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"Green" Improvements for Votran Consultant Services Contract

FINAL

INTEGRATED SUSTAINABILITY IMPLEMENTATION PLAN

August 3, 2010

RS&H
IMPROVING YOUR WORLD

VOTRAN'S INTEGRATED SUSTAINABILITY IMPLEMENTATION PLAN

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1.0 Overview

Sustainability, by its nature, hinges on improving the efficiency of organizations that adopt its precepts. Improved efficiency yields both direct and indirect economic benefits. In the public transportation sector sustainability focuses on integrating decisions, infrastructure and services to optimize the performance of the transit system while benefiting the environment, employees and communities served. Enhanced performance improves natural resource conservation, and energy and fuel efficiency while reducing waste, pollution, and greenhouse gas (GHG) emissions.

Sustainability aims to meet the needs of the present without compromising the ability of future generations to meet their own needs.

Votran's progressive sustainable vision effectively integrates environmental, economic and social considerations. This Integrated Sustainability Implementation Plan, developed by Reynolds, Smith & Hills, Inc. (RS&H), outlines and details the elements of Votran's systematic process to manage enterprise-wide sustainability initiatives and improvements for the next five (5) years. This Plan also provides Votran with the foundation it needs to meet Executive Order 2007-126 (further described in Section 7.2) and the Green Volusia Program (www.volusia.org/green/program.htm).

2.0 Sustainability Policy

The foundation of Votran's sustainable future is its sustainability policy. As such, it is imperative that Votran's sustainability policy capture the fundamental principles of sustainability, while ensuring that the policy will work with, and build upon, organizational and county wide mission statements. The traditional definition of sustainability calls for policies and strategies that meet society's present needs without compromising the ability of future generations to meet their own needs. With this in mind, Votran developed a sustainability policy that expands on its current mission and compliments the mission of Volusia County's Green Volusia program.

Votran's mission statement reads,

> *"VOTRAN's mission is to identify and safely meet the mobility needs of Volusia County. This mission will be accomplished through a courteous, dependable, cost effective and environmentally sound team committed to quality service."*

The Green Volusia program mission statement reads:

> *"The Green Volusia program is committed to providing excellent service to the citizens of Volusia County by expanding green practices within county operations, educating the public about environmentally responsible practices, and becoming a leader in sustainability. Green Volusia will create positive change that will benefit our citizens now and into the future."*

Votran's sustainability policy reads as follows:

> *Votran's commitment to deliver environmentally sound public transportation services is integral to Volusia County's livability and overall sustainability efforts. To reinforce our role as an industry and community sustainability leader, we will comply with all applicable regulations, conserve resources and continually improve our operations.*
>
> *To enhance our sustainable performance, Votran commits to systematically integrate sustainability into our business processes. The sustainable practices we adopt shall reduce life-cycle costs, and improve operating efficiency while preserving the natural environment. We shall reduce our environmental footprint through the efficient use of natural resources and pollution prevention. We shall enhance the quality of our community by proactively reducing the county's greenhouse gas footprint and regularly reporting our sustainability successes. We shall implement educational and other outreach initiatives to raise awareness in the community of our sustainability accomplishments and the benefits of public transportation.*

We shall reduce our environmental footprint through the efficient use of natural resources and pollution prevention.

3.0 Sustainability Management Plans

Votran has developed Sustainability Management Plans (SMPs) that are designed to be the heart of the Sustainability Implementation Plan. The purpose of the SMPs are to provide a clear and actionable road map to sustainability through well-defined goals and practical implementation steps.

Votran used a systematic process to develop its SMPs. This process relied on resource mapping to identify environmental aspects, sustainability criteria to rank significant environmental aspects, and best management practices to help develop projects to address those significant environmental aspects. A brief outline of this systematic process is discussed below.

3.1 Resource Mapping

Resource mapping is a technique that helps an organization understand its environmental footprint. Votran used resource mapping to better understand how its operations interact with the environment, and to identify sustainable initiatives that support its policy. By applying resource mapping techniques, Votran identified the inputs, outputs and potential leverage points of its operations. As a result, Votran discovered 121 environmental aspects in the following operations:

1. Fleet management;
2. Administrative practices; and
3. Facilities management.

Appendix A provides detailed process flow maps for Votran's operations.

3.2 Significant Environmental Aspects

Votran ranked its environmental aspects using ranking criteria focused on the principles of sustainability applicable to public transportation systems. Table 1 provides the specific criteria used to rank the environmental aspects. Table 2 provides Votran's significant environmental aspects as determined by these criteria. Appendix B provides the significant environmental aspects determination matrix, including criteria and scoring for specific operations and activities.

Table 1. Votran's Sustainability Ranking Criteria.

Significance Criteria	Rating Scheme
Economic Benefit: What is the possible 5-year return from addressing aspect?	**High:** Greater than $500,000
	Medium: Between $5,000 and $500,000
	Low: Less than $5,000
Implementation Cost: What is the perceived cost of addressing aspect?	**High:** Less than $5,000
	Medium: Between $5,000 and $50,000
	Low: More than $50,000
Public Image: Will addressing the aspect improve public image?	**High:** Large improvement in public image.
	Medium: Moderate improvement in public image.
	Low: Public image will not improve.
Livability: Does addressing this aspect promote and improve the quality of life within the community.	**High:** Large improvement in the quality of life in the community.
	Medium: Some improvement in the quality of life in the community
	Low: No improvement in the quality of life in the community
Regulatory Requirement: How heavily is the aspect regulated under federal, state or local regulations?	**High:** Criminal action / fine greater than $20,000/day
	Medium: Possible violation / fine less than $20,000/day
	Low: Not regulated
Environmental Benefit: Is there a noticeable environmental benefit from addressing the aspect?	**High:** Definite noticeable benefit due to addressing aspect.
	Medium: Small, but potentially noticeable benefit.
	Low: No noticeable positive benefit.

Rating Scheme Numerical Value

High: 3

Medium: 2

Low: 1

Table 2. Significant Aspects Identified for Votran Operations.

Significant Environmental Aspect	Overall Significance Rating	Attributes of Aspect
Fuel Consumption	2.5	Vehicle fleet use, idling, alternative fuel use, efficient route planning, auxiliary power use.
GHG Emissions / Air Emissions	2.5	Electricity for operations, employee commuting, county employee commuting, vehicle start up and shutdown, fueling, vehicle painting, idling, solvent use.
Energy Consumption	2.5	Electricity used by buildings, and electronics.
Facility Design	2.5	Proactive building planning and design for water and energy consumption.
Electronic Stewardship	2.5	Electronic affirmative procurement and end of life management.
Solid Waste Management	2.5	Solid waste generation, disposal and recycling.
Paper Reduction	2.5	Use of paper for report and manifest generation. Printer default settings.
Water Consumption	2.33	Transit vehicle washing, general water consumption, landscaping irrigation.
Hazardous Materials Management	2.33	Management, use and disposal of hazardous materials including but not limited to: tires, batteries, antifreeze, used oil, florescent bulbs, solvents, and solvent contaminated rags. Spill response and stormwater releases. Management of USTs and ASTs.
Green Procurement	2.33	Use of hazardous materials for cleaning and bus maintenance. Procurement of paper, toner supplies and other materials.
Pest Management	2.33	Integrated pest management.

3.3 Best Management Practices

Votran compared current fleet management technologies, administrative practices, and facilities management with related industry Best Management Practices (BMPs) using a BMP matrix. The BMP matrix allows Votran to compare current practices and identify green options and potential projects to address each significant environmental aspect. Relevant projects, which may be used to improve Votran's operations, were incorporated into the SMPs. Appendix C provides the comparative matrix of BMPs for Votran's significant environmental aspects.

3.4 Sustainability Criteria

Following the identification of the significant environmental aspects and evaluation of BMPs, Votran developed eleven (11) SMPs. These SMPs provide specific sustainability criteria that outline Votran's future goals. Each SMP includes initiatives and projects that will be used to achieve the desired goals, as well as specific targets and metrics to measure success. Appendix D provides Votran's SMPs. Table 3 lists Votran's sustainability criteria.

Table 3. Votran's Sustainability Criteria.

Sustainability Management Plan	Sustainability Criteria
SMP 1 - Fuel Consumption	• Reduce fuel consumption per passenger mile by 40% by FY2030 relative to FY2009 baseline.
SMP 2 - Greenhouse Gas Emissions	• Reduce scope 1 and 2 greenhouse gas emissions 10% by 2012, 25% by 2017, and 40% by 2025 relative to FY2007 baseline (Executive Order 07-127).
SMP 3 - Energy Consumption	• Reduce energy consumption and associated costs by 95% and increase renewable energy by 45% by FY2030 relative to FY2009 baseline. • Strive to be "net zero" for electricity by 2030.
SMP 4 – Sustainable Buildings	• 100% of new construction and renovations initiated in 2010 and beyond shall meet LEED Silver Criteria.
SMP 5 – Electronic Stewardship	• Acquire 95% of electronic equipment meeting the requirements of the Electronic Product Environmental Assessment Tool (EPEAT) by 2020. • Ensure Energy Star® power management features are enabled on 100% of facility computers and monitors by 2011.
SMP 6 - Solid Waste Management and Recycling	• At a minimum, reduce solid waste disposal volumes and associated costs by 40% and increase recycling volumes by 40% by 2015 relative to 2010 baseline. • Strive for "zero waste" by 2015.
SMP 7 - Paper Reduction	• Reduce the amount of paper used in administrative operations by 100% by 2030 relative to 2010 baseline.
SMP 8 - Water Consumption	• Reduce water consumption by 30% by FY2025 relative to FY2009 baseline.
SMP 9 – Hazardous Materials Management	• Reduce hazardous materials usage and storage by 15% and reduce monthly hazardous waste generation to less than 100 kg per month by 2015 relative to 2010 baseline.
SMP 10 – Green Purchasing	• Reduce the number of toxic chemicals by 30% and increase the purchase of environmentally friendly or USDA-approved biobased products by 30% by 2030 relative to 2010 baseline.
SMP 11 – Pest Management	• Reduce pesticide and rodenticide application by 50% by 2030 relative to 2010 baseline.

4.0 Return on Investment

In order for an environmental initiative to be sustainable for Votran it must be economically viable. Votran conducted a five year Return on Investment (ROI) study to demonstrate the economic viability of the eleven (11) SMPs. To quantify expenses of current operations and activities, Votran calculated and analyzed relevant costs associated with each significant environmental aspect. Votran then compared existing costs to expenses associated with implementing selected BMPs. Comparing these potential returns to current costs, Votran developed ROIs for SMPs anticipated to yield a direct economic benefit. Votran also calculated a conditional ROI for SMPs that yield an indirect economic benefit (i.e. reduced emissions, employee safety, etc.).

Votran calculated anticipated annual returns based on comparative industry BMPs and values agreed upon by Votran staff. The majority of facility upgrades and capital improvement projects will be implemented using capital funding, which does not represent a direct cost to Votran.[1] Therefore, the future availability of capital funds for facility upgrades and operational improvements is critical to the economic returns identified for the SMPs.

Implementation and management of Votran's SMPs can be addressed with existing human resources. Therefore, Votran's net economic return will result in no additional direct labor costs associated with implementation and monitoring of projects and programs. As such, the economic returns presented in Sections 4.1 through 4.5 present the net economic benefit to Votran assuming all SMPs are managed by existing Votran staff.

However, Votran may incur additional costs should there be a need to utilize additional staff or an external contractor to implement and manage select sustainability initiatives. Section 4.6 presents revised economic returns that include annual labor costs.

4.1 Direct Economic Benefit – Cost Avoidance

Votran's ROI focused on SMPs returning direct economic benefits. Where necessary, Votran made realistic and conservative assumptions to better quantify the ROI when certain data was unavailable. More detailed information regarding assumptions for individual ROIs is provided in the Return on Investment Worksheets in Appendix E.

Table 4 provides a cumulative five year return for the seven (7) SMPs which have the potential to yield direct economic benefit in the form of cost avoidance to Votran. Appendix E provides detailed information regarding economic returns for the implementation of each of these SMPs.

[1] Sources of capital funding include non-local assistance.

Table 4. ROI Summary of Direct Economic Benefits.

Sustainability Management Plans	Implementation Cost[1]	Net 5-year Return on Investment
SMP 1 - Fuel Consumption	$70,000	$802,249
SMP 3 - Energy Consumption	$19,227	$124,497
SMP 4 - Sustainable Buildings	$0	$38,824
SMP 5 - Electronic Stewardship	$0	$8,995
SMP 6 - Solid Waste Management & Recycling	$0	$14,309
SMP 7 - Paper Reduction	$1,650	$6,405
SMP 8 - Water Consumption	$1,985	$3,298
	Total Net 5-year ROI:	**$998,577**

Notes:
[1] Implementation costs include only those projects that are not underwritten by capital funding. Implementation costs exclude labor costs. Detailed breakdowns of implementation costs and ROI's are provided in Appendix E.

4.2 Indirect Economic Benefit – Cost Avoidance

In addition to the direct benefits identified above, Votran identified three (3) sustainability initiatives that can help improve Votran's compliance status, public image, employee satisfaction and overall health and well-being of the community. These indirect benefits are difficult to calculate due to the lack of quantifiable economic returns associated with these activities. Despite these challenges, indirect benefits are equally important to include in an ROI. Indirect economic returns were calculated using avoidance of environmental fines and documented case-study savings.

Votran can capture the indirect benefits associated with the removal of hazardous and toxic chemicals in the workplace through proper hazardous materials management, green purchasing and pest management. Indirect benefits from these initiatives include improved indoor air quality, reduced cleaning-related health problems and employee absenteeism, reduced cost of waste management and reduced regulatory liabilities. Table 5 summarizes the potential cost avoidance associated with proper hazardous materials management, green purchasing and integrated pest management. The Return on Investment Worksheets in Appendix E provide detailed information regarding these indirect benefits and the associated assumptions used in calculating the ROI.

Table 5. ROI Summary of Indirect Benefits.

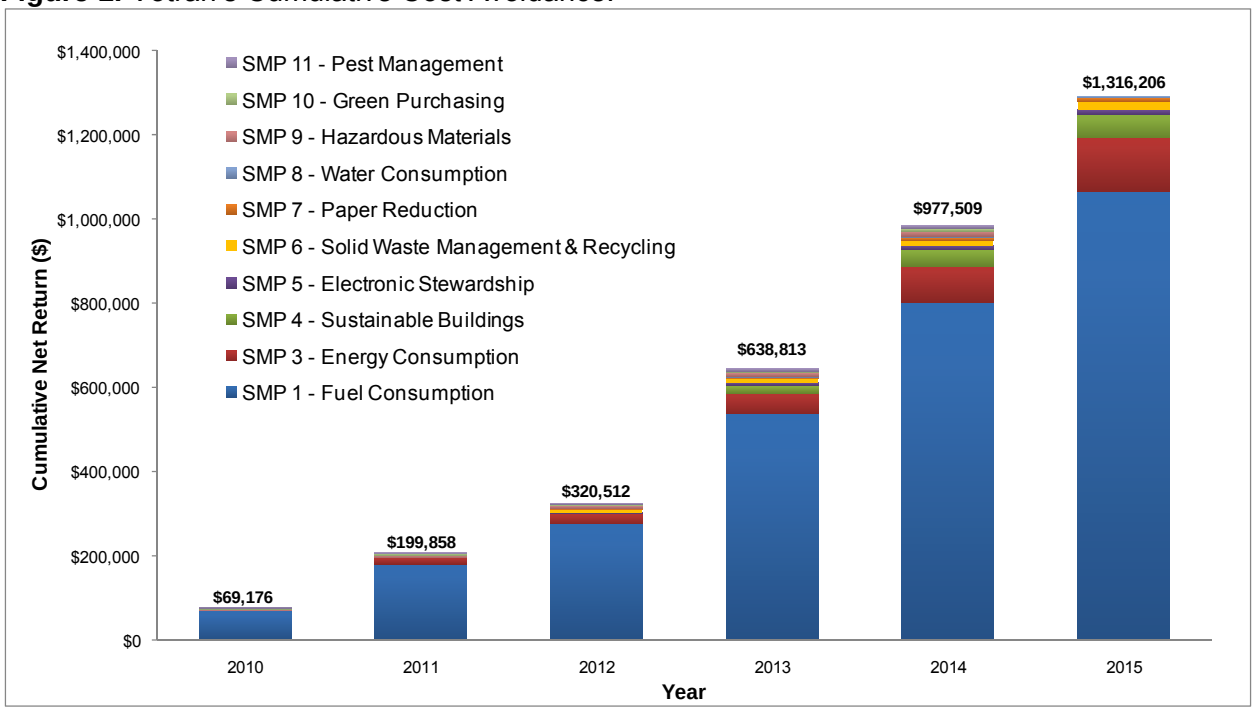
Sustainability Management Plans	Implementation Cost[1]	Indirect Benefit	5-year Return on Investment[2]
SMP 9 - Hazardous Materials Management	$0	Reduced liability and regulatory burden.	$13,200
SMP 10 - Green Purchasing	$0	Reduced exposure of employees to chemicals.	$4,875
SMP 11 - Pest Management	$0	Reduced impact on the environment.	$5,315
		Net 5-year ROI:	**$23,390**

Notes:
[1] Implementation costs for replacement of hazardous materials, procurement of green products, and renegotiation of pest management contracts are not anticipated to increase following implementation of the SMPs. Implementation costs exclude labor costs.
[2] Potential savings quantified for indirect benefits are provided in the ROI worksheets provided in Appendix E.

4.3 Cumulative Cost Avoidance

Votran's five year ROI study revealed that ten (10) SMPs have potential direct or indirect economic returns in the form of cost avoidance. Following the implementation schedule outlined in Section 8, Votran has the potential to realize over $1.3 million in cost avoidances through 2015. Figure 1 illustrates Votran's cumulative cost avoidance opportunities.

Figure 1. Votran's Cumulative Cost Avoidance.



Notes:
Cumulative net ROI for each SMP was calculated as the anticipated annual return minus the implementation cost.

4.4 Indirect Economic Benefit – Revenue

In addition to the cost avoidance opportunities discussed above, Votran can help address Volusia County's Greenhouse Gas (GHG) footprint by promoting ridership. Increasing ridership provides a net benefit to Votran's annual revenue stream while also providing quantifiable GHG reductions for Volusia County. Through development of a ridership pilot project, Votran may look to partner with Volusia County businesses, schools, parks, hospitals and other entities to remove barriers and increase the benefit of public transportation to these entities. The pilot project would apply incentives, commitments and prompts to encourage 300 new riders to ride public transit twice a week in the first year. The pilot project would further aim to increase ridership by 441 new riders each year over a five year period, resulting in 2,064 new riders in year five. This modest five year increase in ridership represents a half a percent of Volusia County's 2009 population. Table 6 identifies potential revenues from the pilot project. Figure 2 provides cumulative revenue over a five-year period following increased ridership initiatives.

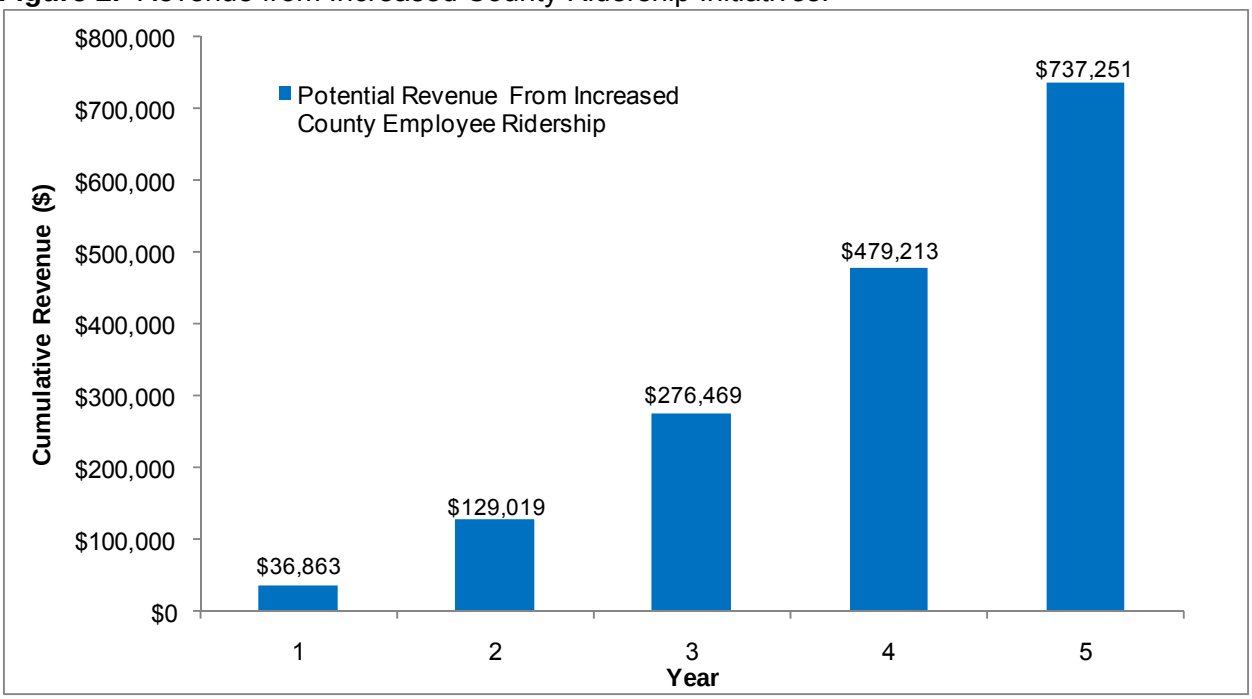
Table 6: GHG Reduction and Increased Ridership Return on Investment

Sustainability Management Plan	Implementation Cost[1]	Indirect Benefit	Net 5-Year Return on Investment
SMP 2 - GHG Emissions Reduction	$0	Increased Ridership	$737,251

Notes:

[1] There is no assumed implementation cost associated with the ridership enhancement pilot project. Implementation costs exclude labor costs.

Figure 2. Revenue from Increased County Ridership Initiatives.

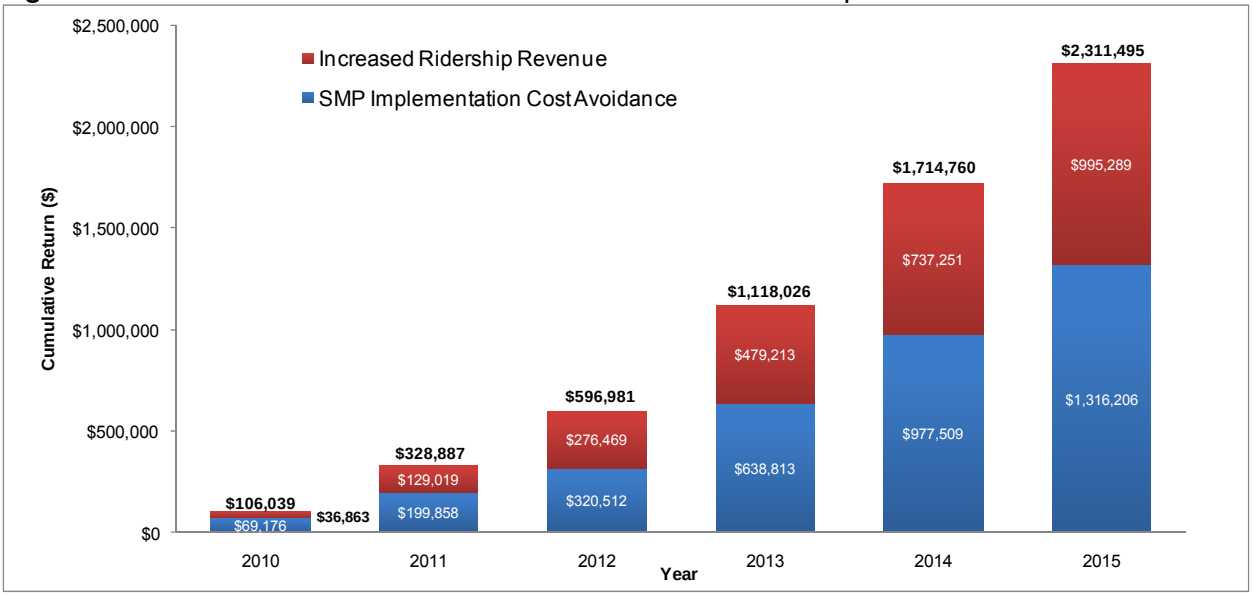


4.5 Cumulative Cost Avoidance and Revenue Totals

Following the staggered implementation schedule outlined in Section 8, and by developing local partnerships to reduce the County's GHG emissions, Votran has the potential to realize over $2.3 million in cost avoidance and revenue through 2015. This total is approximately 13% of Votran's current operating budget of $18.4 million. Figure 3 illustrates the contribution of increased ridership revenue and cost avoidance following SMP implementation to Votran's economic return through 2015.

Votran has the potential to realize over $2.3 million in cost avoidance and revenue through 2015.

Figure 3. Cumulative Revenue and Cost Avoidance with SMP Implementation.



4.6 SMP Annual Labor Costs

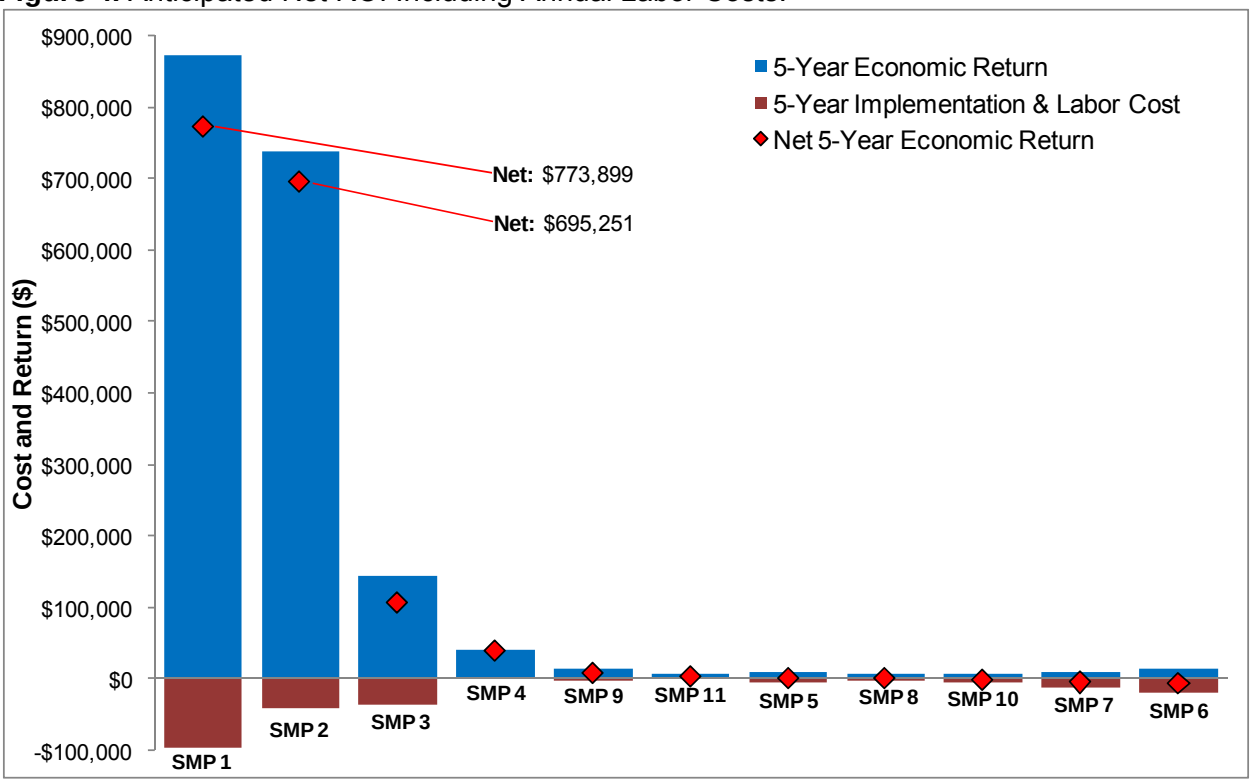
The ROI presented in Sections 4.1 through 4.5 assumes no direct labor costs to Votran's annual operating budget. Because the SMPs may require additional person hours to implement and manage, Votran developed a revised ROI to incorporate anticipated labor costs. The addition of labor costs may be used to identify cost-effective management solutions for SMPs which generate enough return to justify SMP management through external contractors or hiring of additional personnel. To quantify these expenses, Votran estimated labor costs based on the anticipated number of person hours and average labor rates for Votran employees to manage each SMP.

The addition of labor rates to the ROI reveals that several SMPs are not economically viable for external management based on anticipated returns. Figure 4 provides the net economic return to Votran following implementation and estimated annual labor costs. This Figure illustrates that SMPs 6 (Solid Waste Management), 7 (Paper Reduction), and 10 (Green Purchasing) do not yield enough annual return to overcome the anticipated labor costs associated with their implementation and management. Figure 4 also shows that SMP 4 (Sustainable Buildings), SMP 5 (Electronic Stewardship), SMP 8 (Water Consumption), SMP 9 (Hazardous Materials), and SMP 11 (Pest Management) exceed their anticipated labor costs. Based on their relatively low return, these SMPs present an opportunity for Votran to manage these initiatives internally with minimal investment in employee time and labor costs.

Votran's five year ROI is approximately $1.6 million when estimated annual labor rates are included, which is a 30% reduction relative to the anticipated ROI without annual labor costs. However, unless Votran chooses to manage select SMPs through an external contractor, Votran will incur no direct labor costs and may therefore realize the full economic return of its initiatives. Based on Figure 4, SMP 1 (Fuel Consumption), SMP 2 (GHG Reduction / Ridership), and SMP 3 (Energy Consumption) are economically viable for Votran to incur direct labor costs and still yield significant economic return. Because these three SMPs represent over 95% of the anticipated economic return, additional investment may aid the success of these initiatives and help ensure continued returns in the future.

Appendix F provides revised economic ROI worksheets with annual labor cost estimates included in the annual return estimates.

Figure 4. Anticipated Net ROI Including Annual Labor Costs.



Notes:

- Cumulative net ROI for each SMP was calculated as the anticipated annual return minus the implementation cost.
- Annual labor costs include estimated person hours for project implementation and a labor wage rate of $35/hour.
- Additional detail regarding labor costs and revised ROI estimates are provided in Appendix F.

5.0 Grant Funding

The success of Votran's Sustainability Implementation Plan is contingent upon proper implementation. Implementation, in return, requires resources. Many of the sustainability initiatives outlined in this Plan will require funds that may be available through federal and state grant programs.

In its Fiscal Year 2011 budget, the federal government committed to help stimulate comprehensive regional and community planning efforts that integrate transportation, housing, environmental and other critical investments. Specifically, this commitment aims to reduce GHGs, improve mobility and transportation access to all members of the community, and improve housing choices. Through the 2011 budget and the President's Partnership for Sustainable Communities initiative, the DOT has been appropriated $527 million to help state and local governments invest in smarter transportation infrastructure and leverage that investment to advance sustainable development. In addition to the DOT funds, the Department of Housing and Urban Development announced $150 million available for planning grants, and the Environmental Protection Agency announced $10 million available for technical assistance.

Votran and the Volusia County Metropolitan Planning Organization (Volusia Transportation Planning Organization as of July 1, 2010) will work closely with Volusia County to identify and prioritize grants that should be pursued. The 2011 Sustainability Funding Matrix in Appendix G briefly outlines funding that should be pursued in 2010 and 2011.

6.0 Findings

During the development of the Sustainability Implementation Plan, Votran identified indicators that reflect the current state of sustainability within Votran's operations. In addition to the SMPs, these indicators gauge the future success of Votran's sustainable initiatives. These indicators also identify leverage points critical to future success. The indicators are:

1) Strong foundation for sustainability
2) Fuel savings will drive Votran's sustainability efforts
3) Greenhouse gas comparison to peers.

6.1 Strong Foundation for Sustainability

Votran's current management commitment and environmental practices have laid a strong foundation for building a more sustainable future for Votran. This foundation is based on the continued success of sustainable programs and policies, including the following:

- ***Management commitment***. Management commitment is a key component to any sustainability effort. Votran's management has demonstrated the knowledge and commitment necessary to promote sustainability efforts and continual improvement of Votran's operations.
- ***Employee commitment***. Following the lead of management's commitment, employees need to have a general awareness of why it is important for Votran to pursue sustainability and environmental initiatives. Votran's employees have shown support and enthusiasm towards pursuing sustainability, and their continued support and participation is critical to Votran's sustainability success.
- ***Vehicle washing.*** Votran reuses over 547,000 gallons of water a year in its vehicle washing bay. By reusing wash water, Votran reduces its consumption and associated cost of potable water. Water is a valuable natural resource, and Votran is taking great strides to help reduce its impact on this resource.
- ***Vehicle engine coolant recycling.*** Since purchasing its on-site coolant recycling unit, Votran has recycled approximately 3,000 gallons of engine coolant per year. The recycling unit allows Votran to control the quality of the coolant it puts in its vehicles, reduces the amount of coolant purchased each year, and reduces the environmental impacts of coolant disposal.

Votran's management has demonstrated the knowledge and commitment necessary to promote sustainability efforts and continual improvement of Votran's operations.

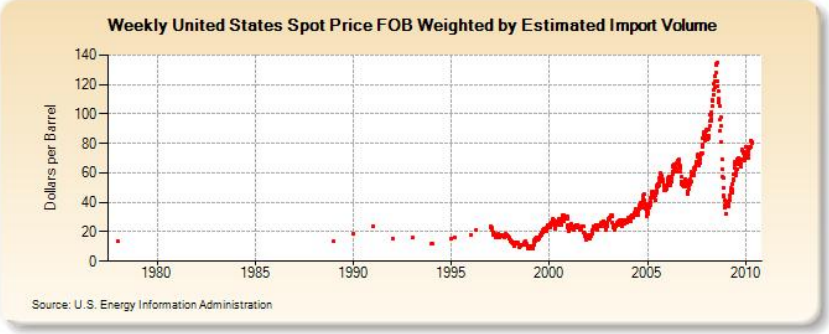
Votran reuses over 547,000 gallons of water a year in its vehicle washing bay.

Votran recycles approximately 3,000 gallons of engine coolant per year.

6.2 Fuel Savings Will Drive Votran's Sustainability Efforts

Retail prices of diesel and gasoline largely mirror the prices of crude oil in the market, which are sensitive to supply and demand as well as economic conditions. Figure 5 illustrates the dramatic increase in crude oil prices in the United States.

Figure 5. United States crude oil prices.



The most recent example of a dramatic increase in crude oil prices was observed in 2008, which saw a spike in prices due to the onset of the global economic crisis and declining consumption of fuel in the latter half of the year. Current trends in 2010 indicate that crude oil continues to trend upwards. According to the U.S. Energy Information Administration, diesel fuel prices are likely to remain elevated as long as crude oil prices and world demand for distillate fuels remain high.

Votran can potentially realize $68,600 in fuel savings within the first year. The cost savings of fuel alone has the potential to drive Votran's future sustainable initiatives through 2015.

The greatest leverage point for Votran's sustainable future is through the reduction of fuel consumption and associated costs. Votran has already taken great strides in addressing fuel consumption through the purchase of hybrid electric buses and paratransit vehicles. Following introduction of hybrid electric vehicles to its fleet and implementation of training and idling programs outlined in SMP 1 (Fuel Consumption), Votran can potentially realize $68,600 in fuel savings within the first year. The cost savings of fuel alone has the potential to drive Votran's future sustainable initiatives through 2015. The introduction of hybrid electric vehicles into Votran's fleet will also help reduce Votran's greenhouse gas (GHG) emissions, which is discussed in more detail in the Climate Action Plan outlined in Section 7.

6.3 Greenhouse Gas Comparison to peers

By focusing on increasing ridership, Votran has the potential to decrease its emissions to 0.82 lbs CO_2e per passenger mile, a 24% improvement over existing operations.

Votran's GHG peer comparison demonstrates that Votran GHG emissions are on par with its peers. Votran's current GHG footprint for bus transit is estimated to be 1.08 lbs of CO_2e per passenger mile.[2] This GHG footprint is slightly lower than the Florida peer average of 1.12 lbs of CO_2e per passenger mile, but higher than the average of all peers, 1.01 lbs of CO_2e per passenger mile. Table 7 compares Votran's emissions per passenger mile to its peers.

[2] Votran's carbon footprint was calculated using bus and demand response annual passenger miles data available in the 2008 National Transit Database at: http://www.ntdprogram.gov/ntdprogram/data.htm. Emissions were calculated using the World Resources Institute greenhouse gas tool transport spreadsheet to quantify 2008 emissions in metric tons of CO_2 equivalent. These values were then converted to pounds and divided by FY2008 passenger miles to determine CO_2e/passenger mile.

However, Votran's GHG footprint is almost twice the national average of 0.64 lbs of CO_2 per passenger mile.[3] The GHG emissions for Votran appear to represent an opportunity to differentiate Votran from other transit agencies. By focusing on increasing ridership, Votran has the potential to decrease its emissions to 0.82 lbs CO_2e per passenger mile, a 24% improvement over existing operations. Votran's ridership strategy is discussed in more detail in the Climate Action Plan, outlined in Section 7.

Table 7. Greenhouse Gas Footprint Peer Comparison.

Transit Agency	Total Annual Emissions (lbs)[1]	2008 Passenger Miles	lbs CO_2e/Passenger Mile (2008)
Votran	19,064,484	17,696,476	1.08
Lee County Transit	18,408,331	17,233,575	1.09
City of Tallahassee (StarMetro)	14,259,483	12,265,111	1.16
Chattanooga Area Regional Transit (CARTA)	11,782,086	11,500,741	1.02
Central Arkansas Transit Authority (CATA)	15,059,243	13,827,028	1.09
Capital Area Transit System (CATS)	12,162,626	17,142,703	0.72
Sonoma County Transit[2]	172,867	12,781,540	0.01
Stark Area Regional Transit Authority (SARTA)	13,713,450	13,016,615	1.05
Capital Area Transit (CAT)	16,031,282	17,807,981	0.92
Chatham Area Transit (CAT)	14,215,320	13,558,695	1.05
Florida Peers	32,680,080	29,498,686	1.12
National Peer Average[3]			1.01
National Average[3]			0.64[4]

[1]Emissions were calculated using the WRI Greenhouse Gas Transportation Tool spreadsheet to quantify 2008 emissions in metric tons of CO_2 equivalent from bus operations. These values were then converted to pounds and divided by agency specific FY2008 passenger miles to determine CO_2e/passenger mile.
[2]The lowest outlier (Sonoma County) was removed for calculation of Votran's Peer National Average. Cells not included in the average are highlighted Orange.
[3]National average is based on data in 2008 National Transit Database and provided in DOT's Public Transportation's Role in Responding to Climate Change Report, January 2010.
[4]The national average is reported as lbs CO_2/passenger mile and not lbs CO_2 equivalent/passenger mile, as was calculated for specific transit agencies.

[3] The national average is reported as lbs CO_2/passenger mile and not lbs CO_2 equivalent/passenger mile in the *Public Transportation's Role in Responding to Climate Change*, Updated January 2010, available at: http://www.fta.dot.gov/planning/planning_environment_9051.html

7.0 Climate Action Plan

There is increasing scientific evidence that carbon dioxide (CO_2) and other greenhouse gases (GHG) released into the atmosphere are having a profound effect on the Earth's climate, escalating the risk to coastal communities from more frequent extreme weather events and sea level rise. Based on conservative estimates, Daytona Beach could experience as much as 1.5 meters in sea level rise by 2040.[4] For illustration purposes, Figure 6 reflects a 1.75 meter sea level rise in the Daytona Beach Area.[5]

Figure 6: Sea Level Rise in Daytona Beach, FL.

Concern over global climate change has resulted in increased legislative focus on addressing GHG emissions and climate adaptation. In response to these concerns, Votran has developed a Climate Action Plan to ensure the continued viability of public transportation in Volusia County.

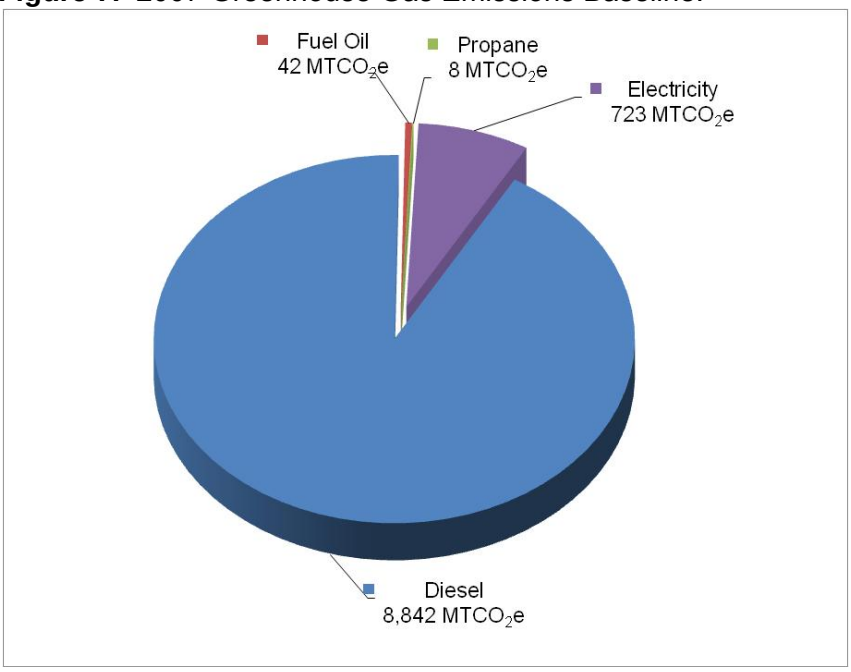
The vision of this Climate Action Plan is to guide Votran towards a sustainable future that reduces GHG emissions from 2007 levels, complies with the requirements of Executive Order 2007-126, and meets the goals of the Green Volusia Program. Votran's sustainable future is attainable through the widespread adoption of the overarching strategies presented in the Sustainability Implementation Plan. The main elements of Votran's Climate Action Plan will be SMP 1 (Fuel Consumption), SMP 2 (Greenhouse Gas Emissions), SMP 3 (Energy Consumption) as well as elements of SMP 5 (Electronic Stewardship).

[4] Conservative estimate based on information obtained from the Intergovernmental Panel on Climate Change (IPCC) Climate Change 2007: Synthesis Report.
[5] Sea Level rise for Daytona Beach provided by Architecture 2030 http://www.architecture2030.org/home.html

7.1 Greenhouse Gas Inventory

Votran calculated 2007, 2008 and 2009 scope 1 (on-site) and scope 2 (purchased electricity) GHG emissions for its operations using the World Resources Institute (WRI) GHG Protocols. Figure 7 provides a visual representation of Votran's baseline GHG emissions.[6] Due to the nature of Votran's operations, diesel consumption makes up the majority (≈92%) of Votran's total GHG emissions. The GHG emissions from diesel consumption are 8,842 Metric Tons of CO_2 equivalent ($MTCO_2e$), which is the equivalent to the yearly electricity use for 1,073 homes.[7] Appendix H provides Votran's GHG inventory.

Figure 7. 2007 Greenhouse Gas Emissions Baseline.



7.1.1 Ridership Enhancement Pilot Project

The nature of Votran's operations place significant demand on diesel fuel consumption resulting in elevated direct (scope 1) GHG emissions as public transportation in Volusia County continues to grow. That being said, public transportation can help lower the county's overall GHG per passenger mile and is a key component of county wide GHG reduction strategies. By working with Volusia County businesses and organizations, Votran stands to increase ridership, increase revenue, lower the County's GHG emissions, and improve the overall quality of life in Volusia County. Not only will this serve as a cornerstone for Votran's "green" image, but it will also help position Votran and Volusia County for potential federal funding available later this year.

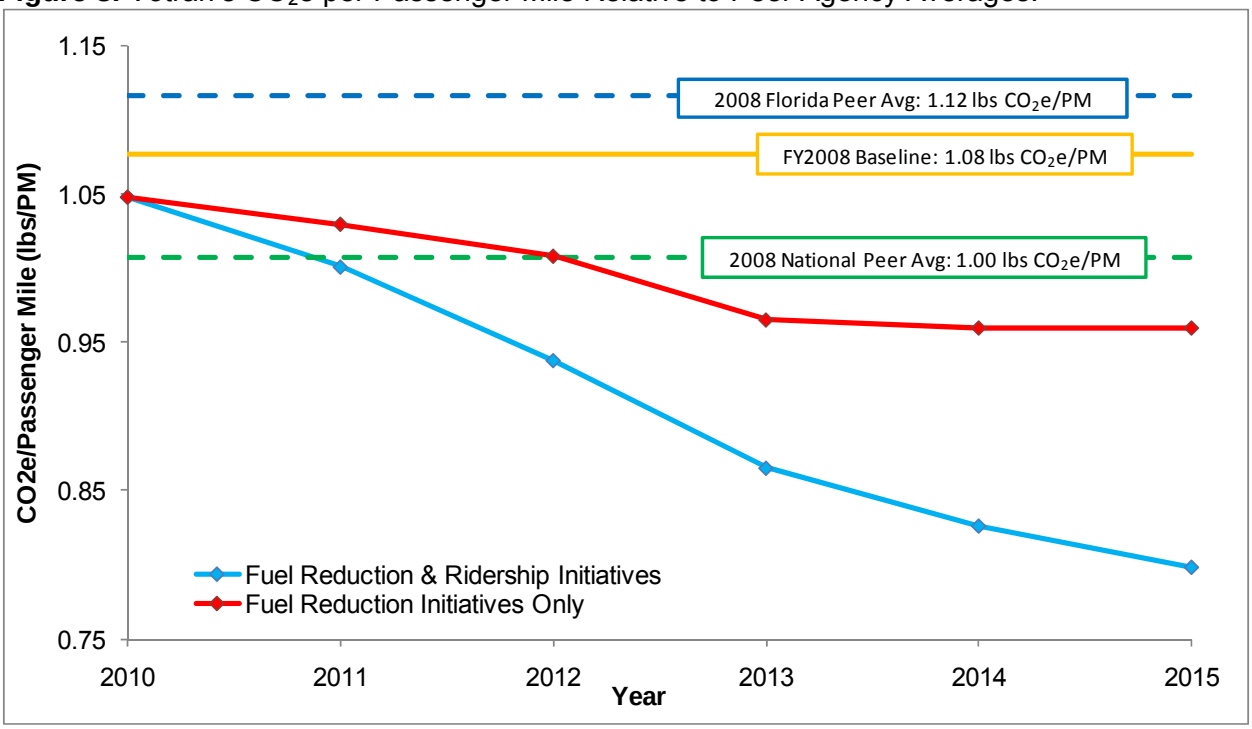
As discussed in Section 6.3, preliminary estimates of Votran's current fleet emissions are 1.08 lbs of CO_2e per passenger mile.[8] This GHG footprint is slightly lower than the Florida peer

[6] Refrigerant data was not available at the time of this report and has not been included in Votran's baseline GHG emissions.
[7] Calculated using EPA's Greenhouse Gas Equivalency Calculator http://www.epa.gov/rdee/energy-resources/calculator.html#results
[8] Votran's carbon footprint was calculated using bus and demand response annual passenger miles data available in the 2008 National Transit Database at: http://www.ntdprogram.gov/ntdprogram/data.htm

average (1.12 lbs of CO_2e per passenger mile), but higher than the average of its national peers (1.01 lbs of CO_2e per passenger mile).

A ridership enhancement pilot project with Volusia County businesses and organizations will help Votran reduce its CO_2e per passenger mile. The pilot project would initially target encouraging 300 new riders to ride the bus twice per week in the first year, gradually escalating to 2,064 new riders within five years. The strategies and programs developed during the pilot project would be directly transferable to all enterprises in Volusia County. Figure 8 compares Votran's CO_2e per passenger mile relative to its peers, and illustrates how increased ridership can drastically reduce its CO_2e per passenger mile below its peer average.

Figure 8. Votran's CO_2e per Passenger Mile Relative to Peer Agency Averages.



Notes:

PM: Passenger Mile

- Emissions shown include fleet emissions for bus transit only, and do not include van pool operations. This calculation also excludes Votran's annual energy emissions.
- FY2008 baseline emissions per passenger mile (lbs CO_2e/PM) were calculated using Votran's 2008 fuel consumption data and information on passenger miles provided in the 2008 National Transit Database. (http://www.ntdprogram.gov/ntdprogram/data.htm)
- FY2008 emissions per passenger mile (lbs CO_2e/PM) for Votran's peer transportation agencies were calculated using Votran's 2008 fuel consumption data and information on passenger miles provided in the 2008 National Transit Database. (http://www.ntdprogram.gov/ntdprogram/data.htm)
- Emissions were calculated using the WRI Greenhouse Gas Transportation Tool spreadsheet to quantify 2008 emissions in metric tons of CO_2 equivalent from bus operations. These values were then converted to pounds and divided by agency specific FY2008 passenger miles to determine CO_2e/passenger mile.
- Votran's Peer agencies in Florida include the City of Tallahassee (Star Metro) and Lee County Transit.
- Emissions reductions from fuel savings initiatives were calculated by applying the estimated percent reduction in annual fuel consumption for projects detailed in the ROI report. Emissions reduction projections used FY2008 fuel consumption data provided in the 2008 National Transit Database. (http://www.ntdprogram.gov/ntdprogram/data.htm)
- Votran's annual passenger miles were assumed to remain constant between 2010-2015. The additional number of passenger miles anticipated from Votran's ridership initiative was added to the 2008 (baseline) passenger miles total.

7.2 Targets and Future Trends

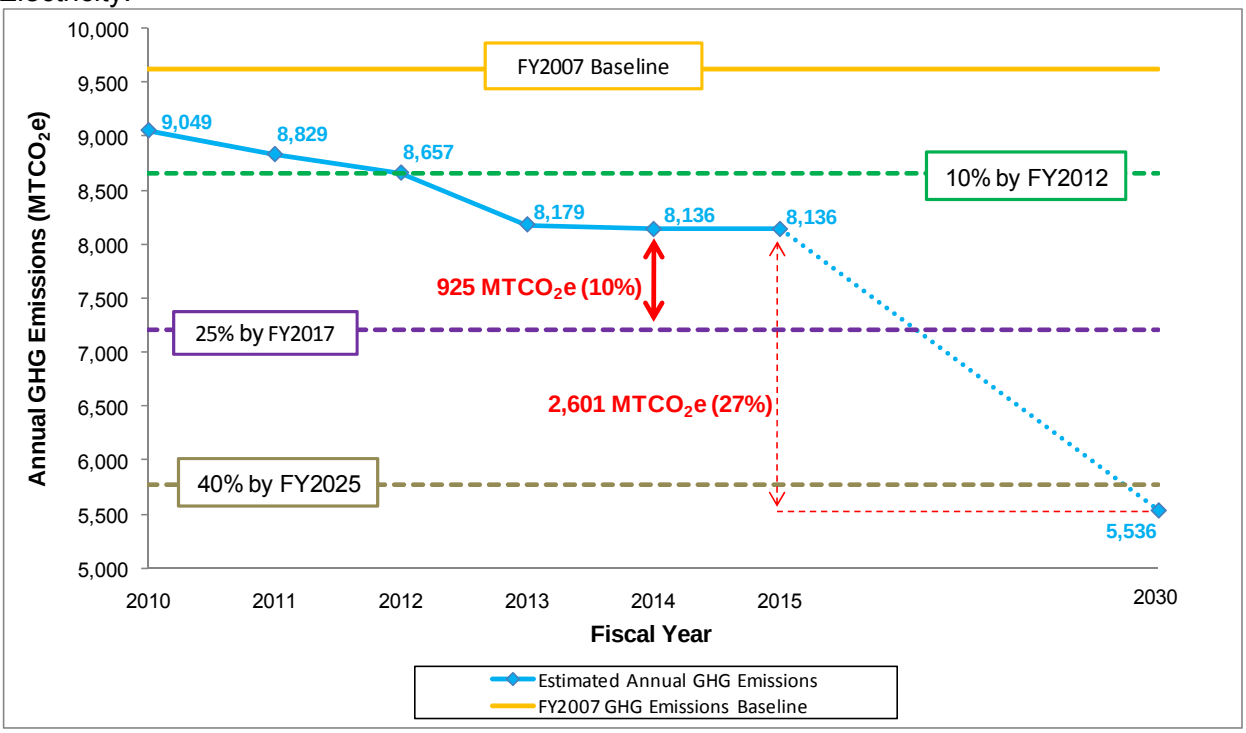
Executive Order 2007-126 establishes the following emission reduction targets relative to a FY2007 baseline:

- **2012:** 10% emissions reduction;
- **2017:** 25% emissions reduction; and
- **2025:** 40% emissions reduction.

This Climate Action Plan focuses on actions Votran can implement between now and 2015, but in the context of promoting the types of innovative approaches that will be necessary to achieve the ultimate 2025 target.

Between 2007 and 2009, Votran's GHG emissions have decreased approximately 3%, primarily due to a reduction in the amount of diesel fuel consumed in 2009. With the introduction of hybrid vehicles to its fleet and the implementation of SMP 1 and SMP 3, Votran has the ability to meet its 2012 reduction target of 10%. Figure 9 illustrates how implementing SMP 1 and SMP3 will help meet the 2012 goal of Executive Order 2007-126.

Figure 9. Votran's Projected Annual Emissions from Fuel Consumption and Purchased Electricity.



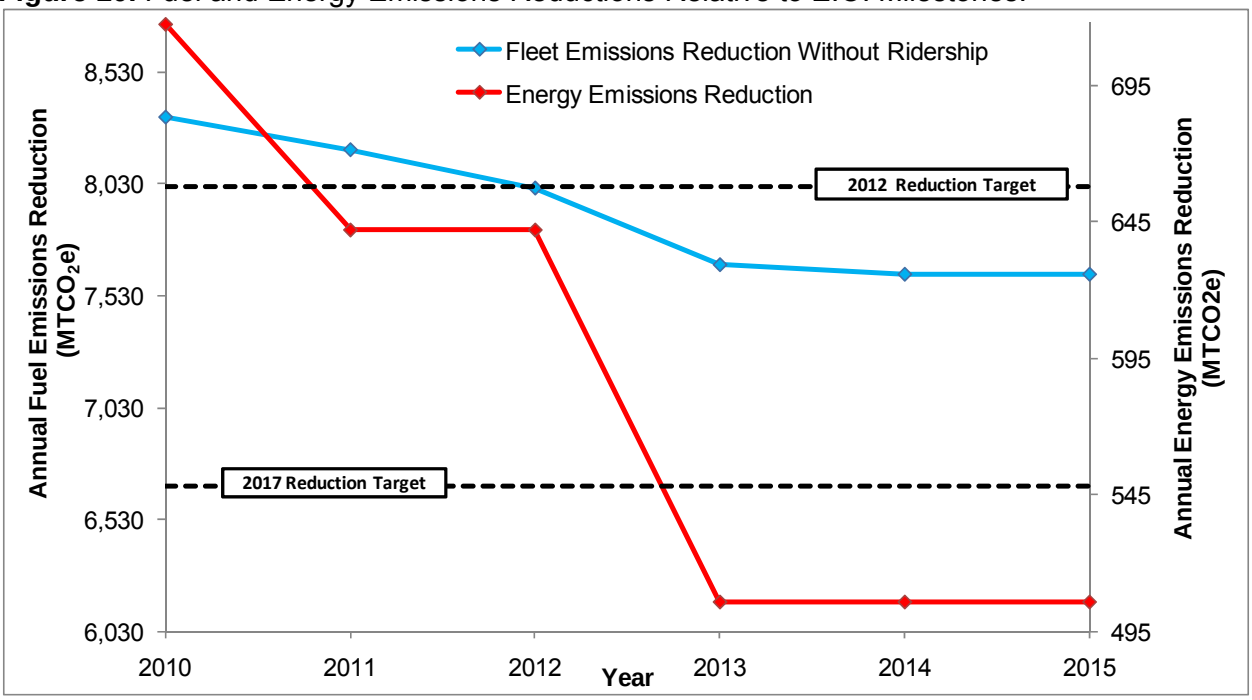
Notes:

- GHG Reduction projects were implemented according to the implementation schedule provided in Section 8.
- Annual fuel consumption projections used to determine GHG emissions were calculated using FY2009 fuel purchase data provided by Votran. All emissions calculations were completed using World Resource Institute Greenhouse Gas spreadsheets to quantify emissions from fuel consumption and purchased energy in $MTCO_2e$.
- Due to the variability in energy purchase data provided by Votran, annual energy consumption projections used to determine GHG emissions were calculated using the average of FY2007-2009 energy purchases.
- Emissions reductions from fuel and energy savings were calculated by applying the estimated percent reductions for projects detailed in the ROI report.
- Emissions reduction requirements are detailed in the State of Florida's Executive Order 07-126.
- FY2030 Emissions reductions were calculated using Votran's long term fuel and energy conservation goals detailed in their respective sustainability management plans.

Based on the GHG emission forecast in Figure 9, decreased diesel fuel and electricity consumption alone will not meet Executive Order 2017 and 2025 milestones. As such, it is imperative that Votran identify other strategies to reduce its GHG emissions.

To help determine where Votran falls short in meeting 2017 and 2025 milestones, Votran calculated the GHG emission reductions from fuel consumption and energy consumption separately. Figure 10 illustrates how fuel and energy consumption compare to the Executive Order 2007-126 milestones. Figure 10 reveals that individually, energy consumption is meeting the Executive Order 2007-126 milestones. Conversely, fuel consumption strategies alone will not be able to meet the milestones in the Executive Order.

Figure 10. Fuel and Energy Emissions Reductions Relative to E.O. Milestones.



Notes:

PM: Passenger Mile

- Emissions reduction targets were applied for energy emissions and fuel emissions separately, and include percent reduction requirements detailed in the State of Florida's Executive Order 07-126.
- Emissions reductions from fuel savings and energy conservation initiatives were calculated by applying the estimated percent reduction in annual fuel and energy consumption for projects detailed in their respective SMPs.
- Annual fuel consumption projections used to determine annual GHG emissions were calculated using FY2009 fuel purchase data provided by Votran. All emissions calculations were completed using World Resource Institute Greenhouse Gas spreadsheets to quantify emissions from fuel consumption and purchased energy in $MTCO_2e$.
- Due to the variability in energy costs and lack of annual consumption (kWh) data, annual energy consumption projections used to determine annual GHG emissions were calculated using the average of FY2007-2009 energy purchase data provided by Votran.
- Votran's annual passenger miles were assumed to remain constant between 2010-2015.

7.3 Emission Reduction Actions

Votran should systematically address GHG emissions reduction initiatives throughout its operations. To achieve this objective, Votran's Climate Action Plan focuses on implementation and improvement of the following SMPs:

- **SMP 1** – Fuel Consumption;
- **SMP 2** – Greenhouse Gas Emissions;
- **SMP 3** – Energy Consumption; and
- **SMP 5** – Electronic Stewardship.

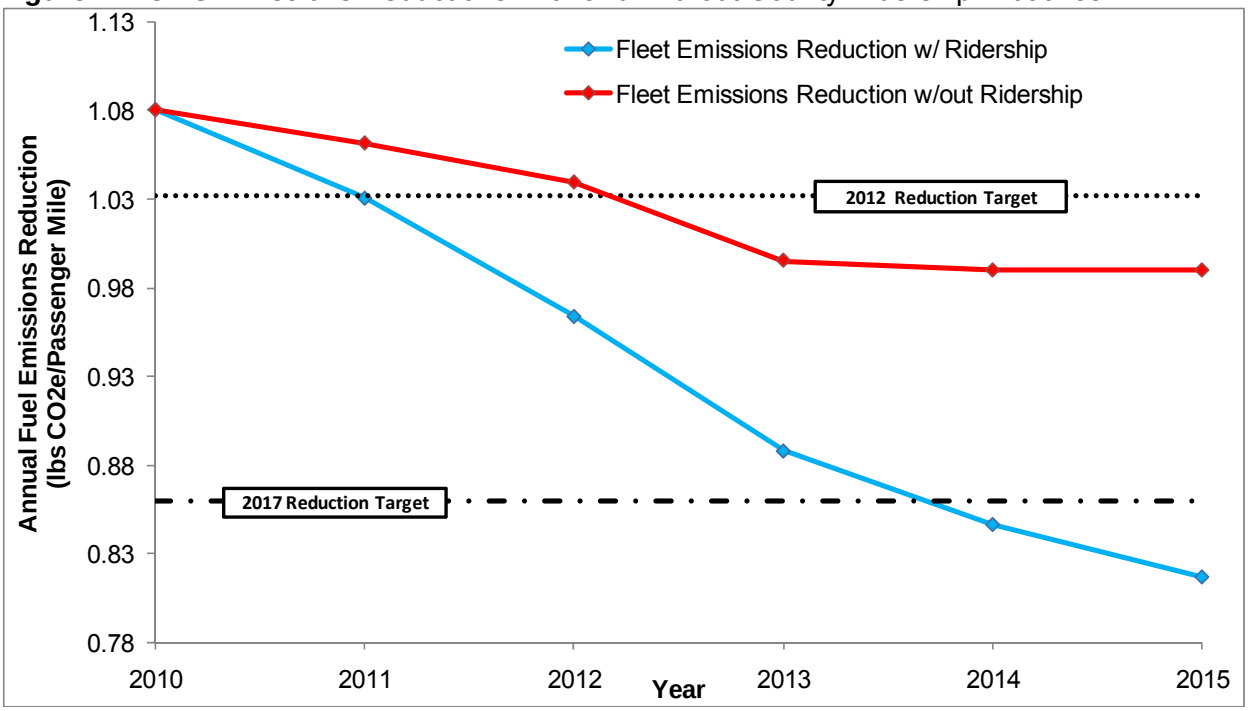
However, due to the nature of Votran's operations, reducing GHG emissions from fuel reduction initiatives without increasing ridership may cause Votran to fail to meet Executive Order 2007-126 requirements. Figure 10 illustrates that Votran's fuel reduction strategies alone will fall short of meeting the goals of Executive Order 2007-126. As such, Votran must find other ways to reduce its GHG footprint as it relates to fuel consumption by focusing on a combined effort to:

1. Reduce the amount of fuel consumed; and
2. Increase the number of passenger miles riding public transit.

Considering these two reduction strategies, Votran shall normalize the way it reports its GHG data. As such, Votran has decided to separate its fleet emissions from other operational emission sources (i.e. energy) to quantify fleet emissions reductions on a CO_2e per passenger mile basis. As illustrated in Figures 10 and 11, both energy and fleet emissions meet Executive Order requirements when reported separately and when increased ridership is applied to normalize annual fleet emissions. However, Votran must aggressively pursue additional emission reduction strategies beyond the FY2017 timeframe to meet stringent FY2040 requirements.

Figure 11 illustrates GHG emissions from fuel reduction projects with and without enhanced ridership initiatives. Without ridership initiatives, Votran must pursue aggressive fuel reduction and/or emission reduction strategies to meet the 25% emission reduction target for FY2017.

Figure 11. GHG Emissions Reductions With and Without County Ridership Initiatives.



Notes:

PM: Passenger Mile

- Emissions reduction targets were applied for fuel emissions only, and include percent reduction requirements detailed in the State of Florida's Executive Order 07-126.
- Votran's fleet emissions were calculated using the World Resource Institute (WRI) Greenhouse Gas Transport Tool spreadsheet to determine metric tons of CO_2 equivalent. Emissions were then converted to pounds and, where applicable, divided by FY2007 Passenger miles to determine pounds of CO_2e/passenger mile
- Emissions reductions from fuel savings and ridership initiatives were calculated by applying the estimated percent reduction in annual fuel consumption as well as increased ridership for projects detailed in the ROI report.
- Annual fuel consumption projections used to determine annual GHG emissions were calculated using FY2009 fuel purchase data provided by Votran.
- Votran's annual passenger miles were assumed to remain constant between 2010-2015. The additional number of passenger miles anticipated from Votran's ridership initiative was added to the 2007 passenger miles total.

7.4 Climate Change Vulnerability and Adaptation

For Votran to continue to thrive in this changing regulatory and global climate, it is essential that Votran adapt to varying conditions and demands. The potential impacts from climate change represent significant challenges as well as opportunities for Votran's future operations. Votran should begin to systematically assess risks from climate change as coastal urban areas begin to face considerable environmental, economic, and social concerns from sea level rise and extreme weather events.

As Volusia County's public transportation system, Votran operations will serve an important role in county-wide greenhouse gas reduction and climate adaptation strategies.

As Volusia County's public transportation system, Votran operations will serve an important role in county-wide greenhouse gas reduction and climate adaptation strategies. The emission reduction actions outlined in this report will help Votran, and in turn Volusia County, meet challenging GHG regulatory requirements. However, Votran's future operations face numerous challenges that require an adaptive management strategy to prevent unacceptable impacts to the public transit system. Table 8 outlines potential impacts and adaptation measures Votran may consider in developing a more specific climate change adaptation strategy. Votran's

adaptation strategy should incorporate quantitative assessments of impacts to facilities, assets, operations, and revenue streams to formulate cost-effective strategies to mitigate anticipated climate change impacts.

Table 8. Anticipated Impacts and Adaptation Measures from Climate Change.

Anticipated Climate Impact	Impact to Votran's Assets or Operations	Potential Adaptation Measures
Increased Temperatures & Extended Heat Waves	• Increased energy use for air conditioning systems • Overheating of equipment/engines • Increased maintenance costs • Enhanced wearing or melting of tires • Driver/Passenger discomfort/fatigue • Power outages impacting operations	• Improved insulation and cooling systems. • Driver training • New procurement design standards. • Enhanced maintenance schedule
Extreme Rainfall & Flooding	• Increased frequency of difficult driving conditions - Safety issues - Decreased performance - Operational impacts • Flood damage to infrastructure and fleet vehicles	• Driver training for extreme weather events (i.e. hail, rain, wind, etc.) • Route flexibility • Emergency Route Planning • Early warning and detection • Flood Insurance
Frequent Intense Storm Events	• Difficult/impossible driving conditions • Operational down time • Emergency (evacuation) operations • Overtime costs • Water/wind damage to fleet vehicles and infrastructure • Coastal storm surge impacts	• Emergency planning • Driver training • Flexible route structure • Early detection and warning systems • Emergency storage preparation for fleet vehicles to prevent storm surge and/or wind damage.

Sources: GTZ, 2009. Metropolitan Transportation Authority, 2008. RS&H, 2010.

8.0 Implementation Strategy

In order to maximize "big" wins and to develop momentum for Votran's sustainability program, Votran developed the implementation schedule outlined in Table 9. This schedule is designed to alleviate the administrative burden of implementing all eleven (11) SMPs at the same time. Additionally, this schedule utilizes the success and cost savings associated with SMP 1 (fuel consumption) to help maintain the momentum of Votran's sustainability program as subsequent SMPs are implemented.

Table 9. Sustainability Management Plan Implementation Schedule

SMP	Description	Year					
		2010	2011	2012	2013	2014	2015
SMP 1	Fuel Consumption	■	→	→	→	→	→
SMP 2	Greenhouse Gas	■	→	→	→	→	→
SMP 3	Energy Consumption		■	→	→	→	→
SMP 4	Sustainable Buildings			■	→	→	→
SMP 5	Electronic Stewardship			■	→	→	→
SMP 6	Solid Waste Management & Recycling	■	→	→	→	→	→
SMP 7	Paper Reduction	■	→	→	→	→	→
SMP 8	Water Consumption		■	→	→	→	→
SMP 9	Hazardous Materials Management		■	→	→	→	→
SMP 10	Green Purchasing		■	→	→	→	→
SMP 11	Pest Management		■	→	→	→	→

In addition to the above SMP implementation schedule, Table 10 outlines the roles and responsibilities during the first year of implementing this Sustainability Implementation Plan. Votran will aim to update this schedule as needed to ensure that the Plan is on track and individual SMP objects and targets are met.

Table 10: Fiscal Year 2011 Implementation Plan for a Sustainable Votran

SMP #	Significant Environmental Aspect	Sustainability Leader	Baseline Development	Action Item # 1	Action Item # 2	Action Item # 3
1	Fuel Consumption	Director of Maintenance	FY 2011 Q1	Idling Policy (FY 2011 Q2)	Track Hybrid Performance (FY 2011 Q2)	
2	GHG Emission Reduction	Director of Maintenance	Scope 1 & 2 - FY11 Q1 Scope 3 - FY11 Q2	Commuter Origin & Destination (FY11 Q2)	Establish GHG Reporting Framework (FY11 Q2)	Produce annual GHG Report (FY11 Q4)
3	Energy Conservation	Assistance General Manager O&M	FY11 Q1	Complete Energy Audit (FY11 Q1)	Implement Audit Findings (FY11 Q1)	Training and Operational Controls (FY11 Q2)
4	Sustainable Buildings	Assistance General Manager O&M		Develop Policy on LEED® (FY11 Q2)		
5	Electronic Stewardship	Financial Officer	FY11 Q1	EPEAT Acquisition Policy (FY11 Q2)		
6	Solid Waste Minimization & Recycling	Assistance General Manager Customer Service	Zero Waste Baseline (FY 2011 Q1)	Waste Sort (FY 2011 Q2)	Establish Recycling Coordination Team (FY 2011 Q2)	
7	Paper Reduction	Financial Officer	FY 2011 Q1	Install Electronic Message board (FY 2011 Q2)	Paper Reduction Policy (FY 2011 Q2)	FTP Site Policy & Awareness (FY 2011 Q2)
8	Water Conservation	Assistance General Manager O&M	FY 2011 Q1	Retrofit Fixtures (FY 2011 Q2)	Consider Xeriscape Showcase Policy (FY 2011 Q2)	Consider rain water harvesting demonstration for bus wash (FY 2011 Q3)

SMP #	Significant Environmental Aspect	Sustainability Leader	Baseline Development	Action Item # 1	Action Item # 2	Action Item # 3
9	Hazardous Materials Management	Director of Maintenance	FY 2011 Q1	Develop Target List (FY 2011 Q2)	Switch to Aqueous based Parts Cleaner (FY 2011 Q2)	Reduce Hazardous waste generation < 100 kg/month (FY 2011 Q4)
10	Green Purchasing	Financial Officer	FY11 Q1	Develop green purchasing plan (FY11 Q2)	Implement green purchasing plan (FY11 Q2)	
11	Pest Management	Financial Officer		Develop IPM contract language (FY 2011 Q1)	Develop IPM strategies (FY 2011 Q1)	
	Education and Outreach	Assistance General Manager Customer Service	Develop Communication Plan (FY 2011 Q1) - including web page	Implement Step 1 and 2 of Communication Plan (FY 2011 Q2)	Earth Day Coordination (FY 2011 Q2 to 4/22/11)	Annual Sustainability Report (FY 2011 Q4)
	Core Team Meetings	Assistance General Manager Customer Service	Develop and Approve Core Team Charter (FY 2011 Q1)	4 Monthly meetings (FY 2011 Q1)	Quarterly meetings (FY11 Q2 - FY11 Q4)	

9.0 Recommendations

Votran's SMPs demonstrate a commitment to developing a sustainable future for Volusia County's public transit system. The commitment of management and staff within Votran operations are pivotal in the continued success of Votran's sustainability goals. Following implementation of these SMPs, Votran shall monitor, maintain, and improve the sustainability initiatives now and in the future. To this end, Votran will work to incorporate the following recommendations to ensure long term viability of sustainability programs and the transit system as a whole.

1. **Implement a sustainability management system loosely based on ISO-14001.**
   Sustainability is a journey, not a destination, and there is always room for improvement. As such, Votran should pursue a sustainability management system loosely based on the International Organization for Standardization Environmental Management System (ISO-14001). A management system based on ISO-14001 will help Votran track, organize and continually improve existing operations and practices. The foundation of this management system is the eleven (11) SMPs that begin to outline the projects, targets and metrics that will help Votran balance economic prosperity with environmental and social responsibility. The SMPs should be implemented, monitored and continually improved in accordance with the implementation schedule provided in Section 8.

2. **Implement a ridership enhancement pilot project.**
   Votran should pursue a ridership enhancement pilot project with Volusia County businesses and organizations. The pilot project would initially target encouraging 300 new riders to ride the bus twice per week in the first year, gradually escalating to 2,064 new riders within five years. The strategies and programs developed during the pilot project would be directly transferable to all enterprises in Volusia County.

   By working with Volusia County businesses and organizations, Votran stands to increase ridership, increase revenue, lower the County's GHG emissions and improve the overall quality of life in Volusia County. Not only will this serve as a cornerstone for Votran's "green" image, but it will also help position Votran and Volusia County for potential federal funding available later this year.

3. **Aggressively pursue federal and state grant funding.**
   The immediate success of Votran's sustainability initiatives is contingent upon proper implementation. Implementation, in return, requires resources. Many of the sustainability initiatives outlined in Votran's SMPs may be eligible for funds available through federal and state grant programs.

   Votran and the Volusia County Metropolitan Planning Organization (Volusia Transportation Planning Organization as of July 1, 2010) should work closely with Volusia County to identify and prioritize grants that should be pursued.

4. **Implement a compliance management program.**
   As part of SMP 9 – Hazardous Materials Management, Votran should consider implementing a compliance management program to verify applicability and ensure compliance with environmental laws and regulations. Through the implementation of a compliance management program, Votran may realize the indirect cost avoidance associated with reduced regulatory liability. The focus of Votran's compliance management program should include, but not be limited to:

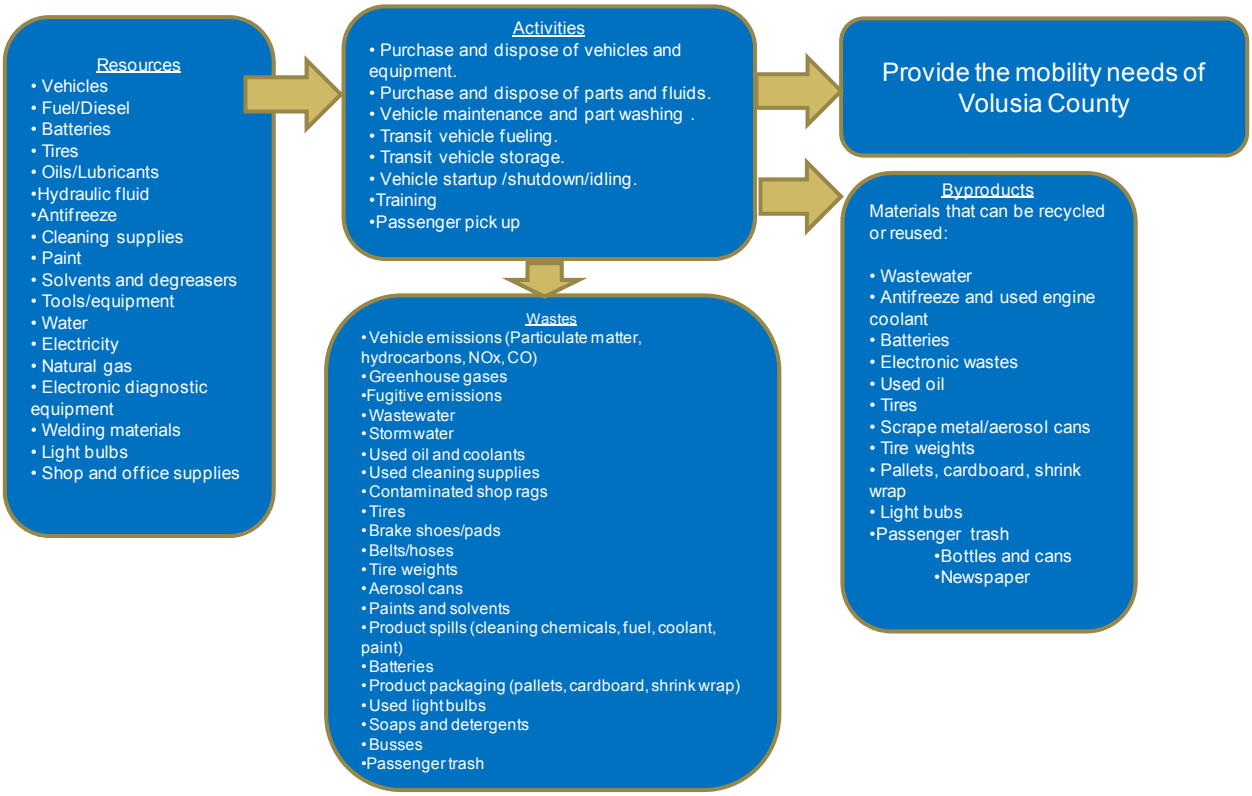
- Hazardous waste;
- Above ground oil storage;
- Underground storage tanks;
- Emergency planning and community right-to-know;
- Stormwater management; and
- Air emissions as they relate to paint booths

5. Develop a Communication Strategy.

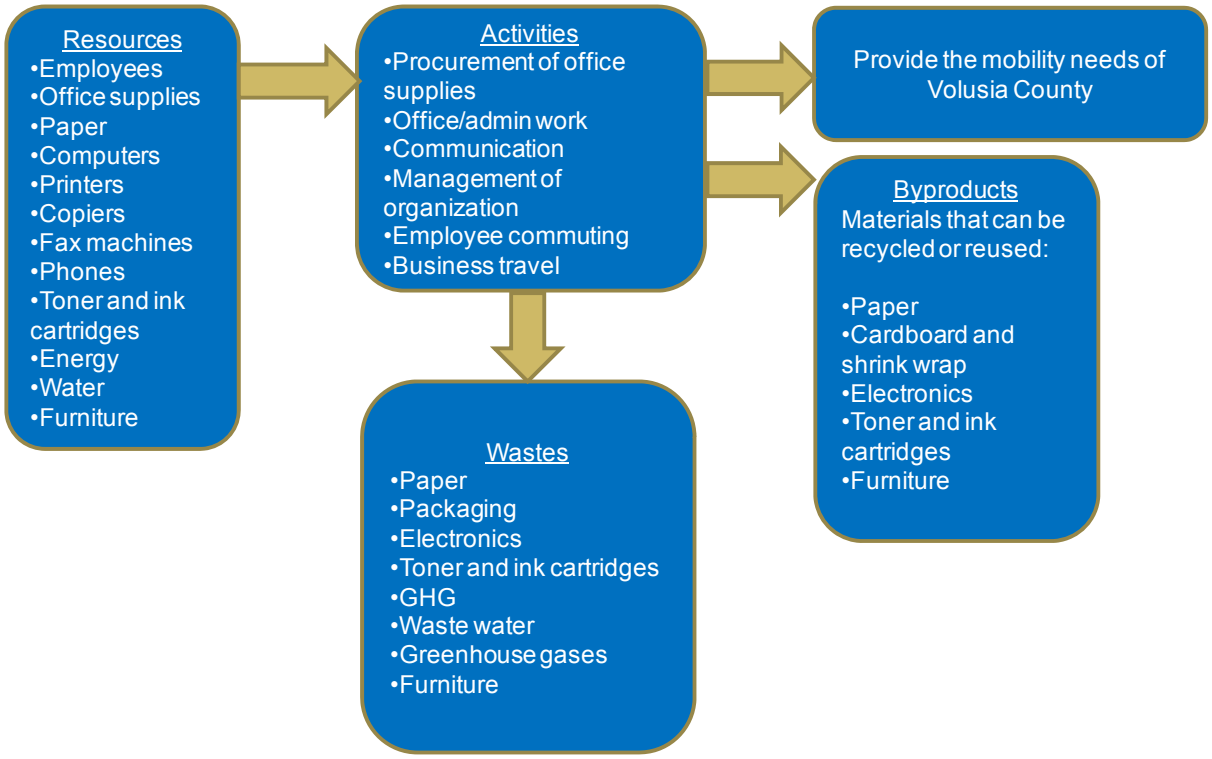
Votran should develop and implement a communication strategy that defines the message of Votran's sustainability program, the audience it shall be communicated to, the media (i.e., print, internet, video, etc.) that will be used, and the schedule for communicating information. The ultimate goal of Votran's communication strategy should be to effectively communicate sustainable goals, milestones, and initiatives. In addition, Votran should use the communication strategy to further environmental awareness of it employees and the residents of Volusia County.

Appendix A
Process Flow Maps

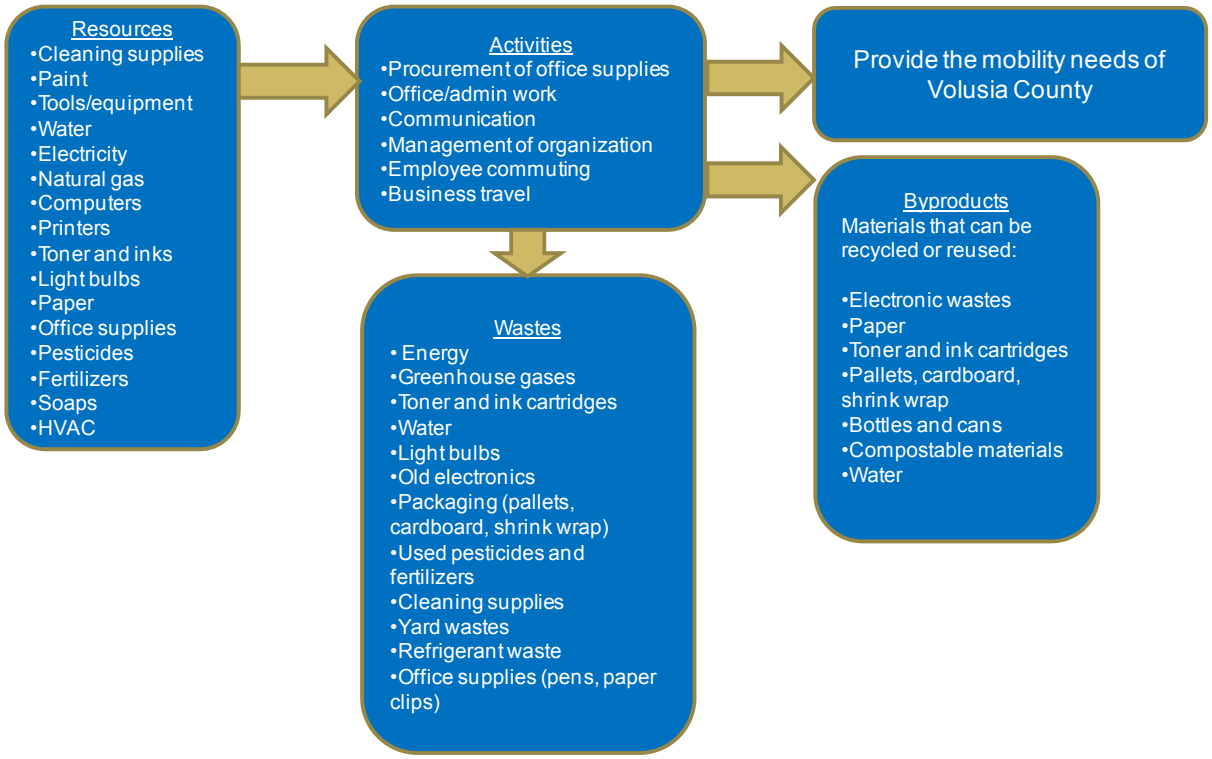
Process Flow Map (fleet management)



Process Flow Map (administrative practices)



Process Flow Map (facilities management)



Appendix B
Significant Environmental Aspects Matrix

Significant Environmental Aspect Determination									
Operation	Task/activity	*Environmental Aspect*	Economic Benefit	Implementation Cost	Public Image	Livability	Regulatory Requirement	Environmental Benefit	OSR (Overall Significance Rating)
Administrative Practices	**Document preparation**	***Recycling***	**1**	**3**	**3**	**3**	**2**	**3**	**2.50**
Facilities Management	**Solid waste generation**	***Recycling***	**1**	**3**	**3**	**3**	**2**	**3**	**2.50**
Fleet maintenance	**aerosol use**	***Recycling***	**1**	**3**	**3**	**3**	**2**	**3**	**2.50**
Fleet maintenance	**Routine parts changing**	***Recycling***	**1**	**3**	**3**	**3**	**2**	**3**	**2.50**
Administrative Practices	**Document preparation**	***Solid Waste Disposal***	**1**	**3**	**3**	**3**	**2**	**3**	**2.50**
Administrative Practices	**Procurement of supplies and materials.**	***Solid Waste Disposal***	**1**	**3**	**3**	**3**	**2**	**3**	**2.50**
Facilities Management	**Solid waste generation**	***Solid Waste Disposal***	**1**	**3**	**3**	**3**	**2**	**3**	**2.50**
Fleet maintenance	**Solid waste generation**	***Solid Waste Disposal***	**1**	**3**	**3**	**3**	**2**	**3**	**2.50**
Fleet maintenance	**Scrap metal management**	***Solid Waste Disposal***	**1**	**3**	**3**	**3**	**2**	**3**	**2.50**
Facilities Management	**housekeeping**	***Air emissions (VOC)***	**1**	**3**	**3**	**3**	**2**	**3**	**2.50**
Fleet maintenance	**Solvent use**	***Air emissions (VOC)***	**1**	**3**	**3**	**3**	**2**	**3**	**2.50**
Bus Operations Practices	**Fueling**	***Alternative Fuel Use***	**3**	**2**	**3**	**3**	**1**	**3**	**2.50**
Fleet maintenance	**Fueling**	***Alternative Fuel Use***	**3**	**2**	**3**	**3**	**1**	**3**	**2.50**

Significant Environmental Aspect Determination									
Operation	**Task/activity**	***Environmental Aspect***	**Economic Benefit**	**Implementation Cost**	**Public Image**	**Livability**	**Regulatory Requirement**	**Environmental Benefit**	**OSR (Overall Significance Rating)**
Fleet maintenance	**Vehicle cleaning**	***Bus washing***	**2**	**2**	**3**	**3**	**2**	**3**	**2.50**
Fleet maintenance	**Resource consumption**	***Energy and Water Conservation***	**2**	**2**	**3**	**3**	**2**	**3**	**2.50**
Administrative Practices	**Electronic usage**	***Energy conservation***	**2**	**2**	**3**	**3**	**2**	**3**	**2.50**
Facilities Management	**Electricity for operations**	***Energy conservation***	**2**	**2**	**3**	**3**	**2**	**3**	**2.50**
Administrative Practices	**Computer usage**	***Energy usage***	**3**	**2**	**3**	**3**	**1**	**3**	**2.50**
Administrative Practices	**Printer use**	***Energy usage***	**3**	**2**	**3**	**3**	**1**	**3**	**2.50**
Facilities Management	**Computer usage**	***Energy usage***	**3**	**2**	**3**	**3**	**1**	**3**	**2.50**
Facilities Management	**Electricity for operations**	***Energy usage***	**3**	**2**	**3**	**3**	**1**	**3**	**2.50**
Facilities Management	**Electricity for operations**	***Energy usage***	**3**	**2**	**3**	**3**	**1**	**3**	**2.50**
Fleet maintenance	**Electricity for operations**	***Energy usage***	**3**	**2**	**3**	**3**	**1**	**3**	**2.50**
Bus Operations Practices	**Passenger pick up**	***Fuel Consumption***	**3**	**1**	**3**	**3**	**2**	**3**	**2.50**
Fleet maintenance	**Vehicle start up and shutdown**	***Fuel Consumption***	**3**	**1**	**3**	**3**	**2**	**3**	**2.50**
Bus Operations Practices	**Fueling**	***Fuel storage***	**2**	**2**	**3**	**2**	**3**	**3**	**2.50**

Significant Environmental Aspect Determination									
Operation	Task/activity	*Environmental Aspect*	Economic Benefit	Implementation Cost	Public Image	Livability	Regulatory Requirement	Environmental Benefit	OSR (Overall Significance Rating)
Administrative Practices	**Business Travel**	***GHG emissions***	**2**	**2**	**3**	**3**	**2**	**3**	**2.50**
Administrative Practices	**Employee Commuting**	***GHG emissions***	**2**	**2**	**3**	**3**	**2**	**3**	**2.50**
Fleet maintenance	**Electricity for operations**	***GHG Emissions***	**2**	**2**	**3**	**3**	**2**	**3**	**2.50**
Fleet maintenance	**Vehicle start up and shutdown**	***GHG Emissions***	**2**	**2**	**3**	**3**	**2**	**3**	**2.50**
Bus Operations Practices	**Passenger pick up**	***GHG reduction (passengers)***	**2**	**2**	**3**	**3**	**2**	**3**	**2.50**
Administrative Practices	**Printer use**	***Paper use***	**2**	**3**	**3**	**2**	**2**	**3**	**2.50**
Facilities Management	**Printer use**	***Paper use***	**2**	**3**	**3**	**2**	**2**	**3**	**2.50**
Bus Operations Practices	**Passenger pick up**	***Reduce GHG emissions of community***	**2**	**2**	**3**	**3**	**2**	**3**	**2.50**
Facilities Management	**Material use**	***Solid Waste Recycling***	**2**	**3**	**3**	**2**	**2**	**3**	**2.50**
Fleet maintenance	**Scrap metal management**	***Solid Waste Recycling***	**2**	**3**	**3**	**2**	**2**	**3**	**2.50**
Bus Operations Practices	**Fueling**	***Spills or Releases***	**2**	**3**	**2**	**3**	**2**	**3**	**2.50**
Facilities Management	**hazardous materials storage**	***Spills or Releases***	**2**	**3**	**2**	**3**	**2**	**3**	**2.50**
Fleet maintenance	**Fueling**	***Spills or Releases***	**2**	**3**	**2**	**3**	**2**	**3**	**2.50**

Significant Environmental Aspect Determination									
Operation	**Task/activity**	***Environmental Aspect***	**Economic Benefit**	**Implementation Cost**	**Public Image**	**Livability**	**Regulatory Requirement**	**Environmental Benefit**	**OSR (Overall Significance Rating)**
Fleet maintenance	**Hazardous material management**	***Spills or Releases***	**2**	**3**	**2**	**3**	**2**	**3**	**2.50**
Fleet maintenance	**Hazardous waste storage**	***Spills or Releases***	**2**	**3**	**2**	**3**	**2**	**3**	**2.50**
Facilities Management	**Building renovation/new construction**	***Sustainable Design and Construction***	**3**	**1**	**3**	**3**	**2**	**3**	**2.50**
Facilities Management	**housekeeping**	***Hazardous Material Use***	**1**	**3**	**2**	**3**	**3**	**2**	**2.33**
Facilities Management	**Use of chemicals for cleaning**	***Hazardous Material Use***	**1**	**3**	**2**	**3**	**3**	**2**	**2.33**
Fleet maintenance	**Parts washing (solvent)**	***Hazardous Material Use***	**1**	**3**	**2**	**3**	**3**	**2**	**2.33**
Fleet maintenance	**aerosol use**	***Hazardous Waste Disposal***	**1**	**3**	**2**	**3**	**3**	**2**	**2.33**
Fleet maintenance	**Fluid changing**	***Hazardous Waste Disposal***	**1**	**3**	**2**	**3**	**3**	**2**	**2.33**
Fleet maintenance	**Hazardous material management**	***Hazardous Waste Disposal***	**1**	**3**	**2**	**3**	**3**	**2**	**2.33**
Fleet maintenance	**Hot work**	***Hazardous Waste Disposal***	**1**	**3**	**2**	**3**	**3**	**2**	**2.33**
Fleet maintenance	**Lead acid battery changing**	***Hazardous Waste Disposal***	**1**	**3**	**2**	**3**	**3**	**2**	**2.33**
Fleet maintenance	**Paint mixing**	***Hazardous Waste Disposal***	**1**	**3**	**2**	**3**	**3**	**2**	**2.33**
Fleet maintenance	**Paint spray gun cleaning**	***Hazardous Waste Disposal***	**1**	**3**	**2**	**3**	**3**	**2**	**2.33**

Significant Environmental Aspect Determination									
Operation	**Task/activity**	***Environmental Aspect***	**Economic Benefit**	**Implementation Cost**	**Public Image**	**Livability**	**Regulatory Requirement**	**Environmental Benefit**	**OSR (Overall Significance Rating)**
Fleet maintenance	**soldering**	***Hazardous Waste Disposal***	**1**	**3**	**2**	**3**	**3**	**2**	**2.33**
Fleet maintenance	**solvent cleaning wipes**	***Hazardous Waste Disposal***	**1**	**3**	**2**	**3**	**3**	**2**	**2.33**
Fleet maintenance	**Stenciling, advertising wrapping**	***Hazardous Waste Disposal***	**1**	**3**	**2**	**3**	**3**	**2**	**2.33**
Bus Operations Practices	**Start up and shut down**	***Idling***	**3**	**1**	**3**	**3**	**2**	**3**	**2.50**
Fleet maintenance	**Vehicle painting**	***Air emissions (VOC)***	**1**	**3**	**3**	**2**	**3**	**2**	**2.33**
Fleet maintenance	**Use of electronic equipment**	***Electronic Affirmative Procurement***	**1**	**3**	**3**	**2**	**3**	**2**	**2.33**
Facilities Management	**housekeeping**	***Discharging Cleaning Chemicals / Sanitizers to Storm Water***	**1**	**3**	**3**	**2**	**2**	**3**	**2.33**
Fleet maintenance	**housekeeping**	***Discharging Cleaning Chemicals / Sanitizers to Storm Water***	**1**	**3**	**3**	**2**	**2**	**3**	**2.33**
Fleet maintenance	**Parts washing**	***Discharging Cleaning Chemicals / Sanitizers to Storm Water***	**1**	**3**	**3**	**2**	**2**	**3**	**2.33**
Facilities Management	**General water use for operations**	***Water Consumption***	**1**	**3**	**3**	**3**	**2**	**2**	**2.33**
Fleet maintenance	**General water use for operations**	***Water Consumption***	**1**	**3**	**3**	**3**	**2**	**2**	**2.33**
Administrative Practices	**Hazardous material management**	***Affirmative Procurement***	**2**	**3**	**2**	**2**	**2**	**3**	**2.33**

Significant Environmental Aspect Determination									
Operation	**Task/activity**	***Environmental Aspect***	**Economic Benefit**	**Implementation Cost**	**Public Image**	**Livability**	**Regulatory Requirement**	**Environmental Benefit**	**OSR (Overall Significance Rating)**
Facilities Management	**Hazardous material management**	***Affirmative Procurement***	**2**	**3**	**2**	**2**	**2**	**3**	**2.33**
Facilities Management	**Use of chemicals for cleaning**	***Affirmative Procurement***	**2**	**3**	**2**	**2**	**2**	**3**	**2.33**
Fleet maintenance	**Hazardous material management**	***Affirmative Procurement***	**2**	**3**	**2**	**2**	**2**	**3**	**2.33**
Bus Operations Practices	**Fueling**	***Air emissions***	**1**	**2**	**3**	**3**	**2**	**3**	**2.33**
Bus Operations Practices	**Start up and shut down**	***air emissions (VOC)***	**1**	**2**	**3**	**3**	**2**	**3**	**2.33**
Fleet maintenance	**Idling**	***Auxiliary Power Use***	**2**	**2**	**3**	**3**	**1**	**3**	**2.33**
Fleet maintenance	**Routine parts changing**	***Battery Recycling***	**2**	**3**	**2**	**2**	**2**	**3**	**2.33**
Facilities Management	**Building renovation/new construction**	***C&D waste disposal***	**2**	**2**	**2**	**3**	**2**	**3**	**2.33**
Facilities Management	**replacement of electronic equipment**	***Electronic Equipment End-of-Life Management***	**2**	**3**	**3**	**2**	**2**	**2**	**2.33**
Fleet maintenance	**replacement of electronic equipment**	***Electronic Equipment End-of-Life Management***	**2**	**3**	**3**	**2**	**2**	**2**	**2.33**
Fleet maintenance	**Routine parts changing**	***Equipment Recycling / Disposal***	**2**	**3**	**2**	**2**	**2**	**3**	**2.33**
Administrative Practices	**Business Travel**	***Fuel usage***	**1**	**3**	**3**	**3**	**1**	**3**	**2.33**
Administrative Practices	**Employee Commuting**	***Fuel usage***	**1**	**3**	**3**	**3**	**1**	**3**	**2.33**

Significant Environmental Aspect Determination									
Operation	Task/activity	*Environmental Aspect*	Economic Benefit	Implementation Cost	Public Image	Livability	Regulatory Requirement	Environmental Benefit	OSR (Overall Significance Rating)
Facilities Management	**Landscaping**	***Landscaping irrigation***	**2**	**2**	**3**	**3**	**1**	**3**	**2.33**
Fleet maintenance	**Routine parts changing**	***Lead-Acid Battery Storage, Maintenance and Disposal***	**2**	**3**	**2**	**2**	**2**	**3**	**2.33**
Facilities Management	**HVAC conditioning maintenance**	***ODS Emissions***	**2**	**3**	**2**	**2**	**2**	**3**	**2.33**
Fleet maintenance	**Air conditioner maintenance**	***ODS Emissions***	**2**	**3**	**2**	**2**	**2**	**3**	**2.33**
Fleet maintenance	**Vehicle start up and shutdown**	***Particulate Emissions***	**2**	**2**	**2**	**3**	**2**	**3**	**2.33**
Bus Operations Practices	**Passenger pick up**	***Passenger trash***	**1**	**3**	**3**	**3**	**1**	**3**	**2.33**
Facilities Management	**Pest control**	***pesticide application***	**2**	**3**	**2**	**2**	**2**	**3**	**2.33**
Fleet maintenance	**Hazardous material management**	***Potential Spills of Petroleum or Hazardous Materials***	**2**	**3**	**2**	**2**	**2**	**3**	**2.33**
Fleet maintenance	**Fuel storage (AST and UST)**	***Soil / Groundwater Contamination***	**2**	**2**	**2**	**3**	**2**	**3**	**2.33**
Fleet maintenance	**Hazardous material management**	***Soil / Groundwater Contamination***	**2**	**2**	**2**	**3**	**2**	**3**	**2.33**
Facilities Management	**Landscaping**	***stormwater runoff***	**1**	**2**	**3**	**3**	**2**	**3**	**2.33**
Administrative Practices	**Printer use**	***Toner use***	**2**	**3**	**3**	**2**	**2**	**2**	**2.33**
Fleet maintenance	**Transit vehicle washing**	***Transit Vehicle Washing***	**2**	**2**	**2**	**3**	**2**	**3**	**2.33**

Significant Environmental Aspect Determination									
Operation	Task/activity	*Environmental Aspect*	Economic Benefit	Implementation Cost	Public Image	Livability	Regulatory Requirement	Environmental Benefit	OSR (Overall Significance Rating)
Facilities Management	**General water use for operations**	***Water conservation***	**1**	**3**	**3**	**3**	**2**	**2**	**2.33**
Fleet maintenance	**General water use for operations**	***Water conservation***	**1**	**3**	**3**	**3**	**2**	**2**	**2.33**
Administrative Practices	**HVAC maintenance**	***Air emissions***	**1**	**2**	**2**	**3**	**2**	**3**	**2.17**
Administrative Practices	**Computer usage**	***E-waste***	**1**	**3**	**2**	**2**	**2**	**3**	**2.17**
Administrative Practices	**Printer use**	***E-waste***	**1**	**3**	**2**	**2**	**2**	**3**	**2.17**
Facilities Management	**Computer usage**	***E-waste***	**1**	**3**	**2**	**2**	**2**	**3**	**2.17**
Facilities Management	**Printer use**	***E-waste***	**1**	**3**	**2**	**2**	**2**	**3**	**2.17**
Facilities Management	**Air conditioner maintenance**	***Refrigerant Management***	**2**	**2**	**1**	**3**	**2**	**3**	**2.17**
Fleet maintenance	**Air conditioner maintenance**	***Refrigerant Management***	**2**	**2**	**1**	**3**	**2**	**3**	**2.17**
Fleet maintenance	**Removal of refrigerants**	***Refrigerant Management***	**2**	**2**	**1**	**3**	**2**	**3**	**2.17**
Fleet maintenance	**Fuel use**	***Storage of Fuel***	**2**	**2**	**2**	**2**	**2**	**3**	**2.17**
Facilities Management	**housekeeping**	***Floor sweepings***	**1**	**3**	**2**	**2**	**2**	**2**	**2.00**
Fleet maintenance	**housekeeping**	***Floor sweepings***	**1**	**3**	**2**	**2**	**2**	**2**	**2.00**

Significant Environmental Aspect Determination									
Operation	Task/activity	*Environmental Aspect*	Economic Benefit	Implementation Cost	Public Image	Livability	Regulatory Requirement	Environmental Benefit	OSR (Overall Significance Rating)
Fleet maintenance	**Routine parts changing**	***Oil-filled equipment disposal***	**1**	**3**	**2**	**2**	**2**	**2**	**2.00**
Facilities Management	**Hazardous materials use**	***POTW Discharge***	**1**	**2**	**2**	**2**	**2**	**3**	**2.00**
Fleet maintenance	**hazardous materials use**	***POTW Discharge***	**1**	**2**	**2**	**2**	**2**	**3**	**2.00**
Administrative Practices	**Florescent light management**	***Universal Waste Disposal***	**2**	**2**	**2**	**2**	**2**	**2**	**2.00**
Facilities Management	**Florescent light management**	***Universal Waste Disposal***	**2**	**2**	**2**	**2**	**2**	**2**	**2.00**
Fleet maintenance	**Battery storage**	***Universal Waste Disposal***	**2**	**2**	**2**	**2**	**2**	**2**	**2.00**
Fleet maintenance	**Hazardous material management**	***Universal Waste Disposal***	**2**	**2**	**2**	**2**	**2**	**2**	**2.00**
Facilities Management	**Oil water separator management**	***Used Oil Disposal***	**2**	**3**	**1**	**2**	**2**	**2**	**2.00**
Fleet maintenance	**Routine parts changing**	***Used Oil Disposal***	**2**	**3**	**1**	**2**	**2**	**2**	**2.00**
Fleet maintenance	**Routine parts changing**	***Used Tire Disposal***	**2**	**3**	**1**	**2**	**2**	**2**	**2.00**
Fleet maintenance	**Tire storage**	***Used Tire Disposal***	**2**	**3**	**1**	**2**	**2**	**2**	**2.00**
Facilities Management	**Lawn mowing**	***fuel use***	**1**	**3**	**2**	**2**	**1**	**2**	**1.83**
Facilities Management	**Lawn mowing**	***Organic waste disposal***	**1**	**3**	**2**	**2**	**1**	**2**	**1.83**

Significant Environmental Aspect Determination									
Operation	**Task/activity**	***Environmental Aspect***	**Economic Benefit**	**Implementation Cost**	**Public Image**	**Livability**	**Regulatory Requirement**	**Environmental Benefit**	**OSR (Overall Significance Rating)**
Fleet maintenance	**Hazardous material management (flammables, compressed gases, acids, wastes)**	***OSHA Hazardous Communication Program***	**2**	**2**	**2**	**1**	**2**	**2**	**1.83**
Fleet maintenance	**Use of electronic equipment**	***Electronics Operation and Maintenance***	**1**	**3**	**2**	**1**	**1**	**2**	**1.67**
Facilities Management	**Landscaping**	***Landscaping waste disposal***	**1**	**2**	**2**	**2**	**1**	**2**	**1.67**
Fleet maintenance	**Transit vehicle washing**	***Pretreatment of Discharge to POTW***	**1**	**3**	**1**	**2**	**2**	**1**	**1.67**
Fleet maintenance	**Moving, stocking, storing materials**	***Material Handling Equipment***	**1**	**3**	**1**	**1**	**1**	**1**	**1.33**

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Appendix C
BMP Matrix

Significant Environmental Aspect	Project Types	Current Votran Practice	Identified BMP	Green Option
Water Consumption	**Policies**		• Establish a formal policy to improve water efficiency and reduce water use. • Determine baseline water consumption volume for each facility. • Establish targets and metrics to reduce water consumption by a specified date.	• Establish a formal policy to improve water efficiency and reduce water use. • Determine baseline water consumption volume for each facility. • Establish targets and metrics to reduce water consumption by a specified date.
	Commissioning		• Conduct plumbing system commission, re-commissioning, or retro-commissioning to improve water use efficiency.	
	Conservation	• Policy to use minimal volume of water possible when washing buses.	• Install low flow fixtures, including faucets, showerheads, and toilets in all facilities. • Install waterless urinals. • Provide educational material and training on water conservation.	• Install low flow fixtures, including faucets, showerheads, and toilets in all facilities. • Install waterless urinals. • Provide educational material and training on water conservation.
	Bus Wash	• Collect, treat, and recycle vehicle wash water.	• Collect rainwater to use as vehicle wash water. This can be accomplished by installing a gutter cistern, green roof collection cistern, or storm water runoff collection cistern.	• Collect rainwater to use as vehicle wash water. This can be accomplished by installing a gutter cistern, green roof collection cistern, or storm water runoff collection cistern.
	Irrigation		• Increase performance of irrigation by updating irrigation equipment. • Run irrigations systems only when necessary based on rainfall. • Install a rain sensor gage on irrigation systems to prevent unnecessary watering. • Install direct pump wells with iron filter for irrigation. • Collect rainwater for irrigation via gutter cistern, green roof collection cistern, or storm water cistern. • Use grey water from bus wash for irrigation.	• Increase performance of irrigation by updating irrigation equipment. • Run irrigations systems only when necessary based on rainfall. • Install a rain sensor gage on irrigation systems to prevent unnecessary watering. • Use grey water from bus wash for irrigation.
	Landscaping	• Votran contracts its landscaping installation and maintenance.	• Plant native and drought-tolerant vegetation to decrease water use and match climatic conditions. • Utilize a rain garden to direct rainwater to and reduce manual irrigation. • Consider vegetative roofs to capture and filter water for reuse on site.	• Plant native and drought-tolerant vegetation to decrease water use and match climatic conditions.

Significant Environmental Aspect	Project Types	Current Votran Practice	Identified BMP	Green Option
Solid Waste Management	**Policies**		• **Establish a formal policy to improve solid waste efficiency and reduce solid waste disposal.** • **Calculate solid waste capacity and average volume of solid waste generated at each facility.** • **Establish targets and metrics to reduce solid waste disposal and align solid waste infrastructure to match solid waste generation.** • **Establish in-house recycling programs that focus on collection and separation of recyclable materials.** • **Collect baseline recycling data.** • **Establish targets and metrics to increase recycling efficiency by a target date.** • **Organize a Waste Management or Resource Efficiency committee to provide oversight, or hire a third party consultant to streamline solid waste and recycling management.**	• **Establish a formal policy to improve solid waste efficiency and reduce solid waste disposal.** • **Calculate solid waste capacity and average volume of solid waste generated at each facility.** • **Establish targets and metrics to reduce solid waste disposal and align solid waste infrastructure to match solid waste generation.** • **Establish in-house recycling programs that focus on collection and separation of recyclable materials.** • **Collect baseline recycling data.** • **Establish targets and metrics to increase recycling efficiency by a target date.**
	Solid Waste Containers	• **Three dumpsters utilized for disposal.** • **Separate paper recycling containers.**	• **Use correctly sized dumpsters.** • **Match dumpster pickup frequencies as closely as possible with the solid waste generation rate.** • **Strive for zero waste facilities (90% or more of solid waste generation is diverted from landfill).** • **Place recycling containers at select bus stops.**	• **Use correctly sized dumpsters.** • **Match dumpster pickup frequencies as closely as possible with the solid waste generation rate.** • **Place recycling containers at select bus stops.**
	Office Supplies	• **Recycle office paper with a contractor.** • **Unofficially recycle coffee grounds via collection by an internal employee.**	• **Recycle boxes, plastic wrap, packaging, pallets, paper, and any remaining office-related material.** • **Recycle all scrap material and fluids related to bus operations and maintenance.**	• **Recycle boxes, plastic wrap, packaging, pallets, paper, and any remaining office-related material.** **Recycle all scrap material and fluids related to bus operations and maintenance.**

Significant Environmental Aspect	Project Types	Current Votran Practice	Identified BMP	Green Option
Solid Waste Management (con't)	**Vehicle Fluids**	• **Votran currently recycles used oil, oil filters, and solvents with an outside contractor.** • **Votran recycles and reuses coolant, antifreeze onsite.**	• **Consider purchasing fluids that are green alternatives.** • **Use filter crushing units to drain used oil from filters. This may reduce disposal costs if removal is based on waste volume instead of weight.** • **Ensure correct storage of fluids. They should be located off the floor in a dry room.**	• **Consider purchasing fluids that are green alternatives.** • **Ensure correct storage of fluids. They should be located off the floor in a dry room.**
	Tires, Batteries, and Scrap Material	• **Recycle or reuse wheel weights, scrap materials, and tires.** • **Established a tire exchange program to recycle used tires.**	• **Establish or renew recycling contracts for scrap metal and tires.** • **Fill tires with nitrogen. This is becoming a common practice to reduce the frequency of refilling the air pressure and extend the life of the tires.** • **Eliminate illegal dumping by contractors by verifying proper disposal of tires and other scrap materials by the contractor.** • **Recycle vehicle batteries, including hybrid vehicle batteries at the end of use.** • **Replace lead-acid hybrid vehicle batteries with lithium-ion batteries, which require less maintenance and last longer.**	• **Establish or renew recycling contracts for scrap metal and tires.** • **Eliminate illegal dumping by contractors by verifying proper disposal of tires and other scrap materials by the contractor.** • **Recycle vehicle batteries, including hybrid vehicle batteries at the end of use.**
	Used Vehicles	• **Donate/auction off all used buses and transit vehicles.**	• **Retrofit and reuse vehicles when possible.** • **Sell intact vehicles that cannot be retrofit for reuse.** • **Recycle, reuse, or sell discarded vehicle parts to increase their life cycle.**	• **Recycle, reuse, or sell unusable vehicle parts to increase their life cycle.**

Significant Environmental Aspect	Project Types	Current Votran Practice	Identified BMP	Green Option
GHG Emissions/ Air Emissions	**Policies**		• **Establish a formal policy to reduce emissions.** • **Conduct GHG inventories to determine baseline emission levels.** • **Establish targets and goals that meet or exceed Federal and State emission standards.**	• **Establish a formal policy to reduce emissions.** • **Conduct GHG inventories to determine baseline emission levels.** • **Establish targets and goals that meet or exceed Federal and State emission standards.**
	Monitoring		• **Perform emissions monitoring at regular intervals.** • **Install emissions monitors such as opacimeters, on board diagnostics, portable emissions system, and remote sensing device.**	• **Perform emissions monitoring at regular intervals.**
	Purchase Low Emission Vehicles and Equipment	• **Purchased fixed route and paratransit hybrid vehicles for replacement vehicles.**	• **Prioritize purchase of increasingly fuel efficient, aerodynamic vehicles.** • **Consider life-cycle analysis in decision-making for the purchase of large items, bulk items, and frequently used items.** • **Increase percentage of alternative fuel vehicles purchased.**	
	Vehicle Retrofit	• **Retrofit vehicles with particulate regeneration filter.**	• **Utilize lithium-ion batteries in hybrid buses to extend the life-span of the batteries and capture more braking energy from the bus.** • **Retrofit vehicles with emissions monitoring devices such as diesel oxidation catalysts.** • **Retrofit vehicles to accommodate low emission fuel types such as biodiesel, ultra low sulfur fuels, and/or emulsified diesel.** • **Replace outdated two-stroke diesel engines with electronically-controlled four-stroke engines to prolong engine life.** • **Install reprogrammable electronic control module in vehicles to improve efficiency and reduce fuel consumption and emissions.** • **Consider retrofit with EPA's Urban Bus Program Johnson-Matthey cam converter technology.**	• **Retrofit vehicles with emissions monitoring devices such as diesel oxidation catalysts.**

Significant Environmental Aspect	Project Types	Current Votran Practice	Identified BMP	Green Option
GHG Emissions/ Air Emissions (con't)	**Vehicle Use Reduction**	• **Reduce the need to run buses during training by using bus and maintenance simulators.**	• **Design efficiently planned routes to reduce driving time.** • **Coordinate bus scheduling as closely as possible with rider occupancy and citizen's schedules.**	• **Design efficiently planned routes to reduce driving time.** **Coordinate bus scheduling as closely as possible with rider occupancy and citizen's schedules.**
	Refueling and Fuel Reduction	• **Votran is currently exploring gasoline vapor recovery opportunities during refueling operations.**	• **Ensure installation of appropriate equipment to minimize emission on storage tanks and associated piping.**	
	Idling	• **Votran policies comply with Florida's 5 minute Idling law, 10 minutes if waiting for passengers.**	• **Implement manual idling turn off policies that require drivers to turn off the engine after a set amount of idling time.** • **Perform system monitoring to ensure drivers are obeying manual idling policies and other on-road idling and driving regulations.** • **Install automatic startup/shutdown systems which turn the engine on or off based on a set time period, ambient temperature, or battery charge.** • **Install APUs as a separate power system for buses that can be used at any stop for heating, cooling, engine heating, and auxiliaries.** • **Install battery defibrillators which can provide heating and air conditioning of cabins at stops.** • **Use EPA's Smartway Transport Partnership's Technology Savings Calculator to determine best idling reduction measures and devices.** • **Consider traffic control in vehicle routing. Eliminate long stop light/untimed signals from scheduled route.**	• **Implement manual idling turn off policies that require drivers to turn off the engine after a set amount of idling time.** • **Use EPA's Smartway Transport Partnership's Technology Savings Calculator to determine best idling reduction measures and devices.**
	Painting/VOC	• **Major paint jobs outsourced to a specialist.** • **Votran uses high transfer efficiency paint equipment and maintains its own paint spray booths.**	• **Install a bus paint booth with a carbon bed to absorb VOC released in air exhaust and a regenerative thermal oxidizer to control air pollutant emissions.** • **Utilize non-VOC containing paint for indoor and outdoor of facilities and bus painting.** • **Utilize environmentally friendly solvents.**	• **Utilize non-VOC containing paint for indoor and outdoor of facilities and bus painting.** • **Utilize environmentally friendly solvents.**

Significant Environmental Aspect	Project Types	Current Votran Practice	Identified BMP	Green Option
Hazardous Materials Maintenance	**Policies**	• **Inventory control and purchasing conducted through I-Maint Program.**	• **Utilize life-cycle analysis for purchase of oils, paints, solvents, and other regulated materials.**	
	Material Safety Data Sheets	• **Votran maintains all applicable MSDSs.**	• **Review MSDSs before chemical purchase to ensure any target chemicals are eliminated.**	• **Review MSDSs before chemical purchase to ensure any target chemicals are eliminated.**
	Solvents	• **Votran evaluates solvents on an ongoing basis. Purchases / invoices for environmentally - friendly solvents are on file with Volusia County Purchasing Department.**	• **Conduct audit of surplus materials, determine what materials are consistently in surplus, and refine purchasing.** • **Establish a list of specific chemicals to phase out of purchasing and use.** • **Ensure all chemicals are stored off the floor in a dry room that is protected against flooding and water infiltrated or leaked from floors, walls, and ceilings.**	• **Conduct audit of surplus materials, determine what materials are consistently in surplus, and refine purchasing.** • **Establish a list of specific chemicals to phase out of purchasing and use.**
	Parts Washing	• **Reduce (or maintain) the number of parts washers for solvents.**	• **If parts washing contracts are in place, eliminate parts washing contracts and switch to aqueous-based parts washing systems.** • **Only clean systems when needed. Regular scheduled services may generate unnecessary hazardous waste.**	• **If parts washing contracts are in place, eliminate parts washing contracts and switch to aqueous-based parts washing systems.** • **Only clean systems when needed. Regular scheduled services may generate unnecessary hazardous waste.**
	Antifreeze/ Coolant	• **Votran recycles and reuses coolant/antifreeze onsite. Coolant and antifreeze collected by a contractor at the end-of-use.**		

Significant Environmental Aspect	Project Types	Current Votran Practice	Identified BMP	Green Option
Hazardous Materials Maintenance (con't)	**Storm Water**	• Oil/water separators built into the garage drain to prevent contamination. • Fuel contractors abide by BMPs for runoff.	• Protect stormwater runoff by installing bioswales and/or biofiltration systems that infiltrate and filter large storm flows, capturing sediment and debris prior to reaching the storm drain.	• Protect stormwater runoff by installing bioswales and/or biofiltration systems that infiltrate and filter large storm flows, capturing sediment and debris prior to reaching the storm drain.
	Handling and Use	• Employees wear gloves and recommended PPE when handling solvents. • Parts which contain mercury and airbags that contain toxic chemicals are properly handled.	• Place broken bulbs containing mercury (i.e. fluorescent light bulbs) in a leak proof container. Ensure bulbs are not placed in the trash. • Conduct periodic leak detection testing on USTs.	
	Emergency Planning	• Spill response plan on file in Maintenance. • All shut-offs and emergency disconnect controls are clearly labeled and inspected monthly and annually. • Votran supplies all support vehicles with response kits. • Training records for Team Members are on file in Human Resources.	• Conduct an annual review and update of the spill response plan. Ensure all emergency contact information is up-to-date. • Secure or brace storage tanks, storage sheds, and other storage structures in the event of a hurricane. • Ensure that USTs, ASTs, drums, and other storage containers are not located in areas prone to flooding, or located in a high wind area.	• Conduct an annual review and update of the spill response plan. Ensure all emergency contact information is up-to-date. • Secure or brace storage tanks, storage sheds, and other storage structures in the event of a hurricane. • Ensure that USTs, ASTs, drums, and other storage containers are not located in areas prone to flooding, or located in a high wind area.

Significant Environmental Aspect	Project Types	Current Votran Practice	Identified BMP	Green Option
Hazardous Materials Maintenance (con't)	**Reduce or Eliminate Materials**	• **Votran makes all possible attempts to reduce volume of paints and painting solvents purchased.** • **Votran evaluates solvents on an ongoing basis. Purchases / invoices for environmentally - friendly solvents are on file with Volusia County Purchasing Department.**	• **Eliminate leaded wheel weights.** • **Reuse metal parts when possible.** • **Inventory all materials/chemicals used and set a plan to phase-out specific chemicals.** • **Minimize storage of paints and solvents by matching purchasing quantity to actual use.**	• **Eliminate leaded wheel weights.** • **Reuse metal parts when possible.** • **Inventory all materials/chemicals used and set a plan to phase-out specific chemicals.** • **Minimize storage of paints and solvents by matching purchasing quantity to actual use.**
	UST/AST	• **Identified as small quantity generator (SQG).** • **Diesel USTs and oil ASTs are used for storage.** • **Use of proper signs and labels.** • **ASTs use secondary containment.**	• **Replace all USTs with ASTs.** • **If USTs cannot be replaced, update USTs by testing for leaks and ensuring USTs are double walled and made of fiberglass, as per Florida State Statutes.** • **Calculate the secondary containment capacity for ASTs to ensure compliance.** • **Contain spills by placing spill kits near all ASTs.** • **Monitor tank levels at regular intervals to prevent leaking.**	• **Replace all USTs with ASTs.** • **If USTs cannot be replaced, update USTs by testing for leaks and ensuring USTs are double walled and made of fiberglass, as per Florida State Statutes.** • **Calculate the secondary containment capacity for ASTs to ensure compliance.** • **Contain spills by placing spill kits near all ASTs.** • **Monitor tank levels at regular intervals to prevent leaking.**
	Disposal	• **Contractors are supplied by the County.**	• **Establish a contract for scrap metal recycling to generate revenue.** • **Regularly dispose of drums and other storage containers to prevent unnecessary storage.**	• **Establish a contract for scrap metal recycling to generate revenue.** • **Regularly dispose of drums and other storage containers to prevent unnecessary storage.**

Significant Environmental Aspect	Project Types	Current Votran Practice	Identified BMP	Green Option
Hazardous Materials Maintenance (con't)	**Storage**	• **Segregated area is used for hazardous waste storage.** • **Maintained inventory of spray cans and secondary solvents.** • **Store solvents and solvent waste safely.** • **Safely collect, segregate, and store used oil, used oil filters, coolant, and paint solvents.**	• **Provide secondary containment for all 55-gallon drums and other hazardous waste storage containers.** • **Ensure all 55-gallon drums are properly labeled.** • **Ensure hazardous waste is stored in an area with a solid foundation and is not exposed to soil.** • **Ensure the area is covered to protect it from wind and rain.** • **Empty and depressurize aerosol cans to recycle as scrap metal.** • **Ensure florescent bulbs are recycled through an established recycling contract.** • **Control leaks by implementing secondary containment for batteries and light bulbs.**	• **Provide secondary containment for all 55-gallon drums and other hazardous waste storage containers.** • **Ensure all 55-gallon drums are properly labeled.** • **Ensure hazardous waste is stored in an area with a solid foundation and is not exposed to soil.** • **Ensure the area is covered to protect it from wind and rain.** • **Ensure florescent bulbs are recycled through an established recycling contract.** • **Control leaks by implementing secondary containment for batteries and light bulbs.**

Significant Environmental Aspect	Project Types	Current Votran Practice	Identified BMP	Green Option
Fuel Consumption	**Policies**		• Establish a fuel consumption policy. • Collect baseline fuel consumption data. • Establish future fuel consumption targets and metrics.	• Establish a fuel consumption policy. • Collect baseline fuel consumption data. • Establish future fuel consumption targets and metrics.
	Vehicle Purchase	• Votran has purchased fixed route and paratransit hybrid vehicles for replacement vehicles.	• Prioritize purchase of hybrid buses as old buses are retired and new buses need to be implemented. • Purchase biodiesel buses to reduce traditional petroleum-based fuel consumption.	• Prioritize purchase of hybrid buses as old buses are retired and new buses need to be implemented.
	Vehicle Retrofit		• Retrofit buses to accommodate low emission fuel types such as biodiesel, ultra low sulfur fuels, and/or emulsified diesel. • Install a reprogrammable electronic control module in vehicles to improve efficiency and reduce fuel consumption. • Reduce fuel consumption with a higher horsepower engine such as a NASCAR-inspired system. The NASCAR system's electric fans use less engine power, resulting in approximately five percent better fuel economy.	
	Fuel Types	• Votran uses low-sulfur diesel.	• Where applicable use B5 biodiesel fuels blend: five percent biodiesel and 95 percent petroleum diesel. The blend reduces emissions and meets new federal standards for ultra-low-sulfur diesel. • Where applicable consider use of compressed natural gas (CNG), which produces reduced ozone-forming emissions and is safer in the event of a spill relative to gasoline. • Where applicable use gas-to-liquid fuels, which have near zero sulfur and produce less emissions than typical diesel fuels.	• Where applicable use B5 biodiesel fuels blend: five percent biodiesel and 95 percent petroleum diesel. The blend reduces emissions and meets new federal standards for ultra-low-sulfur diesel.
	Track Fuel Consumption	• Votran tracks vehicle fuel usage daily.	• Track fuel consumption per vehicle and repair or eliminate low performing vehicles.	

Significant Environmental Aspect	Project Types	Current Votran Practice	Identified BMP	Green Option
Fuel Consumption (con't)	**Training**	• **Bus and maintenance simulators are used to reduce the need to run buses during training.**	• **Train drivers on fuel smart driving practices (e.g, avoid aggressive driving and minimize idling).**	
	Reducing Bus Use	• **Bus and maintenance simulators are used for training.**	• **Design efficiently planned routes to reduce driving time.** • **Coordinate bus scheduling as closely as possible with rider occupancy and citizen's schedules.**	• **Design efficiently planned routes to reduce driving time.** • **Coordinate bus scheduling as closely as possible with rider occupancy and citizen's schedules.**
	Idling	• **Votran policies comply with Florida's 5 minute Idling law, 10 min if waiting for passengers.**	• **Implement manual idling turn off policies that require drivers to turn off the engine after a set amount of idling time.** • **Perform system monitoring to ensure drivers are obeying manual idling policies and other on-road idling and driving regulations.** • **Install automatic startup/shutdown systems which turn the engine on or off based on a set time period, ambient temperature, or battery charge.** • **APUs as a separate power system for buses that can be used at any stop for heating, cooling, engine heating, and auxiliaries.** • **Install battery defibrillators which can provide heating and air conditioning of cabins at all stops.** **Use EPA's Smartway Transport Partnership's Technology Savings Calculator to determine best idling reduction measures and devices.**	• **Implement manual idling turn off policies that require drivers to turn off the engine after a set amount of idling time.**

Significant Environmental Aspect	Project Types	Current Votran Practice	Identified BMP	Green Option
Energy Use	**Policies**	• **ECT currently developing Votran's energy conservation strategy.**	• **Establish a formal policy to improve energy efficiency and reduce consumption.** • **Determine baseline energy use for each facility.** • **Set metric goals to reduce energy use by a set target date.** • **Educate employees about energy conservation principles, techniques and goals.** • **Conduct regular inventory and forecast of energy consumption and associated greenhouse gas emissions.** • **Require existing facilities achieve standards of a 3rd party rating/labeling system (i.e. ENERGY STAR, LEED EB, etc.).** • **Establish a revolving fund to reinvest utility savings in new energy efficiency projects.**	• **Establish a formal policy to improve energy efficiency and reduce consumption.** • **Determine baseline energy use for each facility.** • **Set metric goals to reduce energy use by a set target date.** • **Educate employees about energy conservation principles, techniques and goals.** • **Conduct regular inventory and forecast of energy consumption and associated greenhouse gas emissions.** • **Require existing facilities achieve standards of a 3rd party rating/labeling system (i.e. ENERGY STAR, LEED EB, etc.).**
	Rates and Metering and Energy Management	• **ECT to conduct energy audit at Votran facilities.**	• **Utilize ENERGY STAR Portfolio Manager to manage facility energy use.** • **Install web-based utility monitoring and analysis.** • **Install an energy management control system to manage energy use.** • **Conduct ASHRAE Level II energy audits of facilities.** • **Retro-commission facilities that have never been commissioned.** • **Re-commission facilities that have been commissioned or retro-commissioned according to an established commissioning program.** • **Change utility rate and demand.** • **Employ power factor correction.**	• **Retro-commission facilities that have never been commissioned.**

Significant Environmental Aspect	Project Types	Current Votran Practice	Identified BMP	Green Option
Energy Use (con't)	**Building Envelope**		• Install roof, ceiling, and/or wall insulation • Caulk and seal windows. • Repair or replace windows with high performance windows. • Repair or replace doors with high performance doors. • Install door weather stripping. • Repair any penetrations of the building envelope. • Replace roof using high solar reflectance index (i.e. white roof) material. • Replace roof with "green roof" (i.e. vegetated roof). • Utilize landscaping (i.e. trees) to reduce solar heat gain, particularly on eastern and western exposures.	• Install roof, ceiling, and/or wall insulation • Caulk and seal windows. • Repair or replace windows with high performance windows. • Repair or replace doors with high performance doors. • Install door weather stripping. • Repair any penetrations of the building envelope.
	HVAC	• Programmable thermostats on recently constructed buildings.	• Seasonally adjust thermostat set points. • Employ thermostat setback during hours when facilities are unoccupied. • Install tamper-resistant thermostats. • Regularly maintain and clean condenser coils. • Repair leaks in ducts and maintain properly sealed ductwork. • Replace HVAC with a high efficiency system. • Replace chillers with high efficiency units. • Install variable frequency drive(s) for condenser fans.	• Seasonally adjust thermostat set points. • Employ thermostat setback during hours when facilities are unoccupied. • Install tamper-resistant thermostats. • Regularly maintain and clean condenser coils. • Repair leaks in ducts and maintain properly sealed ductwork.
	Lighting	• Motion sensor indoor lighting on recently constructed buildings. • Natural light is not used to its full advantage.	• Switch incandescent lamps to compact fluorescent lamps. • Replace interior T12 lamps and ballasts with T8. • Replace high-intensity lamps with T5 fluorescent lamps in warehouse areas. • Replace outdoor lights with halide lamps that do not brighten the night sky. • Convert exit signs to LED fixtures. • Control indoor lighting with occupancy sensors. • Control outdoor lighting with photocells / timers.	• Switch incandescent lamps to compact fluorescent lamps. • Replace interior T12 lamps and ballasts with T8. • Replace high-intensity lamps with T5 fluorescent lamps in warehouse areas. • Replace outdoor lights with halide lamps that do not brighten the night sky. • Convert exit signs to LED fixtures. • Control indoor lighting with occupancy sensors. • Control outdoor lighting with photocells / timers.

Significant Environmental Aspect	Project Types	Current Votran Practice	Identified BMP	Green Option
Energy Use (con't)	**Water Heating**		• **Reduce water temperature.** • **Insulate water heater and associated piping.** • **Employ low flow faucets and showerheads.** • **Equip sinks and washdown stations with auto shut-off spray heads / fixtures.** • **Change water heater fuel.** • **Employ heat recover units to utilize excess air-conditioning energy to heat water.** • **Install solar hot water heater.**	• **Reduce water temperature.** • **Insulate water heater and associated piping.** • **Employ low flow faucets and showerheads.** • **Equip sinks and washdown stations with auto shut-off spray heads / fixtures.**
	Renewable Sources/ Alternative Energy		• **Employ solar PV system on roof.** • **Retrofit HVAC system with geothermal heat pump.** • **Employ energy storage systems (i.e. ice storage, fuel cell).**	
	Appliances/ Electronics	• **Votran encourages computer standby practices and activation of ENERGY STAR features.**	• **Set a formal policy to purchase and utilize ENERGY STAR and EPEAT electronics and features.** • **Set all computers and monitors to ENERGY STAR power management settings.** • **Use power strips to eliminate stand-by consumption of electronics and appliances when not in use.**	• **Set a formal policy to purchase and utilize ENERGY STAR and EPEAT electronics and features.** • **Set all computers and monitors to ENERGY STAR power management settings.** • **Use power strips to eliminate stand-by consumption of electronics and appliances when not in use.**

Significant Environmental Aspect	Project Types	Current Votran Practice	Identified BMP	Green Option
Facility Design	**Policies**		• **Consider implementing a policy that all new construction and major renovation be LEED certified.**	• **Consider implementing a policy that all new construction and major renovation be LEED certified.**
	Site Selection		• **Consider local climatic conditions (temperature, moisture, wind) that can influence the materials of construction of the building envelope.** • **Consider the amount and performance of glazing on windows and specific window orientation prior to construction of new facilities.** • **Choose Brownfield redevelopment and previously developed sites for construction.** • **Avoid building on Greenfields areas and previously undeveloped sites.** • **Build facilities on a densely populated site with access to public transportation.** • **Preserve native habitat onsite.** • **Create or maintain wildlife buffers and/or corridors, whenever possible.**	• **Consider local climatic conditions (temperature, moisture, wind) that can influence the materials of construction of the building envelope.** • **Consider the amount and performance of glazing on windows and specific window orientation prior to construction of new facilities.**
	Energy Use	• **Motion sensor lighting installed on recently constructed buildings.**	• **Purchase appliances and electronics with ENERGY STAR and EPEAT standards.** • **Utilize natural lighting, daylight views, and allow occupants to control lighting systems.** • **Allow occupants to control thermal systems.** • **Conduct fundamental commissioning of HVAC and building systems.** • **Conduct enhanced commissioning of HVAC and building systems.** • **If possible, utilize renewable energy structures or purchase renewable energy credits.**	• **Purchase appliances and electronics with ENERGY STAR and EPEAT standards.** • **Utilize natural lighting, daylight views, and allow occupants to control lighting systems.** • **Allow occupants to control thermal systems.**

Significant Environmental Aspect	Project Types	Current Votran Practice	Identified BMP	Green Option
Facility Design (con't)	**Water Consumption**		• Implement water conservation measures such as low flow faucets, toilets, showers, and waterless urinals. • Implement water conservation measures for irrigation, such as rain sensors and rainwater collection. • Consider use of grey water for toilet flushing. • Conduct fundamental and enhanced commissioning of plumbing systems.	• Implement water conservation measures such as low flow faucets, toilets, showers, and waterless urinals. • Implement water conservation measures for irrigation, such as rain sensors and rainwater collection.
	Indoor Air Quality		• During construction and renovation, utilize paints, adhesives, sealants, and products with no VOCs (volatile organic compounds) and minimal off-gas potential. • Test for indoor air quality and flush HVAC systems prior to occupancy. • Provide increased ventilation intake from the outdoors. • Install permanent air monitoring equipment.	• During construction and renovation, utilize paints, adhesives, sealants, and products with no VOCs (volatile organic compounds) and minimal off-gas potential.
	Operational and Maintenance Practices		• During the planning phase, consider the building's operation and maintenance issues, which will contribute to reduced energy and resource costs and prevent system failures. • Encourage building operators and maintenance personnel to participate in the design and development phases to ensure optimal operations and maintenance of the building. • Design new construction facilities to include meters to track the progress of sustainability initiatives, including reductions in energy use, water consumption, and waste generation onsite.	
	Materials	• Recently constructed buildings have implemented some energy saving designs.	• Utilize recycled and reclaimed materials in construction and renovations. • Use materials obtained from local businesses to reduce transportation outside of the local region. • Use rapidly renewable materials (i.e. such as bamboo flooring). • Use FSC-certified wood in construction.	• Utilize recycled and reclaimed materials in construction and renovations. • Use materials obtained from local businesses to reduce transportation outside of the local region. • Use rapidly renewable materials (i.e. such as bamboo flooring).

Significant Environmental Aspect	Project Types	Current Votran Practice	Identified BMP	Green Option
Facility Design (con't)	**Landscaping and Storm Water**	• **Votran has a storm water retention pond located on its facility.**	• **Plant native and drought-tolerant vegetation to decrease water use and match climactic conditions.** • **Increase use of landscaping, such as rain gardens, vegetative filter strips, and tree patches to filter storm water and decrease runoff.** • **Improve water quality by installing bioswales/ biofiltration systems that infiltrate and filter large storm flows.** • **Landscape with permeable concrete.** • **Install unit pavers or permeable pavers instead of concrete to allow the water to sink sub-grade.** • **Utilize a rain garden to direct rainwater to and reduce the need for manual irrigation.** • **Utilize existing landscaping, and include forebays to filter sediment prior to reaching stormwater drain. This will keep the drain clear of debris and heavy metals.** • **Use sandy soils or sand filters in landscaping that encourage infiltration of storm water runoff.**	• **Plant native and drought-tolerant vegetation to decrease water use and match climactic conditions.** • **Increase use of landscaping, such as rain gardens, vegetative filter strips, and tree patches to filter storm water and decrease runoff.**
	Building Renovation	• **Contract with ECT will address retro fit of current buildings.**	• **Employ LEED practices for major renovation.**	• **Employ LEED practices for major renovation.**

Significant Environmental Aspect	Project Types	Current Votran Practice	Identified BMP	Green Option
Paper Use	**Policies**	• Votran participates in office recycling programs that divert paper from the landfill.	• Establish a paper reduction policy. • Measure baseline paper consumption and set specific targets and metrics. • Establish a printing policy to encourage double sided printing eliminate unnecessary printing.	• Establish a paper reduction policy. • Measure baseline paper consumption and set specific targets and metrics. • Establish a printing policy to encourage double sided printing eliminate unnecessary printing.
	Operational Efficiency		• Conduct a paper waste audit to identify and eliminate unnecessary paperwork. • Create a paperless office with an electronic filing and review system. • Create electronic data entry capabilities for all inspections and data entry procedures. • Disperse all memos and newsletters electronically. • If a paper message is required, provide one master copy of relevant information in a community area.	• Conduct a paper waste audit to identify and eliminate unnecessary paperwork. • Create a paperless office with an electronic filing and review system. • Create electronic data entry capabilities for all inspections and data entry procedures. • Disperse all memos and newsletters electronically. • If a paper message is required, provide one master copy of relevant information in a community area.
	Reduction, Recycling, and Reuse		• Provide a centralized area for recycling and trash disposal to promote solid waste reduction and encourage recycling. • Provide a collection area for scrap paper and paper that is printed on one side for reuse. • Place paper recycling boxes near printers and in other appropriate locations. • Provide paper recycling bins at individual employee desks. • Implement mail-back/take-back programs for junk mail and catalogs. • Purchase the highest percent post-consumer recycled office paper as possible within budget, time constraints, and availability.	• Provide a centralized area for recycling and trash disposal to promote solid waste reduction and encourage recycling. • Provide a collection area for scrap paper and paper that is printed on one side for reuse. • Place paper recycling boxes near printers and in other appropriate locations. • Provide paper recycling bins at individual employee desks. • Implement mail-back/take-back programs for junk mail and catalogs. • Purchase the highest percent post-consumer recycled office paper as possible within budget, time constraints, and availability.
	Technology	• Paper messaging and bulletin boards are used to communicate with drivers in the break room.	• Utilize video/electronic monitors in communal areas to announce messages to drivers. • Invest in new technologies such as computers placed in key locations and/or PDAs given to relevant individuals to reduce or eliminate paper forms and manifests.	• Utilize video/electronic monitors in communal areas to announce messages to drivers. • Invest in new technologies such as computers placed in key locations and/or PDAs given to relevant individuals to reduce or eliminate paper forms and manifests.

Significant Environmental Aspect	Project Types	Current Votran Practice	Identified BMP	Green Option
Paper Use (con't)	**Employee Education**	• **Votran drivers and associates seem to be concerned about the unnecessary use of paper.**	• **Educate employees about paper consumption in relation to GHG, energy consumption, and increased efficiency. Address how paper reduction affects business costs, benefits the environment, and improves efficiency.** • **Inform employees of designated areas to dispose of office paper for recycling.** • **Utilize signage to encourage employees to follow paper reduction policies.** • **Promote a "Think Before You Print," attitude in the workplace.**	• **Educate employees about paper consumption in relation to GHG, energy consumption, and increased efficiency. Address how paper reduction affects business costs, benefits the environment, and improves efficiency.** • **Inform employees of designated areas to dispose of office paper for recycling.** • **Utilize signage to encourage employees to follow paper reduction policies.** • **Promote a "Think Before You Print," attitude in the workplace.**
	Printing and Copying		• **Decrease paper printing by purchasing photocopiers with a duplex function designed for heavy loads.** • **Reduce paper use by ensuring that electronic systems and network software are set up to allow default for double-sided copying.** • **Prevent paper jams and unnecessary paper consumption in printers by maintaining and updating copiers and printers so that they remain in full working order.** • **Fill copier trays correctly to prevent paper jams and reduce paper consumption.**	• **Decrease paper printing by purchasing photocopiers with a duplex function designed for heavy loads.** • **Reduce paper use by ensuring that electronic systems and network software are set up to allow default for double-sided copying.** • **Prevent paper jams and unnecessary paper consumption in printers by maintaining and updating copiers and printers so that they remain in full working order.** • **Fill copier trays correctly to prevent paper jams and reduce paper consumption.**

Significant Environmental Aspect	Project Types	Current Votran Practice	Identified BMP	Green Option
Green Procurement	**Policies**	• **Inventory control and purchasing conducted through I-Maint Program.**	• **Determine baseline and specific targets and metrics for green procurement.** • **Utilize a life cycle cost analysis tool prior to purchasing key goods.**	• **Determine baseline and specific targets and metrics for green procurement.**
	Inventory and Phase-Out	• **Votran evaluates solvents on an ongoing basis. Purchases / invoices for environmentally - friendly solvents are on file with Volusia County Purchasing Department.**	• **Establish list of specific chemicals to phase out of purchasing and use.** • **Communicate with suppliers in an effort to reduce unnecessary packaging or use more recyclable and innovative materials in packaging.** • **Implement a scorecard system to rate suppliers.**	• **Establish list of specific chemicals to phase out of purchasing and use.**
	Material Types		• **Where applicable purchase materials and equipment from local businesses and purchase products that were obtained or manufactured locally.** • **Continue to purchase fuel efficient and hybrid/alternative fuel vehicles when possible.** • **Purchase office paper with the highest post-consumer recycled content available.** • **Purchase rapidly renewable materials (i.e. bamboo flooring).** • **Consider purchasing materials that are made from or packaged in recycled or reused materials.** • **Purchase FSC-certified wood.**	• **Where applicable purchase materials and equipment from local businesses and purchase products that were obtained or manufactured locally.** • **Continue to purchase fuel efficient and hybrid/alternative fuel vehicles when possible.** • **Purchase office paper with the highest post-consumer recycled content available.** • **Purchase rapidly renewable materials (i.e. bamboo flooring).**

Significant Environmental Aspect	Project Types	Current Votran Practice	Identified BMP	Green Option
Electronic Stewardship	**Policies**	• **EPEAT is not included in the County's purchasing program.**	• **Establish a formal policy to purchase and utilize ENERGY STAR features and EPEAT electronics.** • **Identify electronic reuse programs.** • **Utilize a life cycle cost analysis tool prior to purchasing key goods.**	• **Establish a formal policy to purchase and utilize ENERGY STAR features and EPEAT electronics.** • **Identify electronic reuse programs.** • **Utilize a life cycle cost analysis tool prior to purchasing key goods.** •
	Computers	• **Votran encourages computer stand-by mode.** • **Votran encourages activation of ENERGY STAR features.**	• **Purchase energy efficient equipment and turn off equipment when not in use (i.e., sleep mode).**	• **Purchase energy efficient equipment and turn off equipment when not in use (i.e., sleep mode).**
	ENERGY STAR/ EPEAT		• **Purchase EPEAT registered products and ENERGY STAR products.** • **Implement electronic devices such as PDA and computer monitoring equipment to collect data and relay messages.**	• **Purchase EPEAT registered products and ENERGY STAR products.** • **Implement electronic devices such as PDA and computer monitoring equipment to collect data and relay messages.**
	Disposal		• **Dispose of e-waste with certified contractors.** • **Consider equipment donation, an employee lottery, or other reuse procedures for removal of electronics.**	• **Dispose of e-waste with certified contractors. Consider equipment donation, an employee lottery, or other reuse procedures for removal of electronics.**

Significant Environmental Aspect	Project Types	Current Votran Practice	Identified BMP	Green Option
Additional Aspects:				
Ridership			• Develop a comprehensive marketing program to promote Votran's sustainable initiatives. The marketing program should advertise the environmental benefits of public transportation and the contributions Votran is making towards sustainability, the environment, and the community. • Utilize environmental-related signage in buses and at bus stops with data that informs the citizen's of Votran's sustainability efforts. • Improve efficiency by altering proximity of stops, length of route, and pickup frequency to match demand. • Provide real time updates via phone and internet to inform citizens of changes in traffic or pickup schedules. • Improve housekeeping on the inside and outside of buses. • Provide WiFi internet and other services that allow citizens to accomplish tasks and conduct business on the buses. • Improve pedestrian access at bus stops. Enhance bus stops with amenities such as weather protection, passenger information, WiFi accessibility, and vending machines. • Provide park-and-ride facilities in strategic locations.	• Develop a comprehensive marketing program to promote Votran's sustainable initiatives. The marketing program should advertise the environmental benefits of public transportation and the contributions Votran is making towards sustainability, the environment, and the community. • Utilize environmental-related signage in buses and at bus stops with data that informs the citizen's of Votran's sustainability efforts. • Improve efficiency by altering proximity of stops, length of route, and pickup frequency to match demand. • Provide real time updates via phone and internet to inform citizens of changes in traffic or pickup schedules. • Improve housekeeping on the inside and outside of buses. • Provide WiFi internet and other services that allow citizens to accomplish tasks and conduct business on the buses. • Improve pedestrian access at bus stops. Enhance bus stops with amenities such as weather protection, passenger information, WiFi accessibility, and vending machines. • Provide park-and-ride facilities in strategic locations.
Integrated Pest Management			• Develop and maintain an integrated pest management program.	• Develop and maintain an integrated pest management program.

List of Acronyms:

APU	Auxiliary Power Unit
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
AST	Aboveground Storage Tank
EPA	Environmental Protection Agency
EPEAT	Electronic Product Environmental Assessment Tool
FSC	Forest Stewardship Council
GHG	Greenhouse Gas
HVAC	Heating, Ventilation, and Air Conditioning
LED	Light-Emitting Diodes
LEED	Leadership in Energy and Environmental Design
MSDS	Material Safety Data Sheet
PV	Photovoltaic
UST	Underground Storage Tank
VOC	Volatile Organic Compound

Appendix D
Sustainability Management Plans

Sustainability Management Plan Overview

Votran's sustainability management plans (SMPs) are a guide for Votran's sustainability initiatives. These SMPs provide specific sustainability criteria based on Votran's future goals. Each SMP includes initiatives and projects which are designed to achieve the desired goals for each of Votran's eleven (11) significant environmental aspects. SMPs also provide specific targets and metrics for measuring success of Votran's sustainability initiatives.

Title: SMP1 - Fuel Consumption	Document Number:
	Approval Status:
Responsible Person:	**Implementation Date:**

Sustainability Criteria

Reduce fuel consumption per passenger mile by 40% by FY2030 relative to FY2009 baseline.

Projects	Target	Metric
1) Establish the 2009 baseline of fuel consumption per passenger mile driven. Develop comparable metrics for 2007 and 2008 to establish trends.	A) Establish Baseline	Annual fuel consumption/passenger mile (gallons/passenger mile)
2) Continue training drivers and maintenance workers using simulator programs. a. Calculate annual fuel savings from bus simulators training program. b. Develop a program to help drivers establish safe driving habits. i. Implement incentives for the "most efficient" driver.	A) Reduce fuel consumption by 5% by FY2030 relative to FY2009 baseline.	Annual fuel consumption/passenger mile (gallons/passenger mile)
3) Develop and implement a more stringent idling policy than the current Florida requirement. a. Monitor and evaluate idling practices. b. Evaluate auxiliary power sources to replace idling.	A) Reduce fuel consumption by 5% by FY2030 relative to FY2009 baseline.	Annual fuel consumption/passenger mile (gallons/passenger mile)
4) Maintain and improve fuel efficiency by conducting a bus route efficiency study. a. Route service review b. Flex routes	A) Reduce fuel consumption by 10% by FY2030 relative to FY2009 baseline.	Annual fuel consumption/passenger mile (gallons/passenger mile)

5) Identify and prioritize opportunities to utilize alternative fuel sources and/or hybrid transit vehicles. a. Monitor and quantify fuel efficiency savings of the 16 hybrid buses received in 2010. b. Consider monitoring of hybrid fuel efficiency of paratransit and bus vehicles performance relative to the manufacturer's suggested performance.	A) Reduce fuel consumption by 10% by FY2030 relative to FY2009 baseline.	Annual fuel consumption/passenger mile (gallons/passenger mile)
6) Monitor and quantify fuel savings through improved operational efficiencies and capital improvement projects. a. Open West Volusia facility.	A) Reduce fuel consumption and associated costs by 40% by FY2030 relative to FY2009 baseline.	Annual fuel costs.

Title: SMP2 - Greenhouse Gas Emissions	Document Number:
	Approval Status:
Responsible Person:	Implementation Date:

Sustainability Criteria

Reduce scope 1 and 2 greenhouse gas emissions 10% by 2012, 25% by 2017, and 40% by 2025 relative to FY2007 baseline (Executive Order 07-127).

Projects	Target	Metric
1) Establish greenhouse gas emissions baseline for FY2007 in accordance with the Climate Registry Protocol and the World Resource Institutes calculation methodology.	A) Develop FY2007 baseline.	Establish the Scope 1 and 2 GHG emissions for baseline year 2007. Develop Scope 3 baseline during calendar year 2010.
2) Reduce Scope 1 emissions from Votran fleet and operations through improved operational efficiencies. a. Identify opportunities for reducing vehicle emissions, including use of alternative fuels. b. Identify opportunities to reduce vehicle idling. c. Implement the Refrigerant Management Program to identify and document fugitive refrigerant release.	A) Reduce scope 1 greenhouse gas emissions 10% by 2012, 25% by 2017, and 40% by 2025 relative to FY2007 baseline.	Scope 1 greenhouse gas emissions ($MTCO_2e$) total and per passenger mile.

3) Reduce Scope 2 emissions from Votran facilities and operations through improved operational efficiencies and renewable energy sources. See SMP3 for energy reduction strategies.	A) Reduce scope 2 greenhouse gas emissions 10% by 2012, 25% by 2017, and 40% by 2025 relative to FY2007 baseline.	Scope 2 greenhouse gas emissions ($MTCO_2e$) total and per passenger mile.
4) Identify Scope 3 emissions that offer opportunities for reduction of greenhouse gas emissions through existing and potential operational improvements. a. Assess employee commuting practices to identify opportunities for emission reductions through targeted programs and policies. b. Assess employee business travel practices and identify potential reduction strategies.	A) Reduce scope 3 greenhouse gas emissions by 20% by 2025 relative to FY2007 baseline.	Scope 3 greenhouse gas emissions ($MTCO_2e$) total and per passenger mile.
5) Establish a framework for internal monitoring and reporting of data required for calculation of annual greenhouse gas emissions. a. Develop work instructions for greenhouse gas emissions data collection and reporting procedures. b. Consider development of training modules and implement a training program for appropriate staff on data collection and reporting requirements. c. Review data collection and reporting procedures to identify data gaps and simplify data submission.	A) Complete training program and Develop work instruction and data collection system during 2010.	Votran responsible party shall complete training and understand work instructions and data collection systems.

6) Quantify and report annual greenhouse gas inventories. a. Produce one (1) annual report each January for the previous fiscal year (starting 2011 through 2025), detailing Votran's greenhouse gas emissions. b. Consider voluntary reporting of greenhouse gas emissions under the climate registry's greenhouse gas registry for North America.	A) 2.5% annual reduction in greenhouse gas emissions.	Scope 1 and 2 greenhouse gas emissions ($MTCO_2e$).
7) Quantify greenhouse emission reductions resulting from riders of public transit.	A) Increase ridership by 30% by 2025 relative to FY2007 baseline	Pounds of CO_2e/passenger mile

Title: SMP3 - Energy Consumption	Document Number:
	Approval Status:
Responsible Person:	**Implementation Date:**

Sustainability Criteria

Reduce energy consumption and associated costs by 95% and increase renewable energy by 45% by FY2030 relative to FY2009 baseline. Strive to be "net zero" by 2030.

Projects	Target	Metric
1) Conduct energy audits and develop and implement energy conservation projects. a. Establish 2007 base year energy usage and cost. b. Audit facilities in accordance with ASHRAE or other relevant criteria. http://www.ashrae.org/. c. Prepare report summarizing audit findings and opportunities for improvement and their costs. d. Implement audit recommendations in accordance with available funding. e. Monitor, measure and continually improve performance.	A) Reduce energy consumption by 35% by FY2030 relative to FY2009 baseline.	Annual energy use intensity factor (Kbtu/sf) & cost per unit of savings.

2) Implement and maintain a commissioning program for new and existing buildings. a. Retro-commission facilities that have never been commissioned. b. Re-commission facilities which present energy conservation opportunities. i. Install digital/programmable thermostats and install locking thermostat cover. ii. Replace roof iii. Redo lighting structure and install motion detectors iv. Replace HVAC with retro-commissioning.	A) Reduce energy consumption by 10% by FY2030 relative to FY2009 baseline.	Annual energy use intensity factor (Kbtu/sf) & cost per unit of savings.
3) Increase the amount of renewable energy used by Votran by installing solar panels on new and existing buildings. a. Assess and prioritize renewable energy opportunities at new and existing facilities. b. Evaluate purchasing renewable energy. c. Evaluate parking lot solar panels. d. Investigate wind turbine technology.	A) Increase renewable energy by 45% by FY2030 relative to FY2009 baseline.	Percentage of energy consumed from renewable energy.
4) Identify opportunities to implement energy saving management practices through personnel training and operational controls. a. Train staff regarding best management practices and operational controls identified during audits. b. Establish computer energy usage policy. c. Implement County HVAC setting policies. d. Establish minimum energy requirements for electronics and equipment.	A) Reduce energy consumption by 5% by FY2030.	Annual energy use intensity factor (Kbtu/sf) & cost per unit of savings.

Title: SMP4 – Sustainable Buildings	Document Number:
	Approval Status:
Responsible Person:	**Implementation Date:**

Sustainability Criteria		
100% of new construction and renovations initiated in 2010 and beyond shall meet LEED Silver Criteria.		
Projects	**Target**	**Metric**
1) Establish a standard framework for sustainable facility design. It is recommended that LEED Silver Criteria be used as a guide.	A) 100% of new construction and renovations initiated in 2010 and beyond shall meet LEED Silver Criteria.	LEED Silver audit.

Title: SMP5 – Electronic Stewardship	Document Number:
	Approval Status:
Responsible Person:	**Implementation Date:**

Sustainability Criteria

Acquire 95% of electronic equipment meeting the requirements of the Electronic Product Environmental Assessment Tool (EPEAT) by 2020. Ensure Energy Star® power management features are enabled on 100% of facility computers and monitors by 2011.

Projects	Target	Metric
1) Develop policies and procedures to acquire 95% of required electronic products with silver or above EPEAT-registration. http://www.epeat.net/ a. Ensure applicable IT contracts or contract vehicles incorporate appropriate language for the procurement of EPEAT-registered equipment. b. Strive to purchase EPEAT Silver rated electronic products or higher if available. c. Document the annual percentage of a facility's electronic equipment purchases that meet EPEAT requirements.	A) Acquire 95% EPEAT registered products by 2020.	Percentage of EPEAT purchased electronic equipment.
2) Develop policies and procedures to ensure Energy Star® power management features enabled on 100% of facility computers and monitors. a. Implement policies and programs to enable Energy Star® features on 100% of computers and monitors. b. Document the annual percentage of a facility's electronic equipment with Energy Star features enabled.	A) Enable 100% of computer and monitors with Energy Star® power management features by 2011.	Percentage of computer and monitors with Energy Star® power management features enabled.

3) Develop and implement criteria and guidelines for purchase, operation and maintenance to extend the useful life of facility electronic equipment to five years or more. a. Establish and implement 5-year maintenance agreements on electronic equipment. b. Establish and implement a 5-year electronic equipment refresh program.	A) Extend the useful life of electronics to five or more years.	Electronic turn over rate.
4) Implement procedures for end-of-life management of electronic equipment. a. Establish procedures for the transfer, donation, sale and recycling of electronic equipment. b. Use EPA's Guidelines for Materials Management for Plug-In to eCycling partners for disposal of non-reusable electronic equipment. http://www.epa.gov/epawaste/partnerships/plugin/ c. Track and document end-of-life electronic equipment disposal.	A) 100% of electronics disposed of through PlugIn to eCycling program or other reputable means.	End of life disposal records.

Title: SMP6 - Solid Waste Management and Recycling	Document Number:
	Approval Status:
Responsible Person:	**Implementation Date:**

Sustainability Criteria

At a minimum, reduce solid waste disposal volumes and associated costs by 40% and increase recycling volumes by 40% by 2015 relative to 2010 baseline. Strive for "zero waste" by 2015.

Project(s)	Target	Metric
1) Optimize solid waste collection and pickups. a. Strive to schedule solid waste pickups only when disposal containers are full. Size waste infrastructure accordingly (i.e. number of dumpsters, recycling containers, and pickup frequency). b. Measure solid waste disposal volumes and increased recycling volumes weekly and report monthly. c. Increase number of recycling bins. d. Add compost bins.	A) Reduce solid waste disposal volume by 40% by 2015 relative to 2010 baseline.	Visually monitor and track weekly solid waste dumpster volumes.

2) Establish a recycling coordination team to oversee recycling efforts and identify recycling opportunities. a. Identify Votran recycling leader able to volunteer a few hours a month to oversee recycling efforts. b. Establish and implement policies that address solid waste disposal and recycling: i. Double-sided printing ii. Toner cartridge recycling iii. Centralized trashed containers for office waste. iv. Cardboard recycling. v. Waste audit plan and actions to address audit findings. vi. Incentive programs.	A) Establish a recycling coordination team and meet quarterly to enhance recycling success. B) Help ensure Votran reduces solid waste disposal volume by 40% by 2015 relative to 2010 baseline, and increases recycling volume by 35% by 2015 relative to 2010 baseline.	Maintain quarterly meeting minutes and update and publish the "zero waste" performance trends. (i.e., Solid waste disposal and recycling volumes.)
3) Collect and recycle all recyclable materials. a. Analyze solid waste stream to identify recyclable materials that are being disposed of. b. Improve disposal efficiency with appropriate sizing and pickup of disposal containers. c. Identify components of solid waste streams that can be recycled or reused. d. Enhance recycling and reuse through general awareness. e. Identify recycling market for all recyclable materials. f. Establish recycling contracts with identified vendors. g. Track recycling revenue generated and prepare annual summary.	A) Increase recycling volume by 35% by 2015 relative to 2010 baseline.	Monitor and track weekly recycling volumes, and track revenue generated from recycling.

4) Reduce solid waste generated through vehicle maintenance. a. Ensure proper DIYs to reduce breakdowns, which will help reduce brake wear and amount of parts and fluids used. b. Measure and monitor tire program to reduce tire damage. c. Switch to steel tire weights.	A) Reduce solid waste disposal volume by 40% by 2015 relative to 2010 baseline.	Number of breakdowns and amount of parts and fluids used.

Title: SMP7 - Paper Reduction	Document Number:
	Approval Status:
Responsible Person:	**Implementation Date:**

Sustainability Criteria

Reduce the amount of paper used in administrative operations by 100% by 2030 relative to 2010 baseline.

Projects	Target	Metric
1) Establish paper consumption baseline for FY2009	A) Establish 2009 baseline.	Annual paper purchases (# of paper reams purchased/year)
2) Identify alternatives to paper manifests and other recording procedures for drivers, ride supervisors, dispatchers and maintenance. a. Assess and prioritize digital tracking methods for essential and frequently used forms and records. b. Implement cost feasible digital form tracking and record keeping methods based on available funds.	A) Reduce paper consumption by 60% by 2030 relative to 2010 baseline.	Annual paper purchases (# of paper reams purchased/year)
3) Identify alternatives to paper announcements and bulletin board materials used to communicate with drivers. a. Install electronic message boards or suitable alternative to communicate messages in frequently used office spaces. b. Assess methods of reinforcing communications through other verbal and/or visual means.	A) Reduce paper consumption by 10% by 2030 relative to 2010 baseline.	Annual paper purchases (# of paper reams purchased/year)

4) Develop and implement policies to reduce paper consumption: a. Paper recycling at desks. b. Double sided printing. c. Develop and conduct paper waste audit.	A) Reduce paper consumption by 15% by 2030 relative to 2010 baseline.	Annual paper purchases (# of paper reams purchased/year)
5) Assess alternatives to internal and external paper correspondence. a. Identify recurring pathways of paper correspondence within and between Votran facilities and offices. b. Identify alternatives to operations or processes that generate large volumes of paper correspondence. c. Assess external marketing materials and procedures to identify alternative marketing techniques which reduce or eliminate the use of paper products. d. Utilize Volusia County's FTP site.	A) Reduce paper consumption by 15% by 2030 relative to 2009 baseline.	Annual paper purchases (# of paper reams purchased/year)

Title: SMP8 - Water Consumption	Document Number:
	Approval Status:
Responsible Person:	**Implementation Date:**

Sustainability Criteria

Reduce water consumption by 30% by FY2025 relative to FY2009 baseline.

Projects	Target	Metric
1) Identify and implement procedures to reduce the use of potable water in facilities: a. Retrofit faucets with low flow fixtures. b. Replace traditional urinals with waterless urinals. c. Conduct a leak audit of the plumbing system. d. Provide educational water conservation material to facility users and maintenance personnel.	A) Reduce water consumption by 15% by FY2025 relative to FY2009 baseline.	Annual water use intensity factor (Kgal/sf).
2) Consider implementing procedures to reduce the use of water for outdoor irrigation: a. Utilize native and drought-tolerant plants in landscaping. b. Update irrigation systems to use water efficiently. c. Use shallow water aquifer for irrigation water. d. Consider rainwater collection and consumption for irrigation. e. Consider use of grey water for irrigation.	A) Reduce water consumption by 10% by FY2025 relative to FY2009 baseline.	Annual outdoor irrigation water use (Kgal).
3) Identify and implement procedures to reduce the use of potable water for bus wash: a. Consider rainwater collection and consumption for bus wash. b. Consider use of grey water for bus wash.	A) Reduce water consumption by 5% by FY2025 relative to FY2009 baseline.	Annual bus wash water use (Kgal).

Title: SMP9 – Hazardous Materials Management	Document Number:
	Approval Status:
Responsible Person:	**Implementation Date:**

Sustainability Criteria

Reduce hazardous materials usage and storage by 15% and reduce monthly hazardous waste generation to less than 100 kg per month by 2015 relative to 2010 baseline.

Projects	Target	Metric
1) Develop a baseline of hazardous material use and storage at Votran facilities. a. Conduct initial baseline assessments to profile the types and quantities of hazardous materials present and current management practices for those materials. A review of material safety data sheets (MSDSs) could be a good starting point.	A) Conduct a 2010 baseline assessment by January 2011.	Matrix of hazardous material usage rates (i.e. weight) by activity.
2) Develop and implement a strategy to replace hazardous materials currently in use with suitable less/non-hazardous products. a. Develop a list of target chemicals to avoid when purchasing products. EPA's list of priority chemicals may be a good place to start http://www.epa.gov/osw/hazard/wastemin/priority.htm. b. Verify purchased products do not contain any target chemicals. c. Implement programs to reduce hazardous materials use with non-hazardous alternative products. See SMP10 for additional information.	A) Reduce hazardous materials usage and storage by 15% by 2015 relative to 2010 baseline.	Monthly hazardous material purchases (kg/month).

3) Identify processes and practices that generate hazardous waste and determine ways to minimize or reduce the amount of hazardous waste generated each month. a. Investigate switching from solvent base to aqueous based parts cleaning.	A) Reduce hazardous waste generation to less than 100 kg per month by 2011 relative to 2010 baseline.	Monthly hazardous waste generation (kg/month).

Title: SMP10 – Green Purchasing	Document Number:
	Approval Status:
Responsible Person:	**Implementation Date:**

Sustainability Criteria

Reduce the number of toxic chemicals by 30% and increase the purchase of environmentally friendly or USDA-approved biobased products by 30% by 2030 relative to 2010 baseline.

Projects	Target	Metric
1) Establish the FY2009 baseline for solvents, paints, ozone-depleting substances and other potentially toxic chemicals and identify and inventory frequently purchased products or materials that may be replaced with environmentally preferable or USDA-approved biobased products.	A) Establish FY2009 baseline.	Volume and/or cost of toxic chemicals purchased annually.
2) Develop and implement a green purchasing plan to reduce the volume of toxic chemicals purchased: a. Develop a list of target chemicals to avoid when purchasing products. EPA's list of priority chemicals may be a good place to start http://www.epa.gov/osw/hazard/wastemin/priority.htm b. Prioritize the purchase of cost effective environmentally beneficial alternative products with proven performance. c. Identify vendors that can provide non-hazardous alternatives. d. Implement a phase-out process to replace potentially toxic chemicals with environmentally neutral or environmentally friendly alternatives.	A) Reduce toxic chemical by 30% by 2030 relative to 2010 baseline.	Volume and/or cost of toxic chemicals purchased annually.

3) Develop and implement a green purchasing plan to increase the purchase of environmentally preferable or USDA-approved biobased products: a. Develop a list of products that can be substituted with environmentally preferable or USDA-approved biobased products. Annually select products to be purchased (i.e. goal setting) based upon economics, utility, and ease of acquisition. b. Document and present the quantities of green products purchased/used each year.	A) Increase purchase of environmentally friendly or USDA-approved biobased products by 30% by 2030 relative to 2010 baseline.	Volume and/or cost of frequently purchased products that can be replaced with environmentally friendly alternatives.

Title: SMP11 – Pest Management	Document Number:
	Approval Status:
Responsible Person:	**Implementation Date:**

Sustainability Criteria

Reduce pesticide and rodenticide application by 50% by 2030 relative to 2010 baseline.

Projects	Target	Metric
1) Develop contract language that reflects the principles of integrated pest management. DoD instruction 4150.07 (DoD Pest Management Program) provides additional information regarding contract language. DoD instruction 4150.07 is available at http://www.dtic.mil/whs/directives/corres/pdf/415007p.pdf	A) Develop contract language for integrated pest management contracts.	Development of integrated pest management contract language.
2) Follow standard Integrated Pest Management (IPM) practices. a. Review all pest management contracts to ensure integrated pest management practices are being used. b. Work with contractors to identify pest management strategies to reduce pest infestations and the rate and volume of pesticide application.	A) 50% reduction in pesticide and rodenticide application by 2030 relative to 2010 baseline.	Type and frequency of pest problem events and pesticide and rodenticide application volumes and rates.

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Appendix E
Return on Investment Worksheets

Sustainability Management Plan Return on Investment (ROI) Summary		
SMP	Implementation Cost[1]	Net 5-year Return on Investment
SMP 1 - Fuel Consumption	$70,000	$802,249
SMP 2 – Greenhouse Gas Reduction	$0	$737,251
SMP 3 - Energy Consumption	$19,227	$124,497
SMP 4 - Sustainable Buildings	$0	$38,824
SMP 5 - Electronic Stewardship	$0	$8,995
SMP 6 - Solid Waste Management & Recycling	$0	$14,309
SMP 7 - Paper Reduction	$1,650	$6,405
SMP 8 - Water Consumption	$1,985	$3,298
	Total Net 5-year ROI:	**$1,735,828**

Notes:

[1]Implementation costs exclude projects with funding sources identified as capital funds during the 3/12/2010 Votran sustainability workshop.

Annual Fuel Expenditures[1]: $2,543,000

SMP 1 - Fuel Consumption Detailed ROI								
Project	Implementation Cost	Anticipated Annual Return[2] (%)	Cumulative Net Return by Year[3] ($)					5-year ROI[4]
			Year 1	Year 2	Year 3	Year 4	Year 5	
1) Continue training drivers and maintenance workers using simulator programs.	$0[5]	0.5%[6]	$12,715	$25,430	$38,145	$50,860	$63,575	↑
2) Develop and implement a more stringent idling policy than the current Florida requirement.	$0[5]	0.5%	$12,715	$25,430	$38,145	$50,860	$63,575	↑
3) Maintain and improve fuel efficiency by conducting a bus route efficiency study.	$70,000[7]	2.0%			-$19,140	$31,720	$82,580	118%
4) Identify and prioritize opportunities to utilize alternative fuel sources and/or hybrid transit vehicles.[8]	$0[5]	3.4%	$43,231	$129,693	$216,155	$302,617	$389,079	↑
5) Monitor and quantify fuel savings through improved operational efficiencies and capital improvement projects.	$0[5]	4.0%				$101,720	$203,440	↑
Total Implementation Cost:	**$70,000**	**Cumulative Net Return:**	**$68,661**	**$180,553**	**$273,305**	**$537,777**	**$802,249**	**1146%**

Note:

[1]Annual fuel expenditures calculated using Votran's average (2007-2009) diesel and fuel consumption. Average costs/gallon were determined using Florida diesel ($2.95/gal) and fuel ($2.83/gal) as of 3/30/2010. Votran's average annual fuel consumption between 2007-2009 was 859,104 gallons of diesel and 4,007 gallons of fuel oil.

[2]Preliminary annual return is based on comparative industry best management practices and agreed upon values from the 3/12/2010 Votran sustainability workshop.

[3]Implementation cost is subtracted from the net return during the first year of implementation.

[4]Return on investment calculated as: (5-year return - implementation costs) / implementation costs.

[5]Project funding source was identified as capital funds during the 3/12/2010 sustainability workshop, and is therefore not included in implementation cost estimates.

[6]Annual return includes incorporation of safe and efficient driving training program focused on improving fuel efficiency.

[7]Implementation cost for a bus route efficiency study was based on an agreed upon value from the 3/12/2010 Votran sustainability workshop.

[8]Assumes 16 hybrid buses utilized during years 1 through 4, and an additional 5 buses potentially introduced during year 5. These assumptions were provided by Votran during the 3/12/2010 sustainability workshop. Anticipated annual return was calculated based on anticipated fuel savings from 16 hybrid buses introduced at year 1 as a percentage of Votran's total fleet fuel consumption. Fuel savings from Hybrid busses at Year 1 were reduced by half to account for portions of the fiscal year that have not had hybrid busses integrated within Votran's fleet.

Legend:

↑: Indicates a positive ROI that cannot be calculated because there are no implementation costs.

SMP 2 - Greenhouse Gas Initiative and Increased Ridership ROI								
Project	Implementation Cost[1]	Anticipated Annual Revenue ($)	Cumulative Net Revenue by Year[2] ($)					5-year ROI[3]
			Year 1	Year 2	Year 3	Year 4	Year 5	
1) Reduce Scope 1 emissions from Votran fleet and operations through improved operational efficiencies.	$0	$0	NA	NA	NA	NA	NA	↑
2) Reduce Scope 2 emissions from Votran facilities and operations through improved operational efficiencies and renewable energy sources.	$0	$0	NA	NA	NA	NA	NA	↑
3) Identify Scope 3 emissions that offer opportunities for reduction of greenhouse gas emissions through existing and potential operational improvements.	$0	$36,863 - 258,038 [4]	$36,863	$129,019	$276,469	$479,213	$737,251	↑
4) Quantify greenhouse emission reductions resulting from riders of public transit.	$0	$0	NA	NA	NA	NA	NA	↑
Total Implementation Cost:	**$0**	**Cumulative Net Return:**	**$36,863**	**$129,019**	**$276,469**	**$479,213**	**$737,251**	

Note:

[1]Implementation costs for GHG reduction projects are anticipated largely through fuel and energy reduction initiatives. No specific costs are anticipated from increased ridership programs through the county.

[2]Calculated as the cumulative revenue gained by increasing ridership through GHG reduction initiatives.

[3]Return on investment calculated as: (5-year return - implementation costs) / implementation costs.

[4]The pilot project initially targets encouraging 300 new riders to ride the bus twice per week in the first year, gradually escalating to 2064 new riders within five years.

Legend:

↑: Indicates a positive ROI that cannot be calculated because there are no implementation costs.

Annual Energy Expenditures[1]: $131,300

SMP 3 - Energy Conservation Detailed ROI								
Project	Implementation Cost	Anticipated Annual Return[2] (%)	Cumulative Net Return by Year[3] ($)					5-year ROI[4]
			Year 1	Year 2	Year 3	Year 4	Year 5	
1) Conduct energy audits and develop and implement energy conservation projects.	$0[5]	10%[6]	$13,130	$26,260	$39,390	$52,520	$65,650	↑
2) Implement and maintain a commissioning program for new and existing buildings.	$19,227[7]	14%[8]			-$895	$17,487	$35,869	187%
3) Increase the amount of renewable energy used by Votran by installing solar panels on new and existing buildings.	$0[9]	5%[10]			$6,565	$13,130	$19,695	↑
4) Identify opportunities to implement energy saving management practices through personnel training and operational controls.	$0[11]	0.5%	$657	$1,313	$1,970	$2,626	$3,283	↑
Total Implementation Cost:	**$19,227**	**Cumulative Net Return:**	**$13,787**	**$27,573**	**$47,030**	**$85,763**	**$124,497**	**648%**

Note:

[1]Annual energy expenditures calculated using the average of Votran's FY2007-2009 energy bills from Progress Energy and Florida Power and Light.

[2]Preliminary annual return is based on comparative industry best management practices and agreed upon values from the 3/12/2010 Votran sustainability workshop.

[3]Implementation cost is subtracted from the net return during the first year of implementation.

[4]Return on investment calculated as: (5-year return - implementation costs) / implementation costs.

[5]No implementation cost is included due to the ongoing ECT audit which is expected to include energy efficiency recommendations.

[6]Annual return is a conservative estimate based on implementation of energy conservation opportunities identified during an energy audit. More detailed information is expected to be provided in the ongoing ECT audit.

[7]Implementation costs based on the estimated number of thermostats and light ballasts at the Big Tree Road Administration Building only. Costs for energy star programmable thermostats ($92) and energy efficient lights ($35/lamp) were determined using United States Environmental Protection Agency (USEPA) and American Council for an Energy Efficient Economy (ACEEE) data. Roof replacement and HVAC retro-commissioning were identified as capital fund projects during the 3/12/2010 Votran sustainability workshop, and were therefore not included in the implementation cost.

[8]Net return includes installation of programmable thermostats and energy-efficient lighting retrofits at the Big Tree Road Administration Building only. Annual returns were provided by the Department of Energy (DOE). Calculations for net return do not include roof replacement or HVAC upgrades.

[9]Project funding source was identified as capital funds during the 3/12/2010 sustainability workshop.

[10]Calculation assumes 5,000 square feet of solar panels installed at the Big Tree Road facility. A broad estimated cost for a system of this size is approximately $790,000. An installation of this size is expected to generate 65,700 kWh's per year, or 5% of Votran's annual facility energy consumption.

[11]Project funding source was identified as capital funds during the 3/12/2010 sustainability workshop, and is therefore not included in the implementation cost estimate.

Legend:

↑: Indicates a positive ROI that cannot be calculated because there are no implementation costs.

Estimated annual Westside Facility operating expenditures with existing design[1]: $70,589

SMP 4 - Sustainable Buildings Detailed ROI								
Project	Implementation Cost[2]	Anticipated Annual Return[3] (%)	Cumulative Net Return by Year ($)					5-year ROI[4]
			Year 1	Year 2	Year 3	Year 4	Year 5	
1) Establish a standard framework for sustainable facility design.	$0	27.5%				$19,412	$38,824	↑
Total Implementation Cost:	**$0**	**Cumulative Net Return:**	**$0**	**$0**	**$0**	**$19,412**	**$38,824**	

Note:

[1]Annual operating costs under traditional building design for the proposed Westside Facility were assumed to be one half of the existing energy and water usage at Votran's Big Tree Road facility. This estimate assumed that maintenance buildings at the Big Tree facility consume one half of the facilities power and water, and that a similar design for the Westside facility would have comparable operating costs with a similar design. Details regarding construction of the Westside Facility were provided by Votran staff during the 3/12/2010 sustainability workshop.

[2]Project funding source for the Westside Facility was identified as capital funds during the 3/12/2010 sustainability workshop, and is therefore not included in the implementation cost estimate.

[3]Preliminary annual return is based on annual energy savings of 25-30% and annual water savings of 20-30% relative to ASHRAE 90.1 building design standards. An annual return of 27.5% was conservatively applied based on these combined savings and energy efficiency improvements provided by the U.S. Green Building Council (2008).

[4]Return on investment calculated as: (5-year return - implementation costs) / implementation costs.

Legend:

↑: Indicates a positive ROI that cannot be calculated because there are no implementation costs.

Annual energy expenditures from electrical equipment[1]: $4,455

SMP 5 - Electronic Stewardship Detailed ROI								
Project	Implementation Cost	Anticipated Annual Return (%)	Cumulative Net Return by Year[2] ($)					5-year ROI[3]
			Year 1	Year 2	Year 3	Year 4	Year 5	
1) Develop policies and procedures to acquire 95% of required electronic products with silver or above EPEAT-registration.	$0[4]	39%[5]			$1,737	$3,475	$5,212	↑
2) Develop policies and procedures to ensure Energy Star® power management features enabled on 100% of facility computers and monitors.	$0[4]	8.3%[6]			$370	$740	$1,109	↑
3) Develop and implement criteria and guidelines for purchase, operation and maintenance to extend the useful life of facility electronic equipment to four years or more.	$0[4]	20%[7]			$891	$1,782	$2,673	↑
4) Implement procedures for end-of-life management of electronic equipment.	$0[4]	0%[8]	$0	$0	$0	$0	$0	↑
Total Implementation Cost:	**$0**	**Cumulative Net Return:**	**$0**	**$0**	**$2,998**	**$5,996**	**$8,995**	

Note:

[1]Annual operating costs of electronic equipment were determined based on average energy usage of non-energy star equipment. Calculation includes 61 computers, 61 monitors, 24 printers, and 3 copiers (data provided by Votran on 3/31/2010). Annual energy use in the above example is based on the US Department of Energy's assumptions for typical office operating practices, including a 9.5 hour work day with 8.5 hours of standby (inactive) time and 268 operating days per year.

[2]Implementation cost is subtracted from the net return during the first year of implementation.

[3]Return on investment calculated as: (5-year return - implementation costs) / implementation costs.

[4]Implementation costs are anticipated to be minimal, as energy star rated electronics are comparable in price to non-rated electronic equipment. Replacement of existing electronic equipment with energy star rated equipment was assumed to occur during Votran's normal replacement schedule.

[5]Annual return is based on existing energy expenditures from electronic appliances (computers, monitors, printers, and copiers). Savings were calculated based on improved energy efficiency following replacement with energy star rated equipment. Calculation includes 61 computers, 61 monitors, 24 printers, and 3 copiers (data provided by Votran on 3/31/2010).

[6]Annual return is based on existing energy expenditures resulting from wasted stand-by power. Savings were calculated based on improved energy efficiency during stand-by mode from energy star rated electronic equipment.

[7]Annual returns are based on improving the useful life of computers and monitors by one year (from 4 years to 5 years) compared to existing practices. Calculation includes 61 computers used by non-driving employees.

[8]End of life management assumes proper disposal of electronic equipment. Currently no implementation cost or annual return is associated with proper end of life management through existing Votran disposal practices.

Legend:

↑: Indicates a positive ROI that cannot be calculated because there are no implementation costs.

Annual Solid Waste Expenditures[1]: $6,814

SMP 6 - Solid Waste Detailed ROI								
Project	Implementation Cost	Anticipated Annual Return (%)	Cumulative Net Return by Year[2] ($)					5-year ROI[3]
			Year 1	Year 2	Year 3	Year 4	Year 5	
1) Optimize solid waste collection and pickups.	$0[4]	50%[5]			$3,407	$6,814	$10,221	↑
2) Establish a recycling coordination team to oversee recycling efforts and identify recycling opportunities.	$0[4]	11%[6]	$750	$1,499	$2,249	$2,998	$3,748	↑
4) Collect and recycle all recyclable materials.	$0[4]	0%[7]	$0	$0	$0	$0	$0	--
5) Reduce solid waste generated through vehicle maintenance.	$0[4]	1%[6]	$68	$136	$204	$273	$341	↑
Total Implementation Cost:	**$0**	**Cumulative Net Return:**	**$818**	**$1,635**	**$5,860**	**$10,085**	**$14,309**	

Note:

[1]Annual solid waste expenditures calculated using Votran's 2009 solid waste and recycling services bills.

[2]Implementation cost is subtracted from the net return during the first year of implementation.

[3]Return on investment calculated as: (5-year return - implementation costs) / implementation costs.

[4]No anticipated costs are anticipated to implement solid waste reduction or recycling programs through existing county contracts. If recycling volumes increase beyond existing disposal capacity additional costs may be required for additional recycling containers.

[5]Annual return assumes a 50% reduction in either pickup frequency or number of solid waste containers at the Big Tree Road and Transfer Station facilities. This also assumes renegotiation of the solid waste disposal contract based on reduced solid waste disposal volumes and pickup frequency.

[6]Preliminary annual return is based on comparative industry best management practices and agreed upon values from the 3/12/2010 Votran sustainability workshop. ROI is based on solid waste cost avoidance following a reduction in solid waste disposal volumes.

[7]No annual return is expected based on county recycling contracts. However, recyclables represent a potential revenue stream, but will require the county to renegotiate recycling contracts prior to realization of recycling revenue.

Legend:

↑: Indicates a positive ROI that cannot be calculated because there are no implementation costs.

--: Indicates no direct ROI.

Annual Paper Expenditures[1]: $4,475

SMP 7 - Paper Reduction Detailed ROI								
Project	Implementation Cost	Anticipated Annual Return (%)	Cumulative Net Return by Year[2] ($)					5-year ROI[3]
			Year 1	Year 2	Year 3	Year 4	Year 5	
1) Identify alternatives to paper manifests and other recording procedures for drivers, ride supervisors, dispatchers and maintenance.	$0[4]	10%[8]			$448	$895	$1,343	↑
2) Identify alternatives to paper announcements and bulletin board materials used to communicate with drivers.	$750[5]	5-10%[9]	-$526	-$303	$145	$593	$1,040	139%
3) Develop and implement policies to reduce paper consumption	$900[6]	10%[10]			-$453	-$5	$443	49%
4) Assess alternatives to internal and external paper correspondence.	$0[7]	5-40%[11]	$224	$448	$1,119	$1,790	$3,580	↑
Total Implementation Cost:	**$1,650**	**Cumulative Net Return:**	**-$303**	**$145**	**$1,259**	**$3,273**	**$6,405**	**388%**

Note:

[1]Annual paper expenditures were provided by Votran for FY2009.
[2]Implementation cost is subtracted from the net return during the first year of implementation.
[3]Return on investment calculated as: (5-year return - implementation costs) / implementation costs.
[4]Because Votran has already implemented the Trapeze software module, implementation costs are not included in this estimate. Estimated annual maintenance costs for Trapeze software is also not included in this estimate.
[5]Average price for a 32 inch flat screen LCD television and wall mount to be used as an electronic message board.
[6]The purchase on one double-sided printer to coincide with the implementation of a double-sided printing policy was included in the implementation cost.
[7]No implementation costs are anticipated to switch from paper to digital internal and external correspondence.
[8]Annual return is based on elimination of daily paper manifests from driver, dispatch, and supervisor reports. Information on daily paper manifest reports was supplied by Votran.
[9]Preliminary annual return is based on comparative industry best management practices and agreed upon values from the 3/12/2010 Votran sustainability workshop. Conservatively assumes a 5% return from the installation of an electronic message board during years 1 and 2, followed by an additional 5% return with the installation of permanent signage during years 3, 4, and 5.
[10]Preliminary annual return is based on comparative industry best management practices and agreed upon values from the 3/12/2010 Votran sustainability workshop.
[11]A 5% return was applied during years 1 and 2 from implementation of centralized trash collection areas and paper recycling at employee desks. Completion of a paper waste audit and incorporation of best management practice findings added an additional 10% reduction in years 3 and 4. Transition to digital tracking and filing systems in year 5 incorporated an additional estimated 25% reduction in internal paper consumption. The 5-40% annual return range includes phased implementation of centralized trash collection, paper recycling at desks, paper waste audits, and transition to digital tracking and filing systems. All reduction estimates are based on comparative industry best management practices and agreed upon values from the 3/12/2010 Votran sustainability workshop.

Legend:

↑: Indicates a positive ROI that cannot be calculated because there are no implementation costs.

Annual Estimated Water Consumption Expenditures[1]: $9,864

SMP 8 - Water Consumption Detailed ROI								
Project	Implementation Cost	Anticipated Annual Return[2] (%)	Cumulative Net Return by Year[3] ($)					5-year ROI[4]
			Year 1	Year 2	Year 3	Year 4	Year 5	
1) Identify and implement procedures to reduce the use of potable water in facilities.	$1930[5]	10%	-$944	$43	$1,029	$2,016	$3,002	156%
2) Identify and implement procedures to reduce the use of potable water for outdoor irrigation.	$55[6]	0%	-$55	$0	$0	$0	$0	--
3) Identify and implement procedures to reduce the use of potable water for bus wash.	$0[7]	0.6%[8]	$59	$118	$178	$237	$296	↑
Total Implementation Cost:	**$1,985**	**Cumulative Net Return:**	**-$939**	**$161**	**$1,207**	**$2,253**	**$3,298**	**166%**

Note:

[1]Annual water use and associated expenditures were calculated using Votran's 2009 water bill from the City of South Daytona.

[2]Preliminary annual return is based on comparative industry best management practices for low flow faucets, low flow toilets, and high efficiency rotary sprinklers. Votran's FY 2009 water bills and other agency specific information provided by Votran on 3/21/2010 were used to quantify annual returns.

[3]Implementation cost is subtracted from the net return during the first year of implementation.

[4]Return on investment calculated as: (5-year return - implementation costs) / implementation costs.

[5]Implementation cost includes replacement of existing fixtures with low flow faucet aerators and low flow toilets. Facility data, including number of bathrooms and fixtures, for Votran's Big Tree Road facility was provided by the Volusia County property appraiser's office.

[6]Implementation costs for irrigation improvements include the retrofit of existing sprinkler heads with high efficiency rotary sprinkler heads. Irrigation at the Big Tree Road facility was estimated using aerial photographs to estimate the irrigation area as well as the area covered by the rotary sprinkler heads (excluding stormwater retention ponds and parking lot greenspace). No return is expected as Votran currently using well water for irrigation, however indirect benefits to the environment may be achieved through reduced shallow aquifer consumption.

[7]Project funding source for building and/or facilities improvements were assumed to be capital funds, and are therefore not included in implementation cost estimates.

[8]Information by Votran indicated that bus wash water is replenished with approximately 3,000 gallons of potable water every 3 months (12,000 gallons/yr). Annual returns assume 100% replenishment with non-potable (rainwater or greywater) water sources.

Legend:

↑: Indicates a positive ROI that cannot be calculated because there are no implementation costs.

--: Indicates no direct ROI.

Sustainability Management Plan Indirect Benefits			
SMP	**Implementation Cost[1]**	**Indirect Benefit**	**Return on Investment[2]**
SMP 9 - Hazardous Materials Management	$0	Reduced liability and regulatory burden.	$13,200
SMP 10 - Green Purchasing	$0	Reduced exposure of employees to chemicals.	$4,875
SMP 11 - Pest Management	$0	Reduced impact on the environment.	$5,315
		Total Net 5-year ROI:	**$23,390**

Notes:

[1]Implementation costs for replacement of hazardous materials, procurement of green products, and renegotiation of pest management contracts are not anticipated to increase following implementation of the SMPs.

[2]The return on investment attempts to quantify the potential savings associated with the indirect benefits.

Annual Hazardous Waste Expenditures[1]: **$18,127**

SMP 9 - Hazardous Material Management Detailed Indirect ROI[5]									
Project	Implementation Cost[2]	Potential fine associated with audit findings[3] ($)	Potential for audit (%)[4]	Cost Avoidance ($) Year 1[5]	Year 2[5]	Year 3[5]	Year 4[5]	Year 5[5]	5-Year ROI[6]
1) Identify processes and practices that generate hazardous waste and determine ways to minimize or reduce the amount of hazardous waste generated each month.	$0	$8,800	30%	$2,640	$5,280	$7,920	$10,560	$13,200	↑
Total Implementation Cost:	**$0**	**$8,800**	**Cumulative Annual Cost Avoidance:**	**$2,640**	**$5,280**	**$7,920**	**$10,560**	**$13,200**	

Notes:

[1]Annual hazardous waste expenditures based on annual used oil disposal (HowCo at $10,720) and solvent disposal (Safety-Kleen at $7,407) costs.

[2]Implementation costs for replacing hazardous materials are not anticipated to increase following implementation of the sustainability management plans.

[3]Assuming a potential fine associated with current hazardous waste management is difficult to determine without conducting a full scale compliance audit. It is assumed, based on current practices, that potential audit findings would fall in the moderate/moderate rage (e.g., $8,799 a day) and there will be no more than 3 audit findings. Additional information on potential penalty amounts is provided in EPA's RCRA Penalty Assessment Matrix (http://www.epa.gov/compliance/resources/policies/civil/rcra/rcpp2003-fnl.pdf). For purposes of this ROI multi-day or continuous violations have not been calculated

[4]Based on Votran's size of operation and potential environmental impact, it is assumed that Votran is at a moderate to low risk (30%) for an EPA/FL DEP inspection each year.

[5]Yearly cost avoidance is based on risk, and is assumed to be 30% of total potential fine amount.

[6]Return on investment calculated as: (5-year return - implementation costs) / implementation costs.

Legend:

↑: Indicates a positive ROI that cannot be calculated because there are no implementation costs.

Hazardous Material Indirect ROI Discussion:

According to EPA's web site, Votran is considered a small quantity generator of hazardous waste. As such Votran generates between 100 kilograms and 1,000 kilograms of hazardous waste a month. As a small quantity generator of hazardous waste Votran has specific regulatory liabilities associated with the proper storage, recordkeeping, and overall management of hazardous waste. If improperly managed, hazardous waste can endanger human health and the environment, lead to large fines, and possible criminal changes. As such, the management of hazardous waste represents a high risk to Votran.

By eliminating potentially hazardous materials and replacing them with more environmentally friendly substitutes, Votran has the potential to eliminate the regulatory burden that comes with the management of hazardous materials and hazardous waste. In addition to a reduced regulatory burden, the removal of hazardous materials and waste from Votran's facility can help improve the overall work environment. The green purchasing indirect ROI discussion provides more information on the indirect benefits of an improved work environment.

Votran currently pays Safety-Kleen approximately $7,407 a year to dispose of solvent parts washer wastes. This parts washing waste represents one of the largest hazardous waste streams contributing to Votran's small quantity generator status. However, Safety-Kleen offers an aqueous based parts washer that is considered to be as effective as its solvent based equivalent. By simply switching out the solvent parts washers with aqueous based parts washers, Votran will have the ability to remove a large component of it hazardous waste stream and eliminate the associated regulatory burden. Removing the solvent parts washers will also eliminates the potential for law suits associated chemical exposure.

Annual housekeeping/cleaning product expenditures[1]: $39,000

SMP 10 - Green Purchasing Detailed Indirect ROI[4]								
Project	Implementation Cost[2]	Anticipated Annual Return[3] (%)	Cost Avoidance ($)					5-year ROI
			Year 1	Year 2	Year 3	Year 4	Year 5	
1) Develop and implement a green purchasing plan to reduce the volume of toxic chemicals purchased.	$0	1.25%	$488	$975	$1,463	$1,950	$2,438	↑
2) Develop and implement a green purchasing plan to increase the purchase of environmentally friendly or USDA-approved biobased products.	$0	1.25%	$488	$975	$1,463	$1,950	$2,438	↑
Total Implementation Cost:	**$0**	**Cumulative Cost Avoidance:**	**$975**	**$1,950**	**$2,925**	**$3,900**	**$4,875**	

Notes:

[1]Annual housekeeping/cleaning products expenditures for 2009 provided by Votran.

[2]Implementation costs for purchase of green products are not anticipated to increase following implementation of the sustainability management plans.

[3]A conservative annual return has been applied based on a Santa Monica California Case Study, which reports a 5% return over two years. The anticipated annual return applied here also assumes potential indirect benefits from reduced employee exposure to chemicals, reduced cost in waste management and reduced liabilities.

Legend:

↑: Indicates a positive ROI that cannot be calculated because there are no implementation costs.

Green Purchasing Indirect ROI Discussion:

At first sight, many "green" cleaning products may seem more expensive than standard products. However, many "green" cleaning products are competitively priced and can actually generate savings when indirect benefits are taken into account. Implementing a green purchasing program can improve indoor air quality, reduce cleaning-related health problems and employee absenteeism, reduce the cost of waste management and reduce regulatory liabilities.

Organizations have seen cost savings by switching to green products as part of an overall green purchasing program. Santa Monica California estimates that it saved approximately 5 percent over a two year period by purchasing alternative cleaning products rather than traditional products. This cost savings resulted in part from the reduced packaging and shipping costs associated with concentrated products. In addition, improved custodial training led to more efficient use of products, which also contributed to cost savings. See City of Santa Monica's Environmental Purchasing a Case Study; EPA742-R-98-001 available at http://www.epa.gov/epp/pubs/case/santa.pdf.

In addition to switching to "green" cleaning products, a successful green purchasing program looks at ways to reduce the amount hazardous materials managed. The removal of hazardous materials and waste from Votran's facility can help improve the overall work environment for its employees by minimizing potential exposure from hazardous and toxic materials. Removing the potential for chemical exposure also eliminates the risk from law suits associated chemical exposure.

Another green purchasing strategy is integrated pest management (IPM). IPM strives to minimize environmental impact and risks, while optimizing benefits of pest management efforts. IPM is a systems approach that utilizes decision making procedures based on either quantitative or qualitative observations of the pest problem. IPM approaches integrate preventive and corrective measures to keep pest from causing significant problems while minimum risk to human health and the environment.

Implementing an IPM program can help reduce exposure of employees, residents and the environment to potentially toxic pesticides. In addition, because integrated pest management employs commonsense strategies to reduce sources of food, water and shelter for pests, it is usually a less costly option.

Annual Pest Management Expenditures[1]: $7,086

SMP 11 - Pest Management Detailed ROI								
Project	Implementation Cost[2]	Anticipated Annual Return[3] (%)	Cost Avoidance ($) Year 1	Year 2	Year 3	Year 4	Year 5	5-year ROI
1) Follow standard Integrated Pest Management (IPM) practices.	$0	15%	$1,063	$2,126	$3,189	$4,252	$5,315	↑
Total Implementation Cost:	**$0**	**Cumulative Cost Avoidance:**	**$1,063**	**$2,126**	**$3,189**	**$4,252**	**$5,315**	

Notes:

[1]Cost of current pest management provided by Votran.

[2]Implementation costs for implementing an IPM program is not anticipated to increase following implementation of the sustainability management plans.

[3]Based on Santa Monica case study, it is anticipated that an integrated pest management approach can save up to 30 percent compared to traditional method of pesticide management. Case Study Available at http://www.epa.gov/epp/pubs/case/santa.pdf. A conservative annual return based on Case Study was applied to Votran scenario, this annual return also assumes potential indirect benefits of reduces exposure of employees, residents and the environment to potentially toxic pesticides.

Legend:

↑: Indicates a positive ROI that cannot be calculated because there are no implementation costs.

Integrated Pest Management Indirect ROI Discussion:

IPM strives to minimize environmental impact and risks, while optimizing benefits of pest management efforts. IPM is a systems approach that utilizes decision making procedures based on either quantitative or qualitative observations of the pest problem. IPM approaches integrate preventive and corrective measures to keep pest from causing significant problems while minimum risk to human health and the environment.

Implementing an IPM program can help reduce exposure of employees, residents and the environment to potentially toxic pesticides. In addition, because integrated pest management employs commonsense strategies to reduce sources of food, water and shelter for pests, it is usually a less costly option.

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Appendix F
Return on Investment Worksheets Including Labor Costs

Sustainability Management Plan Return on Investment (ROI) Summary			
SMP	Implementation Cost[1]	Estimated Annual Labor Cost[2]	Net 5-year Return on Investment
SMP 1 - Fuel Consumption	$70,000	$9,450	$773,899
SMP 2 - GHG Reduction	$0	$8,400	$695,251
SMP 3 - Energy Consumption	$19,227	$8,680	$106,297
SMP 4 - Sustainable Buildings	$0	$350	$38,474
SMP 5 - Electronic Stewardship	$0	$2,170	$1,785
SMP 6 - Solid Waste Management & Recycling	$0	$4,760	-$4,941
SMP 7 - Paper Reduction	$1,650	$2,695	-$4,200
SMP 8 - Water Consumption	$1,985	$420	$1,143
		Total Net 5-year ROI:	**$1,607,708**

Notes:

[1]Implementation costs exclude projects with funding sources identified as capital funds during the 3/12/2010 Votran sustainability workshop.

[2]Annual labor costs include estimated person hours for project implementation and a standard labor rate of $50/hour.

Annual Fuel Expenditures[1]: $2,543,000

SMP 1 - Fuel Consumption Detailed ROI									
Project	Implementation Cost	Annual Labor Cost[2]	Anticipated Annual Return[3](%)	Cumulative Net Return by Year[4] ($)					5-year ROI[5]
				Year 1	Year 2	Year 3	Year 4	Year 5	
1) Continue training drivers and maintenance workers using simulator programs.	$0[6]	$1,680	0.5%[7]	$12,715	$23,750	$34,785	$45,820	$56,855	677%
2) Develop and implement a more stringent idling policy than the current Florida requirement.	$0[6]	$1,470	0.5%	$11,245	$22,490	$33,735	$44,980	$56,225	677%
3) Maintain and improve fuel efficiency by conducting a bus route efficiency study.[8]	$70,000[9]	$3,360	2.0%			-$22,500	$28,360	$79,220	108%
4) Identify and prioritize opportunities to utilize alternative fuel sources and/or hybrid transit vehicles.[10]	$0[6]	$1,680	3.4%	$41,551	$126,333	$211,115	$295,897	$380,679	677%
5) Monitor and quantify fuel savings through improved operational efficiencies and capital improvement projects.	$0[6]	$1,260	4.0%				$100,460	$200,920	1,692%
Total Implementation Cost:	**$70,000**	**$9,450**	**Cumulative Net Return:**	**$65,511**	**$172,573**	**$257,135**	**$515,517**	**$773,899**	**787%**

Note:

[1]Annual fuel expenditures calculated using Votran's average (2007-2009) diesel and fuel consumption. Average costs/gallon were determined using Florida diesel ($2.95/gal) and fuel ($2.83/gal) as of 3/30/2010. Votran's average annual fuel consumption (2007-2009) was 859,104 gallons of diesel and 4,007 gallons of fuel oil.
[2]Annual labor costs include estimated person hours for project implementation and a labor rate of $35/hour.
[3]Preliminary annual return is based on comparative industry best management practices and agreed upon values from the 3/12/2010 Votran sustainability workshop.
[4]Implementation cost is subtracted from the net return during the first year of implementation.
[5]Return on investment calculated as: (5-year return - implementation costs) / implementation costs.
[6]Project funding source was identified as capital funds during the 3/12/2010 sustainability workshop, and is therefore not included in implementation cost estimates.
[7]Annual return includes incorporation of safe and efficient driving training program focused on improving fuel efficiency.
[8]Annual labor rate was applied to year 3 only following modification of bus routes according to efficiency study recommendations.
[9]Implementation cost for a bus route efficiency study was based on an agreed upon value from the 3/12/2010 Votran sustainability workshop.
[10]Assumes 16 hybrid buses utilized during years 1 through 4, and an additional 5 buses potentially introduced during year 5. These assumptions were provided by Votran during the 3/12/2010 sustainability workshop. Anticipated annual return was calculated based on anticipated fuel savings from 16 hybrid buses introduced at year 1 as a percentage of Votran's total fleet fuel consumption. Fuel savings from Hybrid busses at Year 1 were reduced by half to account for portions of the fiscal year that have not had hybrid busses integrated within Votran's fleet.

SMP 2 - Greenhouse Gas Initiative and Increased Ridership ROI									
Project	Implementation Cost[1]	Annual Labor Cost[2]	Anticipated Annual Revenue ($)	Cumulative Net Revenue by Year[3] ($)					5-year ROI[4]
				Year 1	Year 2	Year 3	Year 4	Year 5	
1) Reduce Scope 1 emissions from Votran fleet and operations through improved operational efficiencies.	$0	NA	$0	NA	NA	NA	NA	NA	↑
2) Reduce Scope 2 emissions from Votran facilities and operations through improved operational efficiencies and renewable energy sources.	$0	NA	$0	NA	NA	NA	NA	NA	↑
3) Identify Scope 3 emissions that offer opportunities for reduction of greenhouse gas emissions through existing and potential operational improvements.	$0	$8,400	$36,863 - 258,038 [5]	$28,463	$112,219	$251,269	$445,613	$695,251	1,613%
4) Quantify greenhouse emission reductions resulting from riders of public transit.	$0	NA	$0	NA	NA	NA	NA	NA	↑
Total Implementation Cost:	**$0**	**$8,400**	**Cumulative Net Return:**	**$28,463**	**$112,219**	**$251,269**	**$445,613**	**$695,251**	**1,655%**

Note:

[1]Implementation costs for GHG reduction projects are anticipated largely through fuel and energy reduction initiatives. No specific costs are anticipated from increased ridership programs through the county.

[2]Annual labor costs include estimated person hours for project implementation and a labor rate of $35/hour.

[4]Calculated as the cumulative revenue gained by increasing ridership through GHG reduction initiatives.

[4]Return on investment calculated as: (5-year return - implementation costs) / implementation costs.

[5]The pilot project initially targets encouraging 300 new riders to ride the bus twice per week in the first year, gradually escalating to 2064 new riders within five years.

Legend:

↑: Indicates a positive ROI that cannot be calculated because there are no implementation or annual labor costs.

Annual Energy Expenditures[1]: $131,300

SMP 3 - Energy Conservation Detailed ROI									
Project	Implementation Cost	Annual Labor Cost[2]	Anticipated Annual Return[3] (%)	Cumulative Net Return by Year[4] ($)					5-year ROI[5]
				Year 1	Year 2	Year 3	Year 4	Year 5	
1) Conduct energy audits and develop and implement energy conservation projects.	$0[6]	$1,120	10%[7]	$12,010	$24,020	$36,030	$48,040	$60,050	1072%
2) Implement and maintain a commissioning program for new and existing buildings.	$19,227[8]	$2,800[9]	14%[10]			-$3,695	$14,687	$33,069	150%
3) Increase the amount of renewable energy used by Votran by installing solar panels on new and existing buildings.	$0[11]	$3,500[12]	5%[13]			$3,065	$9,630	$16,195	463%
4) Identify opportunities to implement energy saving management practices through personnel training and operational controls.	$0[14]	$1,260	0.5%	-$604	-$1,207	-$1,811	-$2,414	-$3,018	-48%
Total Implementation Cost:	**$19,227**	**$8,680**	**Cumulative Net Return:**	**$11,407**	**$22,813**	**$33,590**	**$69,943**	**$106,297**	**284%**

Note:

[1]Annual energy expenditures calculated using the average of Votran's FY2007-2009 energy bills from Progress Energy and Florida Power and Light.
[2]Annual labor costs include estimated person hours for project implementation and labor rate of $35/hour.
[3]Preliminary annual return is based on comparative industry best management practices and agreed upon values from the 3/12/2010 Votran sustainability workshop.
[4]Implementation cost is subtracted from the net return during the first year of implementation.
[5]Return on investment calculated as: (5-year return - implementation costs) / implementation costs.
[6]No implementation cost is included due to the ongoing ECT audit which is expected to include energy efficiency recommendations.
[7]Annual return is a conservative estimate based on implementation of energy conservation opportunities identified during an energy audit. More detailed information is expected to be provided in the ongoing ECT audit.
[8]Implementation costs based on the estimated number of thermostats and light ballasts at the Big Tree Road Administration Building only. Costs for energy star programmable thermostats ($92) and energy efficient lights ($35/lamp) were determined using United States Environmental Protection Agency (USEPA) and American Council for an Energy Efficient Economy (ACEEE) data. Roof replacement and HVAC retro-commissioning were identified as capital fund projects during the 3/12/2010 Votran sustainability workshop, and were therefore not included in the implementation cost.
[9]Annual labor rate was applied to year 3 only following implementation of commissioning projects.
[10]Net return includes installation of programmable thermostats and energy-efficient lighting retrofits at the Big Tree Road Administration Building only. Annual returns were provided by the Department of Energy (DOE). Calculations for net return do not include roof replacement or HVAC upgrades.
[11]Project funding source was identified as capital funds during the 3/12/2010 sustainability workshop.
[12]Annual labor rate was applied to year 3 only following selection and installation on renewable energy projects.
[13]Calculation assumes 5,000 square feet of solar panels installed at the Big Tree Road facility. A broad estimated cost for a system of this size is approximately $790,000. An installation of this size is expected to generate 65,700 kWh's per year, or 5% of Votran's annual facility energy consumption.
[14]Project funding source was identified as capital funds during the 3/12/2010 sustainability workshop, and is therefore not included in the implementation cost estimate.

Estimated annual Westside Facility operating expenditures with existing design[1]: **$70,589**

SMP 4 - Sustainable Buildings Detailed ROI									
				Cumulative Net Return by Year ($)					
Project	Implementation Cost[2]	Annual Labor Cost[3]	Anticipated Annual Return[4] (%)	Year 1	Year 2	Year 3	Year 4	Year 5	5-year ROI[5]
1) Establish a standard framework for sustainable facility design.	$0	$350	27.5%				$19,062	$38,474	10,993%
Total Implementation Cost:	**$0**	**$350**	**Cumulative Net Return:**	**$0**	**$0**	**$0**	**$19,062**	**$38,474**	**10,993%**

Note:

[1]Annual operating costs under traditional building design for the proposed Westside Facility were assumed to be one half of the existing energy and water usage at Votran's Big Tree Road facility. This estimate assumed that maintenance buildings at the Big Tree facility consume one half of the facilities power and water, and that a similar design for the Westside facility would have comparable operating costs with a similar design. Details regarding construction of the Westside Facility were provided by Votran staff during the 3/12/2010 sustainability workshop.

[2]Project funding source for the Westside Facility was identified as capital funds during the 3/12/2010 sustainability workshop, and is therefore not included in the implementation cost estimate.

[3]Annual labor costs include estimated person hours for project implementation and a labor rate of $35/hour.

[4]Preliminary annual return is based on annual energy savings of 25-30% and annual water savings of 20-30% relative to ASHRAE 90.1 building design standards. An annual return of 27.5% was conservatively applied based on these combined savings and energy efficiency improvements provided by the U.S. Green Building Council (2008).

[5]Return on investment calculated as: (5-year return - implementation costs) / implementation costs.

Annual energy expenditures from electrical equipment[1]: **$4,455**

SMP 5 - Electronic Stewardship Detailed ROI									
Project	Implementation Cost[2]	Annual Labor Cost[3]	Anticipated Annual Return (%)	Cumulative Net Return by Year[4] ($)					5-year ROI[5]
				Year 1	Year 2	Year 3	Year 4	Year 5	
1) Develop policies and procedures to acquire 95% of required electronic products with silver or above EPEAT-registration.	$0	770	39%[6]			$967	$1,935	$2,902	1131%
2) Develop policies and procedures to ensure Energy Star® power management features enabled on 100% of facility computers and monitors.	$0	630	8.3%[7]			-$260	-$520	-$781	-372%
3) Develop and implement criteria and guidelines for purchase, operation and maintenance to extend the useful life of facility electronic equipment to four years or more.	$0	420	20%[8]			$471	$942	$1,413	112%
4) Implement procedures for end-of-life management of electronic equipment.	$0[9]	350	0	-$350	-$700	-$1,050	-$1,400	-$1,750	--
Total Implementation Cost:	**$0**	**$2,170**	**Cumulative Net Return:**	**-$350**	**-$700**	**$128**	**$956**	**$1,785**	**25%**

Note:

[1]Annual operating costs of electronic equipment were determined based on average energy usage of non-energy star equipment. Calculation includes 61 computers, 61 monitors, 24 printers, and 3 copiers (data provided by Votran on 3/31/2010). Annual energy use in the above example is based on the US Department of Energy's assumptions for typical office operating practices, including a 9.5 hour work day with 8.5 hours of standby (inactive) time and 268 operating days per year.

[2]Implementation costs are anticipated to be minimal, as energy star rated electronics are comparable in price to non-rated electronic equipment. Replacement of existing electronic equipment with energy star rated equipment was assumed to occur during Votran's normal replacement schedule.

[3]Annual labor costs include estimated person hours for project implementation and a labor rate of $35/hour.

[4]Implementation cost is subtracted from the net return during the first year of implementation.

[5]Return on investment calculated as: (5-year return - implementation costs) / implementation costs.

[6]Annual return is based on existing energy expenditures from electronic appliances (computers, monitors, printers, and copiers). Savings were calculated based on improved energy efficiency following replacement with energy star rated equipment. Calculation includes 61 computers, 61 monitors, 24 printers, and 3 copiers (data provided by Votran on 3/31/2010).

[7]Annual return is based on existing energy expenditures resulting from wasted stand-by power. Savings were calculated based on improved energy efficiency during stand-by mode from energy star rated electronic equipment.

[8]Annual returns are based on improving the useful life of computers and monitors by one year (from 4 years to 5 years) compared to existing practices. Calculation includes 61 computers used by non-driving employees.

[9]End of life management assumes proper disposal of electronic equipment. Currently no implementation cost or annual return is associated with proper end of life management through existing Votran disposal practices.

Legend:

--: Indicates no direct ROI.

Annual Solid Waste Expenditures[1]: **$6,814**

SMP 6 - Solid Waste Detailed ROI									
Project	Implementation Cost	Annual Labor Cost[2]	Anticipated Annual Return (%)	Cumulative Net Return by Year[3] ($)					5-year ROI[4]
				Year 1	Year 2	Year 3	Year 4	Year 5	
1) Optimize solid waste collection and pickups.	$0[5]	$1,820	50%[6]			$1,587	$3,174	$4,761	87%
2) Establish a recycling coordination team to oversee recycling efforts and identify recycling opportunities.	$0[5]	$1,680	11%[7]	-$930	-$1,861	-$2,791	-$3,722	-$4,652	-55%
4) Collect and recycle all recyclable materials.	$0[5]	$910	0%[8]	-$910	-$910	-$1,820	-$2,730	-$3,640	-80%
5) Reduce solid waste generated through vehicle maintenance.	$0[5]	$350	1%[7]	-$282	-$564	-$846	-$1,127	-$1,409	-81%
Total Implementation Cost:	**$0**	**$4,760**	**Cumulative Net Return:**	**-$2,122**	**-$3,335**	**-$3,870**	**-$4,405**	**-$4,941**	**-25%**

Note:

[1]Annual solid waste expenditures calculated using Votran's 2009 solid waste and recycling services bills.

[2]Annual labor costs include estimated person hours for project implementation and a labor rate of $35/hour.

[3]Implementation cost is subtracted from the net return during the first year of implementation.

[4]Return on investment calculated as: (5-year return - implementation costs) / implementation costs.

[5]No anticipated costs are anticipated to implement solid waste reduction or recycling programs through existing county contracts. If recycling volumes increase beyond existing disposal capacity additional costs may be required for additional recycling containers.

[6]Annual return assumes a 50% reduction in either pickup frequency or number of solid waste containers at the Big Tree Road and Transfer Station facilities. This also assumes renegotiation of the solid waste disposal contract based on reduced solid waste disposal volumes and pickup frequency.

[7]Preliminary annual return is based on comparative industry best management practices and agreed upon values from the 3/12/2010 Votran sustainability workshop. ROI is based on solid waste cost avoidance following a reduction in solid waste disposal volumes.

[8]No annual return is expected based on county recycling contracts. However, recyclables represent a potential revenue stream, but will require the county to renegotiate recycling contracts prior to realization of recycling revenue.

Annual Paper Expenditures[1]: $4,475

SMP 7 - Paper Reduction Detailed ROI									
Project	Implementation Cost	Annual Labor Cost[2]	Anticipated Annual Return (%)	Cumulative Net Return by Year[3] ($)					5-year ROI[4]
				Year 1	Year 2	Year 3	Year 4	Year 5	
1) Identify alternatives to paper manifests and other recording procedures for drivers, ride supervisors, dispatchers and maintenance.	$0[5]	$840	10%[9]			-$393	-$785	-$1,178	-47%
2) Identify alternatives to paper announcements and bulletin board materials used to communicate with drivers.	$750[6]	$560	5-10%[10]	-$1,086	-$1,423	-$1,535	-$1,648	-$1,760	-63%
3) Develop and implement policies to reduce paper consumption	$900[7]	$595	10%[11]			-$1,048	-$1,195	-$1,343	-50%
4) Assess alternatives to internal and external paper correspondence.	$0[8]	$700	5-40%[12]	-$476	-$953	-$981	-$1,010	$80	2%
Total Implementation Cost:	**$1,650**	**$2,695**	**Cumulative Net Return:**	**-$1,563**	**-$2,375**	**-$3,956**	**-$4,638**	**-$4,200**	**-34%**

Note:

[1]Annual paper expenditures were provided by Votran for FY2009.

[2]Annual labor costs include estimated person hours for project implementation and a labor rate of $35/hour.

[3]Implementation cost is subtracted from the net return during the first year of implementation.

[4]Return on investment calculated as: (5-year return - implementation costs) / implementation costs.

[5]Because Votran has already implemented the Trapeze software module, implementation costs are not included in this estimate. Estimated annual maintenance costs for Trapeze software is also not included in this estimate.

[6]Average price for a 32 inch flat screen LCD television and wall mount to be used as an electronic message board.

[7]The purchase on one double-sided printer to coincide with the implementation of a double-sided printing policy was included in the implementation cost.

[8]No implementation costs are anticipated to switch from paper to digital internal and external correspondence.

[9]Annual return is based on elimination of daily paper manifests from driver, dispatch, and supervisor reports. Information on daily paper manifest reports was supplied by Votran.

[10]Preliminary annual return is based on comparative industry best management practices and agreed upon values from the 3/12/2010 Votran sustainability workshop. Conservatively assumes a 5% return from the installation of an electronic message board during years 1 and 2, followed by an additional 5% return with the installation of permanent signage during years 3, 4, and 5.

[11]Preliminary annual return is based on comparative industry best management practices and agreed upon values from the 3/12/2010 Votran sustainability workshop.

[12]A 5% return was applied during years 1 and 2 from implementation of centralized trash collection areas and paper recycling at employee desks. Completion of a paper waste audit and incorporation of best management practice findings added an additional 10% reduction in years 3 and 4. Transition to digital tracking and filing systems in year 5 incorporated an additional estimated 25% reduction in internal paper consumption. The 5-40% annual return range includes phased implementation of centralized trash collection, paper recycling at desks, paper waste audits, and transition to digital tracking and filing systems. All reduction estimates are based on comparative industry best management practices and agreed upon values from the 3/12/2010 Votran sustainability workshop.

Annual Estimated Water Consumption Expenditures[1]: **$9,864**

SMP 8 - Water Consumption Detailed ROI									
Project	Implementation Cost	Annual Labor Cost[2]	Anticipated Annual Return[3] (%)	Cumulative Net Return by Year[4] ($)					5-year ROI[5]
				Year 1	Year 2	Year 3	Year 4	Year 5	
1) Identify and implement procedures to reduce the use of potable water in facilities.	$1930[6]	$140	10%	-$1,084	-$237	$609	$1,456	$2,302	88%
2) Identify and implement procedures to reduce the use of potable water for outdoor irrigation.	$55[7]	$140	0%	-$195	-$335	-$475	-$615	-$755	--
3) Identify and implement procedures to reduce the use of potable water for bus wash.	$0[8]	$140	0.6%[9]	-$81	-$162	-$242	-$323	-$404	-58%
Total Implementation Cost:	**$1,985**	**$420**	**Cumulative Net Return:**	**-$1,359**	**-$734**	**-$108**	**$518**	**$1,143**	**28%**

Note:

[1]Annual water use and associated expenditures were calculated using Votran's 2009 water bill from the City of South Daytona.

[2]Annual labor costs include estimated person hours for project implementation and a labor rate of $35/hour.

[3]Preliminary annual return is based on comparative industry best management practices for low flow faucets, low flow toilets, and high efficiency rotary sprinklers. Votran's FY 2009 water bills and other agency specific information provided by Votran on 3/21/2010 were used to quantify annual returns.

[4]Implementation cost is subtracted from the net return during the first year of implementation.

[5]Return on investment calculated as: (5-year return - implementation costs) / implementation costs.

[6]Implementation cost includes replacement of existing fixtures with low flow faucet aerators and low flow toilets. Facility data, including number of bathrooms and fixtures, for Votran's Big Tree Road facility was provided by the Volusia County property appraiser's office.

[7]Implementation costs for irrigation improvements include the retrofit of existing sprinkler heads with high efficiency rotary sprinkler heads. Irrigation at the Big Tree Road facility was estimated using aerial photographs to estimate the irrigation area as well as the area covered by the rotary sprinkler heads (excluding stormwater retention ponds and parking lot greenspace). No return is expected as Votran currently using well water for irrigation, however indirect benefits to the environment may be achieved through reduced shallow aquifer consumption.

[8]Project funding source for building and/or facilities improvements were assumed to be capital funds, and are therefore not included in implementation cost estimates.

[9]Information by Votran indicated that bus wash water is replenished with approximately 3,000 gallons of potable water every 3 months (12,000 gallons/yr). Annual returns assume 100% replenishment with non-potable (rainwater or greywater) water sources.

Legend:

--: Indicates no direct ROI.

Sustainability Management Plan Indirect Benefits				
SMP	Implementation Cost[1]	Annual Labor Cost[2]	Indirect Benefit	Return on Investment[3]
SMP 9 - Hazardous Materials Management	$0	$840	Reduced liability and regulatory burden.	$9,840
SMP 10 - Green Purchasing	$0	$1,190	Reduced exposure of employees to chemicals.	-$1,075
SMP 11 - Pest Management	$0	$455	Reduced impact on the environment.	$3,040
			Total Net 5-year ROI:	**$11,805**

Notes:

[1]Implementation costs for replacement of hazardous materials, procurement of green products, and renegotiation of pest management contracts are not anticipated to increase following implementation of the SMPs.

[2]Annual labor costs include estimated person hours for project implementation and a labor rate of $35/hour.

[3]The return on investment attempts to quantify the potential savings associated with the indirect benefits.

Annual Hazardous Waste Expenditures[1]: **$18,127**

SMP 9 - Hazardous Material Management Detailed Indirect ROI[5]										
					Cost Avoidance ($)					
Project	Implementation Cost[2]	Potential fine associated with audit findings[3]	Annual Labor Cost[4]	Potential for audit (%)[5]	Year 1[6]	Year 2[6]	Year 3[6]	Year 4[6]	Year 5[6]	5-Year ROI[7]
3) Identify processes and practices that generate hazardous waste and determine ways to minimize or reduce the amount of hazardous waste generated each month.	$0	$8,800	$840	30%	$1,800	$3,600	$5,400	$7,200	$9,840	234%
Total Implementation Cost:	**$0**	**$8,800**	**$840**	**Cumulative Cost Avoidance:**	**$1,800**	**$3,600**	**$5,400**	**$7,200**	**$9,840**	**234%**

Notes:

[1]Annual hazardous waste expenditures based on annual used oil disposal (HowCo at $10,720) and solvent disposal (Safety-Kleen at $7,407) costs.

[2]Implementation costs for replacing hazardous materials is not anticipated to increase following implementation of the sustainability management plans.

[3]Assuming a potential fine associated with current hazardous waste management is difficult to determine without conducting a full scale compliance audit. It is assumed, based on current practices, that potential audit findings would fall in the moderate/moderate rage (e.g., $8,799 a day) and there will be no more than 3 audit findings. Additional information on potential penalty amounts is provided in EPA's RCRA Penalty Assessment Matrix (http://www.epa.gov/compliance/resources/policies/civil/rcra/rcpp2003-fnl.pdf). For purposes of this ROI multi-day or continuous violations have not been calculated

[4]Annual labor costs include estimated person hours for project implementation and a labor rate of $35/hour.

[5]Based on Votran's size of operation and potential environmental impact, it is assumed that Votran is at a moderate to low risk (30%) for an EPA/FL DEP inspection each year.

[6]Yearly cost avoidance is based on risk, and is assumed to be 30% of total potential fine amount.

[7]Return on investment calculated as: (5-year return - implementation costs) / implementation costs.

Hazardous Material Indirect ROI Discussion:

According to EPA's web site, Votran is considered a small quantity generator of hazardous waste. As such Votran generates between 100 kilograms and 1,000 kilograms of hazardous waste a month. As a small quantity generator of hazardous waste Votran has specific regulatory liabilities associated with the proper storage, recordkeeping, and overall management of hazardous waste. If improperly managed, hazardous waste can endanger human health and the environment, lead to large fines, and possible criminal changes. As such, the management of hazardous waste represents a high risk to Votran.

By eliminating potentially hazardous materials and replacing them with more environmentally friendly substitutes, Votran has the potential to eliminate the regulatory burden that comes with the management of hazardous materials and hazardous waste. In addition to a reduced regulatory burden, the removal of hazardous materials and waste from Votran's facility can help improve the overall work environment. The green purchasing indirect ROI discussion provides more information on the indirect benefits of an improved work environment.

Votran currently pays Safety-Kleen approximately $7,407 a year to dispose of solvent parts washer wastes. This parts washing waste represents one of the largest hazardous waste streams contributing to Votran's small quantity generator status. However, Safety-Kleen offers an aqueous based parts washer that is considered to be as effective as its solvent based equivalent. By simply switching out the solvent parts washers with aqueous based parts washers, Votran will have the ability to remove a large component of it hazardous waste stream and eliminate the associated regulatory burden. Removing the solvent parts washers will also eliminates the potential for law suits associated chemical exposure.

Annual housekeeping/cleaning product expenditures[1]: **$39,000**

SMP 10 - Green Purchasing Detailed Indirect ROI[4]									
Project	Implementation Cost[2]	Annual Labor Cost[3]	Anticipated Annual Return[4] (%)	Cost Avoidance ($)					5-year ROI
				Year 1	Year 2	Year 3	Year 4	Year 5	
1) Develop and implement a green purchasing plan to reduce the volume of toxic chemicals purchased.	$0	$980	1.25%	-$493	-$985	-$1,478	-$1,970	-$2,463	-50%
2) Develop and implement a green purchasing plan to increase the purchase of environmentally friendly or USDA-approved biobased products.	$0	$210	1.25%	$278	$555	$833	$1,110	$1,388	132%
Total Implementation Cost:	**$0**	**$1,190**	**Cumulative Cost Avoidance:**	**-$215**	**-$430**	**-$645**	**-$860**	**-$1,075**	**-18%**

Notes:

[1]Annual housekeeping/cleaning products expenditures for 2009 provided by Votran.

[2]Implementation costs for purchase of green products is not anticipated to increase following implementation of the sustainability management plans.

[3]Annual labor costs include estimated person hours for project implementation and a labor rate of $35/hour.

[4]A conservative annual return has been applied based on a Santa Monica California Case Study, which reports a 5% return over two years. The anticipated annual return applied here also assumes potential indirect benefits from reduced employee exposure to chemicals, reduced cost in waste management and reduced liabilities.

Green Purchasing Indirect ROI Discussion:

At first sight, many "green" cleaning products may seem more expensive than standard products. However, many "green" cleaning products are competitively priced and can actually generate savings when indirect benefits are taken into account. Implementing a green purchasing program can improve indoor air quality, reduce cleaning-related health problems and employee absenteeism, reduce the cost of waste management and reduce regulatory liabilities.

Organizations have seen cost savings by switching to green products as part of an overall green purchasing program. Santa Monica California estimates that it saved approximately 5 percent over a two year period by purchasing alternative cleaning products rather than traditional products. This cost savings resulted in part from the reduced packaging and shipping costs associated with concentrated products. In addition, improved custodial training led to more efficient use of products, which also contributed to cost savings. See City of Santa Monica's Environmental Purchasing a Case Study; EPA742-R-98-001 available at http://www.epa.gov/epp/pubs/case/santa.pdf.

In addition to switching to "green" cleaning products, a successful green purchasing program looks at ways to reduce the amount hazardous materials managed. The removal of hazardous materials and waste from Votran's facility can help improve the overall work environment for its employees by minimizing potential exposure from hazardous and toxic materials. Removing the potential for chemical exposure also eliminates the risk from law suits associated chemical exposure.

Another green purchasing strategy is integrated pest management (IPM). IPM strives to minimize environmental impact and risks, while optimizing benefits of pest management efforts. IPM is a systems approach that utilizes decision making procedures based on either quantitative or qualitative observations of the pest problem. IPM approaches integrate preventive and corrective measures to keep pest from causing significant problems while minimum risk to human health and the environment.

Implementing an IPM program can help reduce exposure of employees, residents and the environment to potentially toxic pesticides. In addition, because integrated pest management employs commonsense strategies to reduce sources of food, water and shelter for pests, it is usually a less costly option.

Annual Pest Management Expenditures[1]: **$7,086**

SMP 11 - Pest Management Detailed ROI									
Project	Implementation Cost[2]	Annual Labor Cost[3]	Anticipated Annual Return[4] (%)	Cost Avoidance ($)					5-year ROI
				Year 1	Year 2	Year 3	Year 4	Year 5	
1) Follow standard Integrated Pest Management (IPM) practices.	$0	$455	15%	$608	$1,216	$1,824	$2,432	$3,040	134%
Total Implementation Cost:	**$0**	**$455**	**Cumulative Cost Avoidance:**	**$608**	**$1,216**	**$1,824**	**$2,432**	**$3,040**	**134%**

Notes:

[1]Cost of current pest management provided by Votran.

[2]Implementation costs for implementing an IPM program is not anticipated to increase following implementation of the sustainability management plans.

[3]Annual labor costs include estimated person hours for project implementation and a labor rate of $35/hour.

[4]Based on Santa Monica case Study, it is anticipated that an integrated pest management approach can save up to 30 percent compared to traditional method of pesticide management. Case Study Available at http://www.epa.gov/epp/pubs/case/santa.pdf. A conservative annual return based on Case Study was applied to Votran scenario, this annual return also assumes potential indirect benefits of reduces exposure of employees, residents and the environment to potentially toxic pesticides.

Integrated Pest Management Indirect ROI Discussion:

IPM strives to minimize environmental impact and risks, while optimizing benefits of pest management efforts. IPM is a systems approach that utilizes decision making procedures based on either quantitative or qualitative observations of the pest problem. IPM approaches integrate preventive and corrective measures to keep pest from causing significant problems while minimum risk to human health and the environment.

Implementing an IPM program can help reduce exposure of employees, residents and the environment to potentially toxic pesticides. In addition, because integrated pest management employs commonsense strategies to reduce sources of food, water and shelter for pests, it is usually a less costly option.

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Appendix G
Sustainability Funding Matrix

2011 Sustainability Planning Funding									
Fund Name	Source	Grantor	Amount	Total	Eligibility	Competitive (Y/N)	Opening Date	Application Deadline	Description
Florida Clean Energy Grants	State of Florida	FECC	$100,000 - $500,000	$10 million	Public, Non-profit & agricultural entities	Yes	Pending	Pending	The Clean Energy Grant program will provide funding to promote energy efficiency measures and renewable energy deployment for eligible public, not-for-profit, and agricultural entities. The maximum amount for an individual award is $500,000 with a minimum amount of $100,000. The program will be subdivided into two categories. Eligible applicants under Category 1 ($8,000,000) include Florida state and local governments who did not receive a direct allocation of funds from the U.S. DOE for the Energy Efficiency Conservation Block Grant Program, school districts, public universities and colleges, Florida Constitutional Officers, independent special districts, and not-for-profit companies. Existing Florida farms and farm operations will be considered eligible applicants under Category 2 ($2,000,000). **Applicable SMP: SMP3**

2011 Sustainability Planning Funding									
Fund Name	Source	Grantor	Amount	Total	Eligibility	Competitive (Y/N)	Opening Date	Application Deadline	Description
Sustainable Communities Planning Grant Program	Federal	HUD	$499,999 - $5 million	$100 million	Regional entities, Consortia of local governments	Yes	Pending (April 2010)	Pending (June 2010)	Funding to support the preparation of Regional Plans for Sustainable Development that address housing, economic development, transportation, and environmental quality in an integrated fashion where such plans do not currently exist; Funding to support the preparation of more detailed execution plans and programs to implement existing regional sustainable development plans (that address housing, economic development, transportation, and environmental quality in an integrated fashion); and Implementation funding to support regions that have regional sustainable development plans and implementation strategies in place and need support for a catalytic project or program that demonstrates commitment to and implementation of the broader plan. **Applicable SMP: SMP2**

2011 Sustainability Planning Funding									
Fund Name	**Source**	**Grantor**	**Amount**	**Total**	**Eligibility**	**Competitive (Y/N)**	**Opening Date**	**Application Deadline**	**Description**
Job Access and Reverse Commute Formula Program (Section 5316)	Federal	DOT	Pending - based on formula.	$166 Million	States	No - Formula	Pending	Pending	Livable Communities include providing transportation services to connect welfare recipients and low-income persons to employment and employment support services, such as training and child-care facilities. Funds may be used to support capital projects, usually vehicle acquisitions and customer information technology, mobility management, and to finance operating costs of equipment, facilities and associated support costs related to providing access to jobs. Funds are provided for projects relating to the development and maintenance of transportation services, including:1) Transportation projects to finance planning, capital, and operating costs of providing access to jobs; 2) Promoting public transportation for low income workers, including the use of public transportation by workers with nontraditional work schedules; 3) promoting the use of transit vouchers for welfare recipients and eligible low-income individuals; and 4) promoting the use of employer-provided transportation. Funding through this program will be provided to states through a formula allocation that will ensures that all 50 states plus the District of Columbia receive a predictable level of funding. **Applicable SMPs: SMP1, SMP2**

2011 Sustainability Planning Funding									
Fund Name	Source	Grantor	Amount	Total	Eligibility	Competitive (Y/N)	Opening Date	Application Deadline	Description
Alternatives Analysis Program (Section 5339)	Federal	DOT	Pending	$25 million	State and local government al authorities	Yes	Pending	Pending	The Alternatives Analysis Program provides $25.3 million to prepare studies of alternative transportation projects in corridors and subareas where major transit investments can address the mobility and livability goals. The information developed in these studies provides a sound basis for local decisions on transit alternatives that support communities and the livability of people within those communities by increasing access to jobs, health and social services, entertainment, educational opportunities, and other activities of daily life, while also improving mobility within and among these communities. **Applicable SMPs: SMP1, SMP2**
Planning formula program (Section 5305)	Federal	DOT	Pending - based on formula.	$95 million	States and MPOs.	No - Formula	Pending	Pending	$95.1 million will be available through the Metropolitan Planning formula program. This funding will be apportioned to the states, and states will distribute the funds (via a state-developed and FTA-approved formula) to MPOs. These funds support planning activities and enable regional planning agencies to identify the transportation investments that best meet the needs of the communities. **Applicable SMPs: SMP1, SMP2**

2011 Sustainability Planning Funding									
Fund Name	**Source**	**Grantor**	**Amount**	**Total**	**Eligibility**	**Competitive (Y/N)**	**Opening Date**	**Application Deadline**	**Description**
Greenhouse Gas and Energy Reduction	Federal	DOT	Pending	$53 million	Transit Agencies	Yes	Pending	Pending	Transportation has a large role to play in reducing greenhouse gas emissions as it accounts for 28 percent of all U.S greenhouse gas emissions—second only to emissions from utilities. Public transportation offers a low-emissions alternative to driving and facilitates compact development, further reducing travel distances and a community's carbon footprint. The FTA fiscal year 2011 budget consolidates existing research programs under a new "Greenhouse Gas and Energy Reduction" account funded at $53 million to help deploy and demonstrate practical and common-sense public transportation solutions to reduce greenhouse gas emissions and promote public health. **Applicable SMP: SMP2**

2011 Sustainability Planning Funding									
Fund Name	**Source**	**Grantor**	**Amount**	**Total**	**Eligibility**	**Competitive (Y/N)**	**Opening Date**	**Application Deadline**	**Description**
Urbanized Area Formula Grant (Section 5307)	Federal	DOT	Pending	$4 billion	Areas with populations greater than 50,000	No - Formula	Pending	Pending	Funds will be apportioned to areas with populations of 50,000 or more. Funds may be used for any transit capital purpose, including preventive maintenance for capital assets in urban areas over 200,000 in population. In urban areas fewer than 200,000, both capital and operating costs are eligible expenditures. Eligible capital expenses include: planning; bus, van, railcar, intelligent transportation systems (ITS), and equipment purchases; facility repair and construction; new technology introduction; and preventive maintenance. Capital costs also include: incidental expenses of acquisition or construction; costs of rehabilitating or remanufacturing a bus; costs of overhauling and modernizing rail rolling stock and facilities; and certain joint development activities in and around transit stations. Capital costs may also include leasing equipment or a facility for use in public transportation, when these alternatives are more cost-effective than acquisition or construction. **Applicable SMPs: SMP1, SMP4, SMP5, SMP7**

2011 Sustainability Planning Funding									
Fund Name	Source	Grantor	Amount	Total	Eligibility	Competitive (Y/N)	Opening Date	Application Deadline	Description
Bus and Rail State of Good Repair (Section 5309)	Federal	DOT	Pending	$2.8 billion	Transit Agencies	No - Formula	Pending	Pending	Funding for the Bus and Rail State of Good Repair program will help maintain and improve the conditions of bus and rail systems nationwide. The state of repair of the over 92,000 buses and maintenance facilities nationwide are considered to be at risk. Over 15 percent of the bus vehicle fleet remains in use beyond its expected service life. Vans, paratransit vehicles and small buses, in general, decay more rapidly than full-size buses. Over 77 percent of the bus maintenance facilities in urban areas are in less than "good condition." The focus on "asset management" of bus and rail transit infrastructure will enable transit agencies to take inventory of the capital assets, assess the condition of those assets, use objective and quantitative analysis to estimate reinvestment needs over the long term, and prioritize their capital investments. Funds will be available to invest in bus and related capital projects and the acquisition, reconstruction and improvement of facilities and equipment. **Applicable SMPs: SMP1, SMP4**
Community Action for a Renewed Environment (CARE)	Federal	EPA	Pending	Pending	Local, public non-profit institution / organizations and local government.	Yes	Pending	Pending	A competitive grant program that offers an innovative way for a community to organize and take action to reduce toxic pollution in its local environment. Through CARE, a community creates a partnership that implements solutions to reduce releases of toxic pollutants and minimize people's exposure to them. By providing financial and technical assistance, EPA helps CARE communities get on the path to a renewed environment. **Applicable SMPs: SMP6, SMP9, SMP10, SMP11**

2011 Sustainability Planning Funding									
Fund Name	**Source**	**Grantor**	**Amount**	**Total**	**Eligibility**	**Competitive (Y/N)**	**Opening Date**	**Application Deadline**	**Description**
Climate Showcase Communities Grants	Federal	EPA	Pending	$10 million	A county, municipality, city, town, township, local public authority or any agency or instrumentality of a local government.	Yes	Pending	Pending	A competitive grant program to assist local and tribal governments in establishing and implementing climate change initiatives. The overall goal of the Climate Showcase Communities grant program is to create replicable models of sustainable community action that generate cost-effective and persistent greenhouse gas reductions while improving the environmental, economic, public health, or social conditions in a community. **Applicable SMPs: SMP1, SMP2, SMP 3**

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Appendix H
Votran's GHG Inventory

Preliminary Votran Greenhouse Gas (GHG) Emissions Inventory (Scope 1 and 2)										
Scope 1							Scope 2			
Fiscal Year	Annual Diesel Consumption[1] (Gallons)	Annual Diesel GHG Emissions[2] ($MTCO_2e$)	Annual Fuel Oil Consumption[1] (Gallons)	Annual Fuel Oil GHG Emissions[2] ($MTCO_2e$)	Annual Estimated Propane Consumption[1] (Gallons)	Annual estimated Propane GHG Emissions[2] ($MTCO_2e$)	Annual Purchased Electricity[1] (Kwh)	Annual GHG Emissions from Purchased Electricity[2] ($MTCO_2e$)	Total Votran GHG Emissions	% Reduction From FY2007 Baseline
2007	870,645	8,842	4,707	42	1,500	2	1,203,840	723	9,609	**Baseline**
2008	867,328	8,808	3,863	34	1,500	2	1,121,108	673	9,518	0.9
2009	839,339	8,524	3,451	31	1,500	2	1,256,337	754	9,311	3.1
2010										
2011										
2012										
2013										
2014										
2015										
2017										
2018										
2019										
2020										
2021										
2022										
2023										
2024										
2025										

Notes:

10% GHG emissions reduction target by 2012 established by Executive Order 07-127.

25% GHG emissions reduction target by 2017 established by Executive Order 07-127.

40% GHG emissions reduction target by 2025 established by Executive Order 07-127.

[1]Diesel, fuel oil, propane consumption, and purchased electricity data were provided by Votran following the project kickoff meeting.

[2] Emissions were calculated using The World Resources Institutes Greenhouse Gas Protocols available at http://www.ghgprotocol.org/calculation-tools/all-tools.

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