



**SEP-TAINABLE:
THE ROUTE
TO REGIONAL
SUSTAINABILITY**

JANUARY 2011

SUSTAINABILITY IN A “FAST AND EVER-CHANGING WORLD”

A Letter From the General Manager

When SEPTA bought its first hybrid-electric bus in 2002, it demonstrated what many of us at SEPTA believed for a long time—that the future of transit depends on its ability to provide the most efficient means of getting to where you want to go.

Eight years later, we have come to understand that the real benefits of that purchase – and of transit in general – extends well beyond fuel economy. SEPTA empowers residents to achieve financial independence to develop healthy lifestyles, and to reside in clean and livable communities. For these reasons, we believe SEPTA is the key to our region’s long-term sustainability.

There has never been a better time to plan for sustainability. Accelerating economic turmoil and environmental degradation have touched every corner of the world. Concerns over resource scarcity, financial stability, and national security have become heightened as a sense of uncertainty continues to cloud recovery.

At SEPTA, we too find ourselves in a position of uncertainty. Lingering regional unemployment has limited ridership growth and state transportation capital funding has been cut by \$110 million. The resulting constraints have forced cutbacks on previously-planned projects funded through the operating and capital budgets.

SEPTA cannot afford to wait for funding fixes or economic recovery. The region cannot afford further decline of its transit infrastructure.

The economic, social, and environmental challenges facing SEPTA as an organization, and Greater Philadelphia as a region, are far too important to depend on external influences to determine our fate.

SEP-TAINABLE is our plan for shaping this destiny. By proactively mitigating environmental impacts, building a versatile workforce, and ensuring fiscal stability, SEPTA will become a more competitive transit system and serve as an attractive mobility alternative. A more competitive transit system, in turn, will improve environmental stewardship, help to build livable communities, and increase economic prosperity across Greater Philadelphia. In other words, by becoming more sustainable now, SEPTA will be prepared for – and indeed help create – a more environmentally, socially, and economically sustainable future for the entire region.

On behalf of the SEPTA Board, I am pleased to share SEP-TAINABLE with you. Of course, a plan is only the first step in a long process of implementation. For that, we will be looking to you for support. But the leadership already exhibited across this region in implementing sustainability agendas gives me great hope that by 2015, we will have accomplished most, if not all, of the ambitious initiatives included in this program. Most importantly, our progress will contribute to making Greater Philadelphia the most sustainable, mobile, and competitive region in America.

Joseph M. Casey
General Manager



Introduction

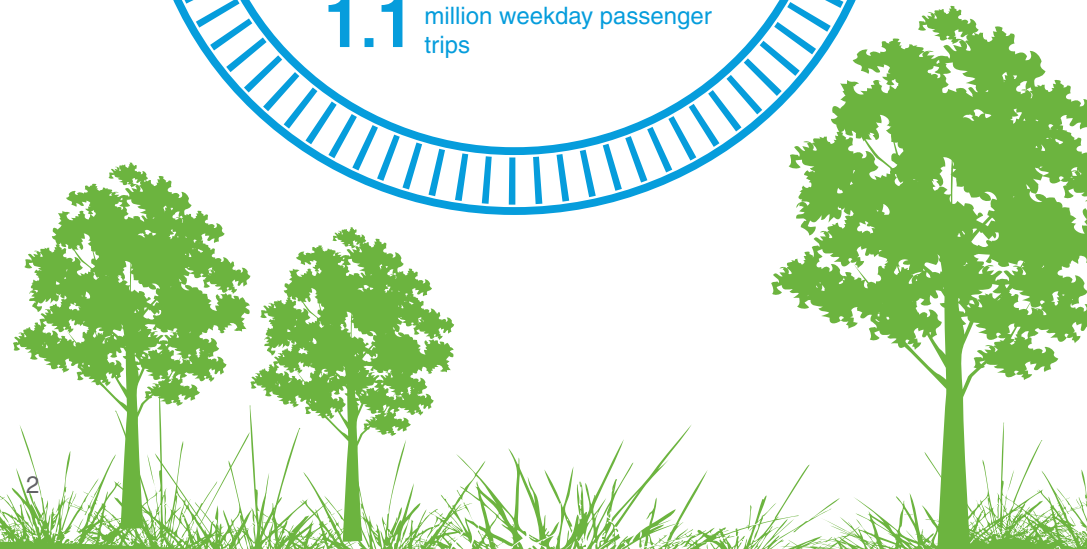
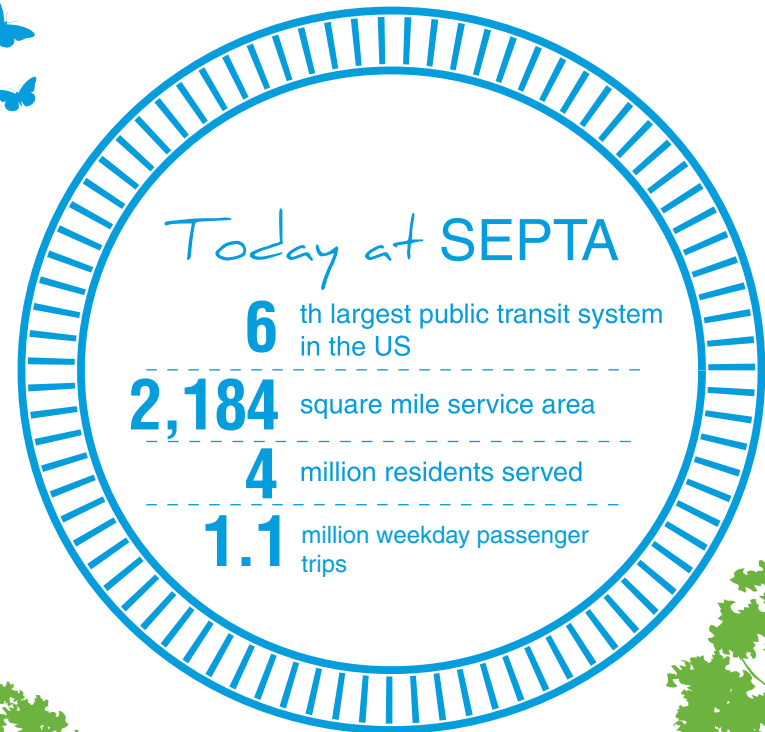
Greater Philadelphia grew up around its transit system. From its famed city streetcars to historic Main Line communities, the region's history has been enriched by a legacy left by generations of investments in public transportation.

In the second half of the 20th century, the world changed. The advent of the interstate highway system and an era of low energy prices, combined with policies that encouraged decentralized growth and sprawl, made public transit – and many of the communities it served – less competitive. The private companies that collectively owned and operated the region's transit infrastructure went bankrupt. With generations of investments at risk, the Southeastern Pennsylvania Transportation Authority (SEPTA) was created to inherit and manage what remained. For nearly a half-century, SEPTA has done exactly that: methodically piece back together and rebuild Greater Philadelphia's transit system.

Now, the world is changing again. Increasing resource scarcity, societal changes, and 21st-century policy shifts have renewed an appreciation of transit's value in promoting economic prosperity, social equity, environmental stewardship, and enhanced quality of life. The system SEPTA inherited, once considered obsolete, is increasingly receiving due recognition as the backbone of future regional sustainability.

But SEPTA's presence alone does not guarantee a sustainable region. Investments made by previous generations have left Greater Philadelphia with a far-reaching transit system that is the envy of many other regions. The return on these investments is a region whose gross metropolitan product is the seventh largest in the United States. And yet, more recent decades of underinvestment have eaten away at what once was – and again could be – a world-class transit system.

This plan is about proactively changing this dynamic – reinvigorating SEPTA's role as an economic, social, and environmental sustainability solution for the region. Greater Philadelphia's development could not have occurred without transit. Its rebirth as a world-class region will require reinvestment in its assets. This plan represents SEPTA's commitment to do its part by becoming more sustainable in its own right, and to actively partner with stakeholders to build a more sustainable region. In so doing, SEP-TAINABLE is a framework to ensure that for SEPTA and Greater Philadelphia, the best days are yet to come.



SUSTAINABILITY AT SEPTA Organizational Perspective

For SEPTA, sustainability is not only about “going green.” It is, at its core, about becoming more competitive. It is about engaging stakeholders and thinking comprehensively, about breaking down decision-making silos and taking the long-term view to consider the lifecycle costs and benefits of strategic investments. For a quasi-public organization like SEPTA, there is an additional layer of responsibility – to integrate and balance broader economic, social, and environmental concerns into decision-making processes.

In short: sustainability is about developing the ongoing capacity to endure. For SEPTA, this is an institutional imperative. Over the years, seemingly perpetual financial crises have forced significant cutbacks in vital organizational functions. Newfound stability had, in recent years, momentarily reversed that trend. But new challenges have arisen, and SEPTA once again has been thrust into a vulnerable financial position. Given this challenging operating environment, sustainability for SEPTA is, above all else, about retaking control of its future. While recent events have clearly illustrated SEPTA’s certain dependency on external factors, crises will come and go. Proactive sustainability planning will ensure that SEPTA is prepared to adapt fluidly to whatever challenges may arise.

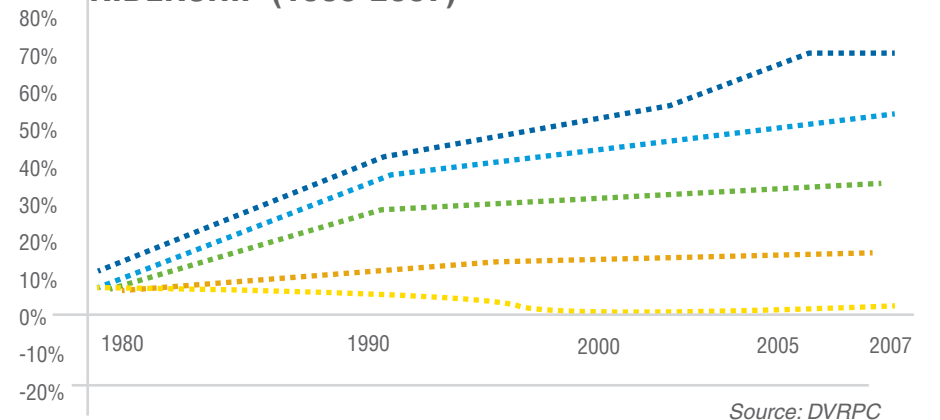
Regional Perspective

For the region, SEPTA’s role as a sustainability solution has become even more imperative due to sprawling development patterns throughout its service area. The Delaware Valley Regional Planning Commission (DVRPC) highlighted the impact of this trend in its most recent long-range plan: *Connections: The Regional Plan for a Sustainable Future*. In *Connections* DVRPC paints a troubling picture of population and land use trends. Between 1930 and 1970, the region’s land developed at three-and-a-half-times the rate of population growth. Between 1970 and 2005, the land development rate actually accelerated – to seven times the rate of population growth.

The implications of sprawl are far-reaching. Most relevant to SEPTA is that the region’s radial rail transit network, which reached maturity well before 20th century auto-oriented development patterns had begun to erode the region’s dense urban core, adequately serves a shrinking share of the region’s population. Decentralized population and employment centers increasingly limit transit options and access, causing a shift to increasing automobile use. According to DVRPC, between 1980 and 2000, the number of automobiles in the region increased by 37 percent and the number of VMT increased by 52 percent, despite a population increase of only seven percent. The end result is a region whose average commute time ranks among the longest in the United States.

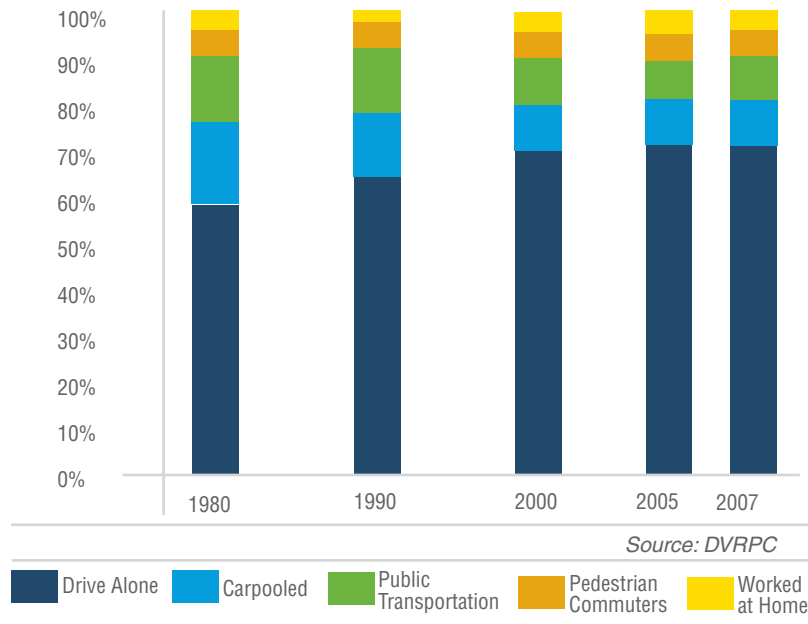
SEPTA has adapted to the region’s sprawling land use patterns with extensive bus transit services and parking facilities to complement its rail network. Still, transit ridership steadily declined between 1990 and 2005, as auto-oriented land uses continued to strain SEPTA’s competitiveness as a regional transportation mode of choice. And despite a more recent rebound in ridership, transit’s regional mode share remains more than 50 percent below its peak mid-20th century levels.

VMT VS. CAR OWNERSHIP, POPULATION, AND TRANSIT RIDERSHIP (1980-2007)



■ Annual VMT ■ Vehicles ■ Employment ■ Population ■ Transit Ridership

REGIONAL COMMUTE TO WORK MODE SHARE (1980-2007)



Looking forward, the impacts of sprawl will be exacerbated by a widespread aging of Greater Philadelphia’s population, which DVRPC forecasts to accelerate between now and 2025, when one in five of the region’s residents will be over the age of 65. DVRPC expects the aging trend to be especially strong in suburban communities, where a large proportion of “baby boomers” will “age-in-place.” The limited transit access in many suburban and exurban communities could significantly constrain the mobility of a rapidly growing segment of the region’s aging population. Recognizing the vital linkage between mobility and land use, DVRPC’s *Connections* plan investigated three “what if” scenarios for future growth:

- + Recentralization: return of population and jobs to the region’s currently developed areas

- + Trend: DVRPC Board-adopted population and employment forecasts

- + Sprawl: acceleration of development into currently undeveloped outlying areas

The analysis, which forecasts the same gross population and employment for each scenario, found that in 2035 the recentralization scenario could add more than 190,000 new households and 257,000 new jobs in areas with existing transit access. Alternatively, the sprawl scenario would decrease transit access by 159,000 new households and 83,500 new jobs. By focusing development around transit nodes, the recentralization scenario could increase transit ridership by 14 percent, reducing regional VMT by 1.7 billion over trend.

SEPTA’s competitiveness as a regional transportation mode of choice will be shaped in large part by how the region’s future development patterns play out. Recentralized development would improve transit accessibility, promote ridership growth, and, as DVRPC concludes, support the many associated economic, social, and environmental co-benefits:

“Based on analysis of different scenario impacts to land use, transportation, the environment, and economic competitiveness, the Recentralization scenario offers the best solutions for a sustainable future. This scenario offers a superior quality of life by increasing mobility choices, preserving more open space, and reducing demand for energy, which lowers household and business expenses. Denser, more compact, mixed land uses can shorten distances between origins and destinations, which encourages alternative forms of transportation. Less energy use helps to reduce CO2 emissions, making the region more sustainable. By spending less on replicating existing infrastructure, more money can be invested in green and energy-efficient technologies or alternative fuels. This, in turn, will help ensure that the region remains economically competitive in a fast and ever-changing world.”

SEPTA'S SUSTAINABILITY PROGRAM

Transit agencies, thrust into this fast and ever-changing world, need to adapt. Agencies that plan ahead will be prepared when opportunities arise to become more sustainable. Those that don't will fall behind.

SEP-TAINABLE is a comprehensive framework for SEPTA to rise to this occasion, establishing readiness for the challenges and moments of opportunity as they arise. This task is bigger than SEPTA; ultimately, SEPTA's sustainability and the sustainability of the region are inextricably linked. For this reason, SEP-TAINABLE has been built upon extensive outreach and engagement with regional stakeholders. The 12 targets that emerged from this process represent tangible goals for SEPTA to reach by 2015 to advance sustainability at SEPTA and throughout its service region.

OVERVIEW: A THREE-PRONGED APPROACH

SEPTA's approach to sustainability is based on the triple bottom line – accounting for economic, social, and environmental organizational needs and regional opportunities. SEPTA will use this three-pronged approach to drive sustainable decision-making at SEPTA and for partnering to build a more sustainable region.

ECONOMIC

SEPTA is an economic catalyst. As one of the region's largest employers, SEPTA supports tens of thousands of jobs and pumps hundreds of millions of dollars into the regional economy each year. Just as important is our vast service network that connects Greater Philadelphia to places where people live, work, and play. Moving more than 400,000 people each weekday, SEPTA keeps the regional economy moving.

SOCIAL

SEPTA helps to build livable communities. An expansive regional transit network supports the existence and creation of compact, high-quality, and affordable transit-oriented development. Reverse commute and employment programs ensure equal access to this network for all.

ENVIRONMENTAL

SEPTA advances environmental stewardship. By displacing greenhouse gas emissions, its system and services provide a mobility alternative that improves air quality and shrinks our carbon footprint, moving the region towards a more energy efficient future.

SEPTA's sustainability objectives, targets, and initiatives are organized under these three interconnected pillars, where SEPTA has already taken great strides to advance regional sustainability. This plan places SEPTA's existing efforts within a comprehensive strategy for expanding sustainability as a policy driver and key decision-making factor across the organization.

SEPTA'S COMPREHENSIVE APPROACH TO SUSTAINABILITY



INTEGRATION WITH SEPTA'S FIVE-YEAR STRATEGIC BUSINESS PLAN

Sustainability is a natural fit as a core objective within SEPTA's Five-Year Strategic Business Plan, which set forth a vision for SEPTA to become the region's premier choice for transportation by:

- + Connecting the region for integrated mobility
- + Sustaining the environment and preserving the system for future generations
- + Committing to continuous improvement and innovation
- + Providing excellent service by a team of dedicated employees

Released in March 2009, the plan highlights sustainability's interrelationship with six other strategic focus areas: customer service; safety and security; human capital development; new technologies; ridership growth; and rebuilding the system. The plan elevates sustainability as a regional imperative for which SEPTA has a leadership responsibility. SEPTA's three-pronged approach to sustainability is designed to fully integrate with the Strategic Business Plan. Each of the sustainability plan's 12 goals and targets overlap with SEPTA's six other strategic focus areas.

INTEGRATION WITH THE APTA SUSTAINABILITY COMMITMENT

SEPTA's sustainability program is also designed to fully integrate with the American Public Transportation Association (APTA) Sustainability Commitment. The core principles of this commitment are:

- + Making sustainability a part of SEPTA's strategic objectives
- + Identifying a sustainability champion within SEPTA coupled with the proper human and/or financial resources and mandates

- + Establishing an outreach program (awareness-raising and education) on sustainability for all SEPTA staff
- + Undertaking a SEPTA sustainability inventory

SEPTA's sustainability goals and targets adapt APTA's recommended indicators to meet its own planning purposes. SEPTA intends to commit as a signatory during plan implementation.

GOALS AND INITIATIVES

OVERVIEW

SEP-TAINABLE is both an evaluation and a challenge. The 12 goals established in the plan are an outgrowth of SEPTA's Five-Year Strategic Business Plan, a document that elevated sustainability to the forefront of the organizational agenda. As detailed in the plan, SEPTA has already taken significant strides to improve economic, social, and environmental performance. Making SEPTA more sustainable will help to ensure fiscal stability, strengthen the workforce, and reduce environmental impacts. SEPTA will achieve ambitious targets towards each of these goals through a series of initiatives that build off of SEPTA's existing efforts and priorities identified in the business plan.

But, as DVRPC notes in its *Connections* plan, SEPTA's sustainability is as critical to the region as it is to the organization itself. Decentralized development patterns and sprawling land-use conditions have created an economically, socially, and environmentally unsustainable situation for the region. The future of Greater Philadelphia, which is otherwise poised to reemerge as a world-class region, depends on robust transit that serves as a sustainability solution to these present-day challenges.



ENVIRONMENTAL

1: Improve greenhouse gas (GHG) and criteria air pollutant emissions performance

Target: 5 percent annual improvement through 2015

SEPTA produces GHG emissions from the daily combustion of carbon-based fuels and purchase of fossil fuel-based electricity. But as a provider of mass transit, SEPTA also displaces emissions by taking cars off the road and supporting compact development patterns. Applying the American Public Transportation Association's standard methodology for calculating GHG emissions, the net result of SEPTA's GHG impact is a reduction in emissions by a factor of three – for every unit of greenhouse gas that SEPTA emits, three units are displaced throughout the region. SEPTA's GHG performance is hindered in part by heavy use of electricity for propulsion, for which GHG emissions are high compared to those of peer transit agencies due to the carbon-intensive fuel mix of local electricity generation. As generation continues to become cleaner, SEPTA can grow its position as a net emissions displacer by reducing its own greenhouse gas emissions along three metrics: GHG emissions per vehicle mile, per revenue vehicle hour, and per passenger mile traveled.

SEPTA will achieve its GHG and criteria air pollutant emissions performance target by undertaking the following initiatives:

- + Develop climate action plan (CAP)
- + Continue efforts to improve air quality performance
- + Pursue alternative energy vehicle procurement
- + Install low-NOx boilers
- + Complete a vulnerability and risk assessment
- + Invest in renewable energy

2: Improve water use and pollutant discharge performance

Target: 10 percent improvement by 2015

SEPTA's current water use is metered at over 300 separate locations, providing a useful—but incomplete—picture of water consumption throughout the system. Between 2006 and 2009, consumption costs at these stations, shops, garages, and administrative locations increased by an average of 6.7 percent per year to the current cost of \$1.9 million. But the nature of water bills is changing, transitioning from a simple cost of consumption to a more comprehensive model that accounts for a property's stormwater runoff. This new price structure gives SEPTA two areas for improvement: reducing its water consumption and its impervious surface footprint.

SEPTA will achieve its water use and pollutant discharge performance target by undertaking the following initiatives:

- + Track usage systemwide
- + Evaluate cost-effective opportunities to reduce meter size
- + Install roof rainwater collection systems
- + Conduct an analysis of water recycling mechanisms on vehicle washer systems
- + Capture pumped groundwater from subsurface tunnels
- + Recycle potable water used to cool transformers
- + Improve stormwater control and reduce stormwater runoff
- + Set a SEPTA agenda for ecosystem and wetlands management
- + Improve water fixtures and conservation at SEPTA facilities
- + Retrofit or construct buildings to accommodate green roofs
- + Expand tree planting by partnering with the Pennsylvania Horticultural Society
- + Partner with stakeholders to protect natural habitats

3: Improve energy intensity performance

Target: 10 percent improvement by 2015

SEPTA depends on energy for every aspect of its operations, from powering railcars and buses to heating stations and illuminating track signals. The fuel and power needed to move SEPTA's vehicles and run its facilities represents eight percent of the agency's operating budget, 4.5 mmBtu in overall usage. In all, SEPTA's energy consumption rose by 1.5 percent between 2006 and 2009, but changes in energy use vary greatly by sector. Fuel consumption for building heat, for example, rose 7.6 percent each year over that period, while vehicle energy use grew by less than one percent annually. Trends in energy consumption can be tracked against trends in operating performance through the metric of energy intensity, or consumption per vehicle mile. This breakdown demonstrates how targeted initiatives, such as greater integration of hybrid-electric buses, can minimize changes in energy consumption while enabling SEPTA to expand its operations.

SEPTA will achieve its energy intensity performance target by undertaking the following initiatives:

- + Prioritize energy-efficiency facility projects
- + Adopt "LEED Silver" standards for all new building construction
- + Increase the number of LEED accredited employees
- + Encourage conservation among employees
- + Continue non-revenue fleet management planning efforts
- + Install energy efficient escalators
- + Install LED Lighting
- + Install lighting motion sensors
- + Replace inefficient HVAC systems to save energy
- + Implement wayside energy storage systems
- + Evaluate the use of more energy-efficient electrical motors and transformers
- + Take advantage of natural lighting and ventilation

4: Reduce and reuse waste

Target: 20 percent waste diversion by 2015

Across the system, SEPTA produces a variety of waste streams ranging from purely municipal to hazardous and non-hazardous industrial waste. Producing waste, aside from filling landfills and contributing to environmental degradation, comes with a direct cost: the contracts SEPTA lets for waste removal exceed \$1 million annually. For these reasons, SEPTA is better managing its waste flows through a waste minimization program at maintenance facilities and through the resale of scrap materials and waste oil. Still, insufficient data exists to adequately track and manage waste flows.

SEPTA will achieve its waste diversion target by undertaking the following initiatives:

- + Quantify and track SEPTA's material flow
- + Create green procurement policies
- + Institute systemwide lifecycle analysis (LCA)
- + Promote SEPTA rider conservation
- + Use sustainable railroad ties, where possible
- + Evaluate repair-return-leasing opportunities
- + Increase contractor awareness of green standards
- + Implement a comprehensive recycling program at passenger and employee facilities
- + Expand upon a scrap commodity management program
- + Expand upon a surplus material sales program
- + Close the loop with the use of recycled materials



SOCIAL

GOALS

5: Integrate with livable communities

Target: One transit-oriented development (TOD) project per year

Transit spurred the growth of modern Philadelphia and its suburbs, populating neighborhoods along trolley routes and creating commuter rail access to undeveloped outlying areas. Today, while development has moved far beyond the boundaries of public transit, the benefits of transit-oriented development (TOD) persist. Recent studies show that residents of transit-served communities have a lower cost of living and live healthier lifestyles than those who depend on cars for mobility. Rising transportation costs mean that consumers are once again recognizing the benefits of living near transit, and developers are building to meet that demand. Although SEPTA is restricted from developing its own land for commercial activity, the Authority can be proactive in supporting ongoing TOD projects and in attracting new development near its facilities. Where new development is not an option, SEPTA can better integrate with communities by improving its accessibility with other modes of transportation.

SEPTA will achieve its community-building target by undertaking the following initiatives:

- + Develop a transit-oriented development (TOD) policy
- + Create a SEPTA TOD portfolio to encourage development
- + Leverage Transit Revitalization Investment District (TRID) opportunities
- + Incorporate affordable housing into official policy
- + Increase bike-and-ride visibility
- + Support the City of Philadelphia and county bicycle goals
- + Integrate with bike-sharing programs

6: Improve access to local food

Target: Three new farmers markets on SEPTA property

Transit enables residents to live beyond the constraints of their neighborhood. In many cases, transit's biggest advantage is that it opens up distant job markets, but transit also provides access to life necessities such as healthcare and, importantly, food. Low income neighborhoods often lack access to fresh food, creating widespread poor health conditions. Recognizing that these conditions exist in Philadelphia, *Greenworks Philadelphia*, the City's comprehensive plan to turn Philadelphia into the greenest city in America by 2015, set the citywide target of bringing local food to within 10 minutes of 75 percent of residents. The Mayor's Office of is currently laying the groundwork for pursuing that goal. As the region's primary provider of transit services, SEPTA will play a substantial role in taking on this challenge. Through a variety of collaborative initiatives, SEPTA, the City of Philadelphia, DVRPC, and the Food Trust can improve access to fresh food for all residents.

SEPTA will achieve its food access target by undertaking the following initiatives:

- + Support the City of Philadelphia's efforts to combat "food deserts"
- + Partner with The Food Trust to create farmers markets at SEPTA stations
- + Continue Participation in DVRPC's Food System Study
- + Participate in Fair Food Philly's Community-Supported Agriculture program

7: Develop a highly-skilled, healthy and versatile workforce

Target: 50 percent turnover filled from succession pool

SEPTA's long-term sustainability depends on the versatility and well-being of its workforce. As one of the most personnel-intensive organizations in the region, SEPTA must not only look after its current employees but also plan ahead to recruit the next generation of transit leaders. SEPTA is actively pursuing "succession planning" strategies in anticipation of the retirement of 50 percent of its mid- and upper-level management by 2015. Additionally, SEPTA has grown the scope of its training programs and developed a new employee wellness series that includes exercise courses, on-site health services, and a newsletter for healthy lifestyles.

SEPTA will achieve its workforce planning target by undertaking the following initiatives:

- + Complete comprehensive succession plan on schedule
- + Increase attendance at employee training programs
- + Incorporate sustainability into employee training and wellness programs
- + Pair workplace safety with sustainability initiatives
- + Strengthen SEPTA internship program
- + Promote volunteerism among all employees

8: Support regional business equity

Target: 10 percent increase in newly-registered DBE firm success rate by 2015

As a recipient of federally designated capital grant funding, SEPTA must adhere to equitable contracting practices. SEPTA's substantial capital budget gives it a strong market power in the region and an ability to have a positive impact on regional business equity by issuing a portion of its contracts to disadvantaged business enterprises (DBEs), small businesses owned by minorities and women. SEPTA, in turn, benefits from the growth and development of these firms and their successful performance working on important projects throughout the region.

SEPTA will achieve its business equity target by undertaking the following initiatives:

- + Automate enrollment and database management systems
- + Increase diligence on personal net worth statements
- + Incorporate sustainability into contractor education and outreach
- + Receive federal approval for mentor/protégé relationship
- + Proactively seek out new opportunities to recruit firms
- + Step up contract enforcement



ECONOMIC

GOALS

9: Increase transit mode share

Target: 10 percent increase in transit unlinked trips per capita by 2015

Philadelphia ranks fifth among large cities in average commute time, across an average distance of 18 miles throughout the five-county region. These miles add up—71 million auto vehicle miles were traveled each day in the service region in 2005, compared to just over 4.1 million miles daily on SEPTA. A major organizational goal is to improve SEPTA's penetration in regional travel against a 2005 benchmark of 86 transit trips taken per regional resident. While expanding the system is a clear way to attract new riders, SEPTA should also consider less costly programs that grow ridership within the current service area.

SEPTA will achieve its mode share target by undertaking the following initiatives:

- + Implement New Payment Technologies program
- + Further improve system safety
- + Implement one new major service initiative each year
- + Develop marketing plan to increase awareness of system and services
- + Develop comprehensive parking vision plan to address system capacity constraints
- + Plan for an expanded system through long-range planning

10: Improve infrastructure state of good repair

Target: 15 percent proportionate improvement by 2015

While most of Pennsylvania's infrastructure is in disrepair, a 2010 report by the American Society of Civil Engineers found that the state's transit infrastructure was worst of all. SEPTA's estimated 65 percent state of good repair is an average that includes the rolling stock at 85 percent and the bridges at 50 percent. Bringing SEPTA's infrastructure, which is among the nation's most expansive, up to a state of good repair requires targeted investments in the most capital-intensive portion of SEPTA's budget. The City of Philadelphia set a goal in its *Greenworks* plan for achieving an 80 percent state of good repair its own infrastructure, and SEPTA is striving to keep pace with the City's recommended goal.

SEPTA will achieve its infrastructure state of good repair target by undertaking the following initiatives:

- + Implement a transit asset management (TAM) system
- + Invest in state of good repair projects
- + Develop capital project pipeline
- + Pursue alternative funding to support state of good repair projects

11: Improve operating expense performance

Target: 10 percent improvement by 2015

SEPTA regularly monitors operating performance by a variety of metrics, most notably the ratio of passenger revenue to fully allocated cost. Performance may also be measured by average operating speed, useful as a target to reduce end-to-end trip time and peak vehicle demand. While SEPTA performs well in many measures of cost-effectiveness, it lags behind its peers in terms of operating speed largely due to the fact that its stations are in many cases situated unusually close together. Still, there are ways to improve performance despite the inherited constraints of SEPTA's system. "Transit First" committees have been convened to explore a variety of ways to streamline and speed up transit routes. Opportunities to improve areas of operating performance that emerge from these committees will be balanced with SEPTA's ongoing obligation to customer service for all ridership groups.

SEPTA will improve operating expense performance by undertaking the following initiatives:

- + Include non-revenue operations performance in Annual Service Plan
- + Increase rate of Transit First and vehicle overhaul program implementation
- + Implement cost-saving recommendations in ancillary reports
- + Recognize employee innovation in cost-saving techniques

12: Achieve PA TAC recommended funding levels

Target: Full funding of PA TAC recommended funding levels

SEPTA recovers less than half of its operating costs from passenger revenue, and depends on government subsidies for the remainder of its operating budget and for its entire capital budget. The Pennsylvania Transportation Advisory Committee (PA TAC) noted that continued underfunding has prevented transportation agencies like SEPTA from making long-overdue investments in its infrastructure and estimates that the statewide transit funding shortfall will grow to \$1.4 billion by 2020. Additionally, the state's inability to toll Interstate 80 has created a \$110 million hole in SEPTA's FY2011 capital budget and forced the deferral of 22 capital projects. With allocations from the Pennsylvania Transportation Trust Fund frozen, SEPTA's budget shortfall will grow steadily into the future unless lawmakers identify a sustainable funding source.

SEPTA will join other Pennsylvania transportation agencies in achieving full funding by the state and federal governments to the levels recommended by the PA TAC by partnering to pursue a comprehensive legislative agenda.

PROGRAM IMPLEMENTATION

SUSTAINABLE MANAGEMENT APPROACHES

SEPTA's expertise in transit management has allowed for the gradual fine-tuning of its operations based on industry best practices. This institutional knowledge has served SEPTA well in its becoming one of North America's most efficient and cost-effective transit service providers.

With the advent of sustainability as a central organizing framework, the management paradigm is rapidly changing. Traditional approaches, which have emphasized consistency and short-term efficiency, are being complemented – and in some cases replaced – with more progressive management approaches that emphasize lifecycle analysis and regional impacts. SEPTA's strong foundation of transit management will allow for a seamless transition to this progressive line of thinking, which SEPTA will embrace to remain at the vanguard of transit management practices.

One way that the Federal Transit Administration is promoting more sustainable management approaches is by encouraging transit agencies to adopt Environmental Management Systems (EMS). EMS programs provide a centralized structure for managing environmental protection efforts, improving organizational efficiency and rule compliance by consolidating systemwide environmental programs and enabling interagency benchmarking.

The FTA supports EMS adoption by offering periodic, competitive EMS training workshops, for which SEPTA has recently been accepted. SEPTA will leverage the training as an opportunity to create an EMS to provide a structured, measurable method for identifying and measuring its environmental impact in its transit facilities and buildings. Establishment of an EMS will provide the framework for environmental programs and goals, allowing SEPTA to:

- + Consider the actual and potential environmental aspects and impacts of its operations and activities at all project stages.

- + Set EMS objectives and targets, and review them periodically to enhance their EMS and environmental performance.

- + Establish environmental procedures and programs that include: preventing pollution, conserving resources, and practicing sustainable development amidst continuing climate change.

- + Adhere to applicable environmental laws and regulations, in addition to their voluntary environmental commitments.

- + Exercise utmost diligence in order to minimize or, if possible, remove adverse environmental effects projects might have on employees, contractors, customers, communities where their projects are located, and on the global environment.

- + Document, implement, and maintain the EMS on an ongoing basis. Convey EMS and environmental policy to all CPM employees, to others working on their behalf, and to the public.

- + Share experience and expertise with stakeholder agencies and partner organizations.

RETHINKING THE ROI

Sustainability demands an evolution to the criteria by which investments are made. Traditional Return on Investment (ROI) calculations fall short of providing a comprehensive framework by which projects can be evaluated. The Sustainable ROI (SROI) model offers an alternative to determine the value of projects towards economic, social, and environmental outcomes.

Including externalities in a ROI is not a new concept at SEPTA. For example, SEPTA's decision to purchase 472 hybrid-electric buses beginning in 2002 was based on a triple bottom line understanding of transit's impacts across economic, social, and environmental lines. In this case, a strict financial ROI yielded a modest net loss over the lifetime of each hybrid vehicle, and yet the overwhelmingly positive social and environmental benefits of hybrid technology justified the investment.

Redefining the ROI standards in this way gives SEPTA the opportunity to formalize something that has already become practice, and to become a true leader among transit agencies in sustainable thinking.

INTERNAL OVERSIGHT AND ENGAGEMENT

Focused oversight is a crucial element of implementation. The scope of SEPTA's sustainability program spans every department, and oversight will be distributed appropriately. SEPTA's Sustainability Working Group will serve as a guide, acting as a liaison to departments as they complete their designated initiatives and monitoring SEPTA's overall progress toward programmatic goals.

In reality, sustainability programs yield the best results when embraced by all employees at all levels. SEPTA will encourage employee activism around sustainability goals and initiatives through the formation of an employee "Green Teams." Green Teams have become the face of internal change at organizations large and small. Usually composed of a small number of employees with a personal environmental interest, team members act as change agents within their departments. While major sustainability policies may be determined by senior leadership, Green Teams coordinate tangible programs and events in the workplace because they are most knowledgeable at the ground level.

Because Green Teams are run by employees, they are able to reach employees on a personal basis. This familiarity allows SEPTA to foster sustainable habits among its employees by offering components of the sustainability program to its employees in their home lives. When organizational sustainability goals align with personal sustainability goals, programmatic success rates have been shown to improve.

STAKEHOLDER PARTICIPATION AND REPORTING

SEPTA will publish an annual report that tracks its progress towards programmatic goals and initiatives. This annual report will be shared internally and externally to ensure transparency and accountability to all stakeholders.

Quantitative indicators will provide tangible evidence of SEPTA's progress, while anecdotal updates on specific initiatives will highlight the various ways in which the plan is impacting SEPTA's management and operations in more qualitative but equally important ways.

SEPTA's sustainability program is a regional undertaking, and achieving each of its goals will require the active participation of local stakeholders. SEPTA will assemble and work with stakeholder groups focused on each plan pillar—economic, social, environmental—to solicit critical input as SEPTA adopts new practices in accordance with this plan. These stakeholder groups will provide context to SEPTA's initiatives and create new opportunities for collaboration with ongoing projects elsewhere in the Greater Philadelphia region.

CONCLUSION

SEP-TAINABLE stands apart from other planning agendas in the breadth of its investigation into transit's region-building role. Through each goal, the plan considers SEPTA as a mover, an employer, a consumer, a producer, and a provider. Many who know the system can appreciate these often intangible benefits. SEP-TAINABLE offers a glimpse for everyone else to consider the true value of SEPTA in their own lives.

The plan is in part internally focused, calling for waste reductions, process analyses, and capital investments. SEP-TAINABLE challenges SEPTA to streamline its own operations today so that it is prepared to take on a larger role in the region's development tomorrow.

But the lasting value of SEP-TAINABLE will be determined by its ability to communicate transit's value in Greater Philadelphia's transformation into a world-class region. It is now incumbent upon SEPTA and its stakeholders to join forces to see this plan through, to make real progress towards shared goals, and to ensure the best days for SEPTA, and for its region, are still to come.

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SUSTAINABILITY FOCUS AREA		GOAL	LINKAGE	MEASURE & BASELINE (2009)	TARGET	2015 RESULT
ENVIRONMENTAL	In the Region: Advancing Stewardship	1: Improve greenhouse gas (GHG) and criteria air pollutant emissions performance	APTA Sustainability Commitment & SEPTA Strategic Business Plan	GHG/PMT: 0.661 lbs CO2-e GHG/VM: 10.56 lbs CO2-e GHG/RVH: 148.46 lbs CO2-e	5% annual improvement	GHG/PMT: 0.486 lbs CO2-e GHG/VM: 7.76 lbs CO2-e GHG/RVH: 109.13 lbs CO2-e
		2: Improve water use and pollutant discharge performance	APTA Sustainability Commitment	Water \$/PMT: \$0.0012 Water \$/VM: \$0.0185 Water \$/RVH: \$0.2577	10% improvement by 2015	Water \$/PMT: \$0.0010 Water \$/VM: \$0.0166 Water \$/RVH: \$0.2320
	At SEPTA: Reducing Footprint	3: Improve energy intensity performance	APTA Sustainability Commitment	kBtu/PMT: 2.88 kBtu/VM: 45.89 kBtu/RVH: 640.58	10% improvement by 2015	kBtu/PMT: 2.59 kBtu/VM: 41.30 kBtu/RVH: 576.52
		4: Reduce and reuse waste	APTA Sustainability Commitment	n/a	20% waste diversion by 2015	20% waste diversion (total tonnage to be determined)
SOCIAL	In the Region: Building Livable Communities	5: Integrate with livable communities	<i>Greenworks Philadelphia</i> Goal	n/a	One TOD project per year	Five new TOD projects
		6: Improve access to local food via transit	<i>Greenworks Philadelphia</i> Goal	n/a	Three new farmers markets on SEPTA property by 2015	Three new farmers markets on SEPTA property
	At SEPTA: Developing Workforce	7: Develop a highly-skilled, healthy and versatile workforce	SEPTA Strategic Business Plan	n/a	50% turnover filled from succession pool	50% turnover filled from succession pool
		8: Support regional business Equity	SEPTA Strategic Business Plan	Newly-registered DBE firm success rate: 16.56%	10% improvement by 2015	18.22% newly-registered DBE success rate
ECONOMIC	In the Region: Catalyzing Growth	9: Increase transit mode share	<i>Greenworks Philadelphia</i> Goal & APTA Sustainability Commitment	Annual unlinked trips per capita (2005): 85.39	10% increase by 2015	93.93 annual unlinked trips per capita
		10: Improve infrastructure state of good repair	<i>Greenworks Philadelphia</i> Goal	65% state of good repair	15% proportionate improvement by 2015	80% state of good repair
	At SEPTA: Achieving Fiscal Stability	11: Improve operating expense performance	APTA Sustainability Commitment	Operating Expense/PMT: \$0.70 Operating Expense/VM: \$11.15 Operating Expense/RVH: \$155.69	10% improvement by 2015	Operating Expense/PMT: \$0.63 Operating Expense/VM: \$10.03 Operating Expense /RVH: \$140.06
		12: Achieve PA TAC recommended funding levels	SEPTA Strategic Business Plan	Current statewide transit funding	Full funding of PA TAC recommended funding levels	2010: \$484 million 2020: \$1.383 billion 2030: \$3.063 billion

	SUSTAINABILITY	CUSTOMER SERVICE	SAFETY AND SECURITY	RIDERSHIP GROWTH	NEW TECHNOLOGIES	HUMAN CAPITAL DEVELOPMENT	REBUILDING THE SYSTEM
ENVIRONMENTAL	In the Region: Advancing Stewardship		Goal 2: Improve water use and pollutant discharge performance		Goal 1: Improve greenhouse gas (GHG) & criteria air pollutant emissions performance		
	At SEPTA: Reducing Footprint		Goal 4: Reduce and reuse waste		Goal 3: Improve energy intensity performance		
SOCIAL	In the Region: Building Livable Communities	Goal 6: Improve access to local food via transit		Goal 5: Integrate with livable communities			
	At SEPTA: Developing Workforce					Goal 7: Develop a highly skilled, healthy and versatile workforce	
ECONOMIC	In the Region: Catalyzing Growth			Goal 9: Increase transit mode share		Goal 8: Support regional business equity	Goal 10: Improve infrastructure state of good repair
	At SEPTA: Achieving Fiscal Stability			Goal 11: Improve operating expense performance			Goal 12: Achieve PA TAC recommended funding levels

SEP-TAINABLE GLOSSARY: TERMS AND DEFINITIONS

SUSTAINABILITY OVERVIEW

Sustainability: Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Sprawl: The acceleration of development into currently undeveloped outlying areas.

Recentralization: The return of population and jobs to the region's currently developed areas.

Co-Benefits: The positive ancillary value of policies that are implemented for other reasons at the same time.

Triple Bottom Line: The incorporation of social and environmental values with traditional economic measures of an organization's success.

GOAL 1:

Greenhouse Gases: Gases that contribute to the greenhouse effect by absorbing infrared radiation produced by solar warming of the Earth's surface. They include: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (NO₂), and water vapor. Although greenhouse gases occur naturally in the atmosphere, elevated levels observed in recent decades have been related, at least in part, to human activities such as the burning of fossil fuels.

Fossil Fuel: An umbrella term applied to set fuel sources created through a combination of the decomposition of plant and animal matter, heat and pressure beneath the earth. The three most commonly used fossil fuels are oil, coal and natural gas.

Criteria Air Pollutants: Air pollutants deemed critical to control in an effort to improve air quality. The six most common air pollutants in the U.S. are: carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter, and sulfur dioxide.

Climate Action Plan: A set of strategies intended to guide community efforts for reducing greenhouse gas emissions. Strategies tend to focus on energy efficiency and conservation.

NOx: The generic term for a group of highly reactive gases, all of which contain nitrogen and oxygen in varying amounts, and cause a wide variety of health and environmental impacts.

Vulnerability and Risk Assessment: A study that identifies the variety of ways in which climate change impacts transit systems and services and the probabilities of future exposure and vulnerability.

Alternative Energy Vehicle: A vehicle powered by a fuel other than traditional petroleum-based fuels (i.e., diesel and gasoline).

Renewable Energy: Energy derived from replenishing natural processes, especially electricity and heat generated from: solar, wind, ocean, hydropower, biomass, geothermal resources, biofuels, and hydrogen derived from renewable resources.

GOAL 2:

Roof Rainwater Collection System: A rainwater harvesting mechanism designed to channel rainwater from a roof into storage via a system of gutters and pipes.

Stormwater Runoff: The result of precipitation that flows over land or impervious surfaces, such as paved streets, parking lots, and building rooftops, and does not percolate into the ground. As

the runoff flows over the land or impervious surfaces, it accumulates debris, chemicals, sediment or other pollutants that could adversely affect water quality.

Green Roof: A roof covered with green materials, such as plants or vegetation, to absorbing rainwater, providing insulation, creating a habitat for wildlife, and helping to lower urban air temperatures and combat the heat island effect. The term also can refer to a roof that incorporates "green" technology, such as a cool roof with a reflective surface and/or solar thermal collectors or photovoltaic modules.

GOAL 3:

LEED: An internationally recognized green building certification system, "Leadership in Energy and Environmental Design," developed by the U.S. Green Building Council that provides third-party verification of a building's environmental and energy performance: energy savings, water efficiency, CO₂ emissions reduction, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts.

Non-Revenue Fleet: SEPTA's fleet of utility and supervisory vehicles that support the operation of its system and revenue services.

LED Lighting: A light-emitting diode (LED) semi-conductor technology that converts electricity into durable, solid-state light, which is more compact and durable than incandescent counterparts.

HVAC System: Heating, ventilating, and air conditioning.

Wayside Energy Storage: An energy management system incorporated into a propulsion-powered transit system for the purpose of capturing and storing potentially wasted braking energy from trains and recycling it back into the system.

GOAL 4:

Green Procurement: The selection by an organization of products and services that have reduced environmental impacts.

Lifecycle Analysis: An assessment of the inputs and outputs of materials and energy and the associated environmental impacts directly attributable to the functioning of a product or service system throughout its life cycle, from the extraction of natural resources to the final disposal.

Sustainable Railroad Ties: Ties manufactured and procured with alternative materials, including oak and composite plastic.

Repair-Return-Leasing: Arrangements through which materials and supplies are leased rather than purchased, often relieving the burden of disposal and relevant fees for items such as vehicle tires and office carpets.

GOAL 5:

Transit-Oriented Development: A mixed-use community within walking distance of a transit stop that mixes residential, retail, office, open space, and public uses in a way that makes it convenient to travel on foot or by public transportation instead of by car.

Transit Revitalization Investment District (TRID): Legislation passed by the Commonwealth of Pennsylvania that serves as a mechanism to facilitate cooperation and funding needed to implement TODs by enabling municipalities, transit agencies, and neighborhood groups to better coordinate transportation infrastructure, land use, and private development.

Affordable Housing: Inexpensive dwellings affordable to those of modest income. According to the U.S. Department of Housing and Urban Development (HUD), housing is affordable if it costs the occupant no more than 30 percent of their income for gross housing costs, including utilities.

Bike-Sharing: Program through which bicycles are made available at strategic locations throughout a community for shared use. Often, bike-sharing programs are coordinated with public transit service to provide a mobility alternative for “last mile” proximity travels in conjunction with a transit trip.

GOAL 6:

Food Desert: An area where food is non-existent, not healthy or too expensive. It is an issue of access and can be defined by distance and/or transportation being obstacles in obtaining adequate amounts of healthy food.

Community-Supported Agriculture Program: A way for the food-buying public to receive a weekly basket of fresh produce through a financial commitment to a farm in exchange for a weekly assortment of its products.

GOAL 7:

Succession Planning: A process of systematically and deliberately preparing for future changes of leadership in key positions, identifying potential replacements and providing strategies for developing and/or hiring individuals to meet future needs.

GOAL 8:

DBE Program: The Department of Transportation’s (DOT) Disadvantaged Business Enterprise (DBE) Program seeks to ensure nondiscrimination in the award and administration of DOT-assisted contracts in the Department’s highway, transit, and airport financial assistance programs and to create a level playing field on which DBEs (women and minority-owned businesses) can compete fairly for DOT-assisted contracts.

GOAL 9:

New Payment Technologies: SEPTA’s ongoing capital project to transform the process by which customers pay fares for SEPTA services by applying the financial sector’s innovative smart payment technology to the transit system.

GOAL 10:

Transit Asset Management System: An inventory of transit assets that enables strategic management of the transit system in a cost-effective and efficient manner.

State of Good Repair: An infrastructure condition achieved when components are replaced on a schedule that is consistent with their life expectancy.

GOAL 11:

Transit First: A joint process between the City and Philadelphia and SEPTA to increase transit speeds along selected corridors.

Vehicle Overhaul Program: SEPTA’s on-going initiative that provides for the major overhaul of rolling stock on a periodic basis to achieve or exceed its full useful service life and ensure optimal fleet reliability, service quality, cost efficiency, and passenger comfort.

GOAL 12:

Pennsylvania Transportation Advisory Committee (TAC): A statewide committee that consults with and advises the State Transportation Commission and the Secretary of

Transportation on behalf of all transportation modes in the Commonwealth. In May 2010, the TAC released a report updating the 2007 report of the Pennsylvania Transportation Funding and Reform Commission detailing the growing state transportation funding crisis.

PROGRAM IMPLEMENTATION:

Environmental Management System: A systematic and structured approach for addressing the environmental consequences of an organization’s activities, products, and services, and managing environmental performance to maximize efficiencies and effectiveness through standardization and continuous improvement.

Sustainable Return on Investment: A method for calculating triple bottom line impacts through a comprehensive cost-benefit analysis study over a project’s entire life-cycle.

PERFORMANCE MEASUREMENT:

Unlinked Passenger Trips (UPT): The number of times passengers board public transportation vehicles. Passengers are counted each time they board vehicles no matter how many vehicles they use to travel from their origin to their destination and regardless of whether they pay a fare, use a pass or transfer, ride for free, or pay in some other way.

Passenger Miles Travelled (PMT): The cumulative sum of the distances ridden by each passenger.

Vehicle Miles (VM): The miles a vehicle travels from the time it pulls out from its garage to go into revenue service to the time it pulls in from revenue service, including “deadhead” miles without passengers to the starting points of routes or returning to the garage. For conventional scheduled services, it includes both revenue miles and deadhead miles.

Vehicle Revenue Hours (RVH): The hours traveled when the vehicle is in revenue service (i.e., the time when a vehicle is available to the general public and there is an expectation of carrying passengers). Vehicles operated in fare-free service are considered in revenue service. Revenue service excludes school bus service and charter service.

For more information visit www.septa.org/sustain