded the escape vehicle with diamonds to buy rights to resettle on earth.

Alpha and Beta Centauri are the CLOSEST stars that MAY have planets that are 'earth-like' and these planets MIGHT support life as we know it. After a 250,000 year journey using current technology – pack a lunch – they could reach Earth. With future technology they MIGHT cut the trip to a mere hundred thousand years.

One could hope they left long enough ago so that they will arrive later this month. The Centaurians might buy the right to settle in, lets say Utah, for enough diamonds to buy down the price of gasoline to three dollars a gallon for fifty years. Of course THAT would only be a temporary fix.

OK, let us be serious, if the Centaurians are smart enough to get out of the gravitational pull of the Alpha / Beta Centauri solar system and get here even in less a quarter of a million years – where were YOU 250,000 years ago? – they would be smart enough to use their resources for conservation and a sustainable trajectory, not some stop gap measure.

As pointed out in Chapter 23, Box 1 of *The Shape of the Future*, there is No Exit.