

Grant Funding Playbook

From Rhythm Engineering

Earn the funds to transform your community. Use this guide to increase your success rate while making grant application quicker and easier.

- *Best practices for grant application writing*
- *Information you can include in your grant applications*
- *Over \$3 billion in specific grants to pursue or use as examples*
- *How to win grants with the benefits of InSync – safer communities, improved traffic flow, energy savings, healthier environment, cleaner air, operational savings and more*

Grant Funding Playbook

By Rhythm Engineering

About Rhythm Engineering

Rhythm Engineering invents, builds, sells and supports traffic signal optimization tools that empower communities to save motorists' lives, money and environment. By doing so, we help traffic agencies become more productive and efficient. InSync is proven to reduce crashes, harmful emissions, fuel consumption and congestion.

About InSync's Intelligence and Performance

InSync is a real-time adaptive traffic control solution. It is deployed by more traffic agencies in the United States than any other adaptive technology. Numerous independent studies from various engineering firms confirm it delivers measurable benefit several times better than other adaptive traffic control solutions and traditional approaches to signal synchronization. For more information on the system's intelligence, model and performance, please see our white paper, "InSync Adaptive Traffic Signal Technology: Real-Time Artificial Intelligence Delivering Real-World Results," and other information available by contacting us or visiting RhythmTraffic.com.

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Introduction

Hundreds of communities across the United States are in need of solutions to improve their traffic conditions, traffic safety, environment and public works operations. Because Rhythm Engineering can only fulfill our mission of saving lives, saving motorists' time and money and saving the environment in those communities in which InSync is deployed, we offer this Grant Funding Playbook to empower communities to win the funding needed to deploy InSync.

We contracted with Blais & Associates, a professional grant management firm, to develop this Grant Funding Playbook in order to provide you the very best assistance possible. Because Blais & Associates is the nation's leading transportation grant writer, we asked them to share the strategies and tips for success that they have learned from their 20 years of experience, particularly in regards to writing applications for InSync traffic control systems. (Learn more about Blais & Associates at the end of this Playbook. If you would like more hands-on assistance securing grant funding, they are happy to help you.)

Grants are almost never awarded for a specific product. But, you can use the characteristics and results of InSync to demonstrate the powerful benefits your community will receive from the grant funds you are seeking.

This Playbook is divided into four sections. The first section shows best practices, advice and tips from the grant writing experts who put together this guide. The second section shows how conveying the benefits of InSync can help you win grant funding. The third section provides generalized information as well as information you can localize and insert into your grant application. The last section shows you numerous grant opportunities that may be directly applicable to your needs or serve as examples of grant opportunities you can pursue.

Grant Writing Checklist

These days the competition for grants is fiercer than ever. In order to win, a project needs to not only show the most merit but also have a persuasive, savvy and impeccable application. Getting funding for your InSync traffic optimization project does not have to be a daunting task. It is a matter of finding the closest match from a variety of funding programs and then submitting an application that “tells the most compelling story” about why your project deserves the money. You must draw a clear, bold line between the grant’s objectives and your project’s results while giving the application reviewers no reason to rule out your application. Following the checklist below will help you write a winning application.

Rhythm Engineering can help you with several of these steps by supplying you information, statistics, data, charts, images, references and more. We’re here to help you help your community, so please don’t hesitate to ask.

Start with the basics – do you have a winning project for this grant program?

- Determine your odds of receiving funding. Read and study the announcement and review past projects funded. Does your project meet the program’s goals? Be brutally honest with yourself at this stage.
- Review the scoring/evaluation criteria. Grade your project.
- Then divide the number of funded projects by the number of applications to determine the historical success rate for the grant. How does your project’s grade compare to the success rate?
- Based on available funding and the average dollar amount funded per project in previous years, is the funding worth the effort?
- Do you have local funds to meet the match requirement?
- Based on the above, make an educated “Go” or “No Go” decision.

You have decided it’s a “Go” – now what?

- Build relationships and solicit feedback from the funding agency. What does the agency contact say about your project?
- Attend workshops and seminars – meet and mingle with people who may evaluate your project.
- Create a fact sheet highlighting the key data from the guidelines or Notice of Funding Availability (NOFA).
- Create a checklist and identify who is responsible for completing each task.

- Create a timeline with deadlines by working backward from the due date to make sure you have enough time to complete the requirements. Note if the application is due at a designated location on a set date, if a postmark is allowed, or if it will be electronically submitted. Whenever possible, allow extra time for problems outside of your control.
- Solicit help as needed for requirements that must be completed by someone else, such as resolutions from city council, letters of support, etc.
- Study the application's requirements and “suggested” requirements – whenever possible, complete all suggested requirements. Watch for items such as word/page limits, required fonts, font size – follow directions carefully.
- For many federal-level grants, especially those administered by the US DOT and its subsidiary departments, a systems engineering analysis is required. The FHWA Resource Center has published extensive guidance, tools and self-help information at http://ops.fhwa.dot.gov/int_its_deployment/sys_eng.htm.
- Set regular meetings to monitor progress. Verify when items are completed on the checklist and adjust deadlines as necessary.

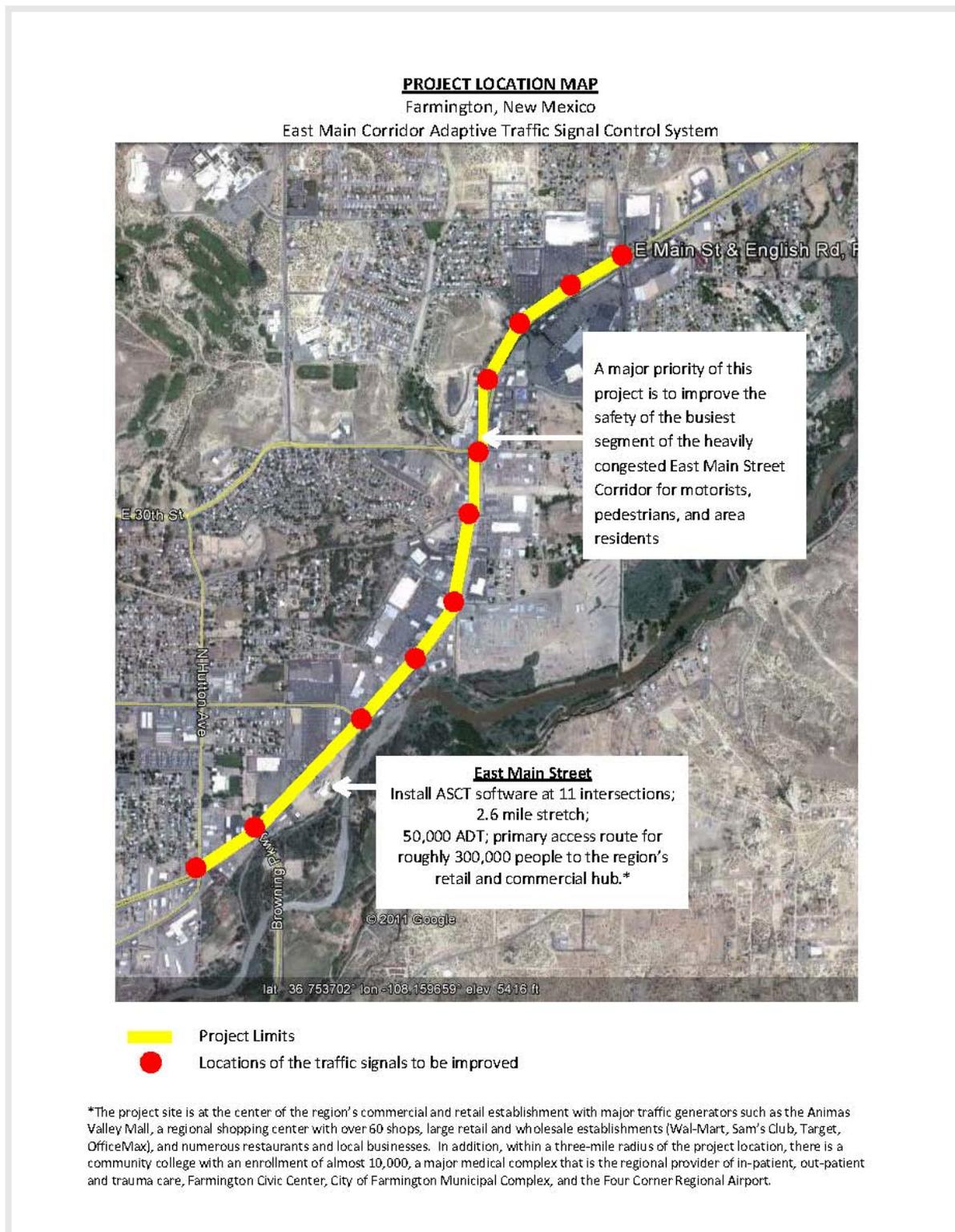
Is it worth the extra effort? YES!

- Answer every question clearly and concisely. Even if you feel the questions and/or your answers are repetitive, answer each question with a thorough answer.
- The saying “a picture is worth a thousand words” is true – if your application allows for photographs, include them! Make sure your photographs tell the story you want to tell. If you claim the project is needed due to congestion, photograph the intersection at the busiest time. If your application claims conditions are unsafe, prove it with your photos. Aerial views from sources such as Google Earth are great ways to show congestion and population density. You can overlay graphics on photos to show work to be completed as well as provide additional key data you want the reader to know. Write captions that further tell the story.

For example, which grant application for traffic congestion mitigation would you fund if you had to make your decision solely on the visuals?



Below is an example of a project location map that visually helps evaluators “see” the entire corridor. The map also injects key data about the corridor including the Average Daily Traffic count, the names of businesses along the corridor and how many people the system will benefit.



- When possible, use graphs or tables to make data easy to visualize and understand.
- Prove your project has support. If support letters are allowed, ask for them from various local, state and national representatives who support your project – elected officials (local, state and federal), school district officials (if project improves school zone), regional transportation planning agency, economic development agencies, local business owners, environmental groups (air quality agency) and homeowner associations. (Refer to Table 1. Partnerships/Supporters section for a more detailed list.) Make it easy on your supporters by drafting a letter for them. Ask them to edit it as they wish, then print a copy on their letterhead, sign it and return it to you. If space in your narrative allows, highlight quotes from prominent supporters to further bolster your project’s need or expected benefit.
- If letters of support are not allowed, you may still convey support in your narrative with quotes or testimonials.
- Double check, just to be safe! Before you submit your proposal, have at least two people who were not previously involved in preparing the application proofread the entire package. Have each person confirm you have followed all guidelines for word/page counts, font/font size, and have included all required forms and signatures.
- Follow the submission requirements carefully. Do they ask for extra copies along with the original application? Do they want an electronic copy on a CD ROM? Do you submit electronically? Each grant is different. Use a reputable carrier with tracking capabilities for all applications shipped. Track the application until you receive confirmation it was successfully delivered.

At some point either during the application process or after receiving funding, be prepared to amend your region’s Transportation Improvement Program (FTIP and/or STIP) by adding your project to it.

Scoring with InSync

“Write to the points” cannot be overstated when writing your grant application. After you submit your grant proposal to a funding agency, a review team is going to read what you wrote and evaluate your project against some form of scorecard. Before you write your first sentence, locate the scorecard in the grant guidelines. It probably won’t be called “scorecard” but may be called evaluation process or selection criteria, etc. Sometimes there will be an actual point system (e.g. 20 points for need, 10 points for safety), while other times the scoring may be more subjective (e.g. high, medium, low). The important point is to answer each question, with the end goal of obtaining the maximum points possible.

The Scoring with InSync Table (Table 1) was created specifically to help you “write to the points” and create a strong, competitive grant application. The first column identifies key scoring criteria found in the majority of grants (e.g. livability, safety, partnerships, etc.); the second column simplifies and explains the criteria; and the third column provides specific examples of how InSync meets the criteria. You should include the points from the third column when writing your narrative and expand

upon them for your specific project. While we have included InSync-specific data in the third column, when writing grant proposals you cannot call out a specific brand. You should refer to InSync as an adaptive traffic control system or ATCS.

Table 1: Scoring with InSync		
1. Key Scoring Criteria	2. Defined	3. InSync Specific
Air Quality	See Environmental Benefits	See Environmental Benefits
Benefit/Cost Analysis	<p>Benefit/cost means different things to different grant programs:</p> <p>Example 1: How will your proposed project save money over another option to accomplish the same task?</p> <p>Example 2: How will your proposed project help the environment (benefit) compared to what cost?</p> <p>Example 3: How will your proposed project improve safety/save lives/reduce accidents (benefit) compared to cost?</p> <p>Example 4: How will your proposed project pay back your constituents in monetized terms? In other words, what is the monetary return on investment?</p>	<p>InSync projects provide benefits that far outweigh the costs for each benefit/cost example provided:</p> <p>Example 1: When comparing the cost of a street widening project, which is significantly higher in cost, time/effort, and inconvenience, installing an InSync system is significantly more cost-effective.</p> <p>Example 2: InSync will reduce greenhouse gas emissions and fuel consumption by 20-30 percent with improved traffic flow, all through technology – no construction required – further reducing greenhouse gas emissions/fuel consumption.</p> <p>Example 3: InSync will improve safety and reduce collisions. Studies show intersections with InSync reduce their collision rate by up to 30 percent. Not only does this reduce risk (cost) of injury and fatality, it also reduces emergency response costs.</p> <p>Example 4: Independent studies show InSync returns more than forty times as much monetized benefit in terms of saved time and fuel compared to the initial project expense.</p>

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1. Key Scoring Criteria	2. Defined	3. InSync Specific
<p>Economic Competitiveness</p>	<p>How will your project improve the economic competitiveness (ability to compete) in the region and/or in the United States?</p>	<p>InSync benefits economic competitiveness by:</p> <ul style="list-style-type: none"> • Increasing traffic flow/reducing congestion allows easier access to businesses, revitalization of neighborhoods – home sale prices increase, and businesses thrive. • Reducing travel time up to 50 percent – allowing improved goods movement and access to employment and centers of commerce. • Reducing businesses’ ground transportation fuel consumption by 20-30 percent, resulting in more disposable income available for research and development and hiring employees. • Reducing accidents by up to 30 percent, resulting in reduced costs for emergency personnel as well as individual costs for vehicle repair and medical care. Also increases employee productivity on the job. (See rhythmtraffic.com/deployments for supporting information.)

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Economic Development	How will your project bring economic development in the short/long-term?	<p>Compared to construction costs – hiring crews and building materials – InSync projects offer far more efficient use of public funds such that the difference is available for other uses.</p> <p>Ease/speed of installation means immediate reduction in congestion resulting in improved access to businesses. For the long-term, this leads to revitalization of areas plagued by heavy traffic or poor access. Return of businesses to areas abandoned due to traffic issues.</p> <p>For residents, improved traffic flow and reduced congestion means reduced commute time and decreased fuel costs, resulting in increased disposable time and income.</p> <p>Improved traffic flow makes neighborhoods safer and more desirable, improving property values.</p>
Energy Conservation	See Environmental Benefits	See Environmental Benefits

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1. Key Scoring Criteria	2. Defined	3. InSync Specific
<p>Environmental Benefits: Environmental Sustainability Air Quality Energy Conservation</p>	<p>How will the project:</p> <ul style="list-style-type: none"> • Help the environment? • Improve long-term environmental sustainability (e.g. reduce urban sprawl and maintain open space/clean air/improved water quality)? • Improve air quality? • Reduce greenhouse gas emissions? • Reduce energy use? 	<p>InSync projects benefit the environment by reducing traffic congestion and improving traffic flow, which lead to:</p> <ul style="list-style-type: none"> • Reducing fuel consumption and greenhouse gas emissions by 20-30 percent. • Revitalizing neighborhoods previously congested, making them safer and more desirable, which reduces the need for urban sprawl and returns residents/businesses to areas previously too congested, alleviating need to expand into open/green space.

Table 1: Scoring with InSync

1. Key Scoring Criteria	2. Defined	3. InSync Specific
<p>Expeditious Completion of Project</p>	<p>Ability to complete the project quickly.</p>	<p>InSync projects can be completed quickly because:</p> <ul style="list-style-type: none"> • InSync is technology-based, eliminating the time and expense of major construction projects (e.g. road widening projects) that can take years to complete. • InSync installs quickly and easily. It is designed as a “plug and play system” which integrates seamlessly with existing hardware. • No hardware upgrades are required. InSync is compatible with all detection types, cabinets and controllers. Grant funds are therefore spent on net new equipment and technology, not replacing equipment already owned by the agency. • InSync is easy to configure. It requires little training and virtually no staff hours to maintain.

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1. Key Scoring Criteria	2. Defined	3. InSync Specific
<p>Innovation</p>	<p>How is your project new, creative and better?</p>	<p>InSync has revolutionized traffic signal synchronization, winning numerous innovation awards and “new product” awards.</p> <p>Adaptive traffic control is the leading edge of traffic optimization. It is researched and supported by the U.S. government’s research centers in addition to private businesses. (Ask Rhythm Engineering for the supporting documentation if needed.)</p> <p>More U.S. agencies have selected InSync than any other adaptive traffic control solution. (See rhythmttraffic.com/deployments for supporting information.)</p> <p>InSync uses artificial intelligence to optimize traffic signals in real-time. InSync holds three patents with more pending.</p> <p>InSync measures traffic demand and adapts in real-time by adjusting signal timing each second using global and local optimization logic to move traffic in the most efficient manner possible.</p> <p>InSync is developed with the latest technology from multi-disciplinary backgrounds including traffic and transportation engineering, electrical engineering, computer engineering, wireless communications, Ethernet networking, traffic management center (TMC) design/deployment/operations, traffic control hardware and software, and systems integration.</p>

Table 1: Scoring with InSync

1. Key Scoring Criteria	2. Defined	3. InSync Specific
<p>Livability</p> <p>Source: U.S. Department of Transportation Livability in Transportation Guidebook</p>	<p>DOT, HUD and EPA jointly created the Interagency Partnership for Sustainable Communities to improve access to affordable housing, provide more transportation options, and lower transportation costs while protecting the environment in communities nationwide. They established six livability principles to act as a foundation for interagency coordination:</p> <p>Provide more transportation choices: Develop safe, reliable, and economical transportation choices to decrease household transportation costs, reduce our nation’s dependence on foreign oil, improve air quality, reduce greenhouse gas emissions and promote public health.</p> <p>Promote equitable, affordable housing: Expand location- and energy-efficient housing choices for people of all ages, incomes, races and ethnicities to increase mobility and lower the combined cost of housing.</p> <p><i>(...continued on next page)</i></p>	<p>InSync projects reduce traffic congestion resulting in:</p> <ul style="list-style-type: none"> • Reducing stops by 60-90 percent. • Reducing travel time up to 50 percent. • Reducing fuel consumption and emissions by 20-30% • Reducing accidents by up to 30 percent other adaptive traffic control solution. (See rhythmttraffic.com/deployments for supporting information.) <p>Each of these improves livability in the established six key areas:</p> <p>Provide more transportation choices: Reduced travel time and fuel consumption means reduced household transportation costs, greenhouse gas emissions and foreign oil dependency and improved air quality and public health. InSync also can integrate and thus help public transit solutions.</p> <p>Promote equitable, affordable housing: Reduced fuel costs and shorter commute times mean residents have more money to pay for housing and other goods/services, and can expand their affordable housing searches to new neighborhoods.</p> <p><i>(...continued on next page)</i></p>

Table 1: Scoring with InSync

1. Key Scoring Criteria	2. Defined	3. InSync Specific
<p>Livability</p> <p>Source: U.S. Department of Transportation Livability in Transportation Guidebook</p>	<p>Enhance economic competitiveness: Improve economic competitiveness through reliable and timely access to employment centers, educational opportunities, services, and other basic needs of workers, as well as expanded business access to markets.</p> <p>Support existing communities: Target Federal funding toward existing communities—through strategies like transit oriented, mixed-use development, and land recycling—to increase community revitalization and the efficiency of public works investments and safeguard rural landscapes.</p> <p>Coordinate policies and leverage investment: Align Federal policies and funding to remove barriers to collaboration, leverage funding, and increase the accountability and effectiveness of all levels of government to plan for future growth, including making smart energy choices such as locally generated renewable energy.</p> <p><i>(...continued on next page)</i></p>	<p>Enhance economic competitiveness: With reduced traffic/reduced fuel costs, residents have more reliable/timely access to work, school and services and more disposable income. Local businesses expand their customer base by becoming more easily accessible through reduced congestion.</p> <p>Support existing communities: InSync makes existing communities more accessible by reducing congestion and improving traffic flow – bringing access back to existing neighborhoods and businesses and safeguarding rural landscapes by reversing urban sprawl.</p> <p>Coordinate policies and leverage investment: With reduced traffic congestion, InSync helps reduce fuel consumption and dependency on foreign oil, reduce greenhouse gas emissions, improve air quality, improve traffic flow in congested areas and update transportation corridors, which revitalizes neighborhoods and businesses and reduces urban sprawl.</p> <p><i>(...continued on next page)</i></p>

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1. Key Scoring Criteria	2. Defined	3. InSync Specific
<p>Livability</p> <p>Source: U.S. Department of Transportation Livability in Transportation Guidebook</p>	<p>Value communities and neighborhoods: Enhance the unique characteristics of all communities by investing in healthy, safe, and walkable neighborhoods—rural, urban, or suburban.</p>	<p>Value communities and neighborhoods: InSync improves traffic flow and reduces congestion, making communities more accessible and desirable. Reduced traffic increases health and safety with improved air quality and reduced accidents. Safe and healthy environments encourage walking/bike riding, part of the “complete streets” initiative that is growing in popularity.</p>
<p>Need for Project</p>	<p>Why is signal synchronization needed? Depending on the grant and the project, there could be any number of reasons the project is needed – environment, congestion and safety are often key reasons. Why do emergency vehicles need this corridor for preemption?</p> <p><i>(...continued on next page)</i></p>	<p>To support the “need” for an InSync project, you may wish to include data from a variety of “key scoring criteria” – even if you are repeating the information you included for “safety” – if “safety” is part of your “need,” include the data on safety in both areas:</p> <p>Air quality of region – if applicable, see Environmental Benefits section.</p> <p>Congestion – to demonstrate need:</p> <ul style="list-style-type: none"> • Provide the Average Daily Traffic Count (ADT), if it helps strengthen application. • Include the corridor’s Level of Service (LOS) if it supports the need. • Describe rush hour (peak) conditions. • Describe current levels of saturation (V/C). <p><i>(...continued on next page)</i></p>

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1. Key Scoring Criteria	2. Defined	3. InSync Specific
<p>Need for Project</p>	<p>When describing need, keep the narrative concise and focused. Use “first,” “second,” “third,” etc. to keep evaluators focused on the top needs. For example:</p> <p>“The purpose of the proposed project is to improve traffic signal operation along a 3.2 mile segment of East Fourth Street in Main City. Fourth Street was identified by city leaders as a priority corridor for an ATCS because of the following three needs:</p> <p>First, traffic volume. The corridor has the highest volume of traffic in the region, with an average daily traffic count of 48,000 vehicles. The corridor is characterized by severe congestion and low travel speeds during peak hours.</p> <p>Second, business activity. The corridor serves as the retail and commercial hub for the entire region that serves over 100,000 people.</p> <p>Third, air quality. The region has the worst air quality in the State.</p>	<p>Safety/Congestion: Corridor is important for emergency access/personnel.</p> <p>Corridor is the only access to areas within the community that need emergency personnel quickly (e.g. sports park, schools, large retirement homes, large subdivisions, corporate headquarters facilities/business park, etc.).</p> <p>Provide relevant collision data.</p> <p>Provide relevant traffic citation data (running red lights, failing to yield right of way, road rage because of congestion, etc.).</p> <p>Describe vulnerable populations in project area (schools, retirement homes, hospitals).</p> <p>Livability/Congestion: Describe if community has a large outdoor population (bicycle clubs, pedestrian friendly, walkable community).</p> <p>Describe if community leaders are striving to make community more of a “complete street” community.</p> <p>Incorporate any other relevant community goals that synchronized traffic supports (walkable, pedestrian friendly, through corridors, goods movement, etc.).</p> <p><i>(...continued on next page)</i></p>

Table 1: Scoring with Insync

1. Key Scoring Criteria	2. Defined	3. InSync Specific
Need for Project	<i>(continued)</i>	<p>Environmental Justice: Describe how this project will benefit an economically disadvantaged area or a large minority population, thereby improving environmental equity.</p>
Partnerships/Supporters	<p>Who supports your project? Do you need partners to complete the project? Even if partners are not a requirement, demonstrating that you have support from residents, businesses, local/regional government and environmental groups helps your project.</p>	<p>If allowed in your application, include letters of support to document your partnerships/supporters. If letters are not allowed, and space is available, include testimonials from key partners/supporters in narrative. Examples of partnerships/supporters include:</p> <ul style="list-style-type: none"> • Chamber of Commerce (how business will improve because of less congestion) • Air quality agency (especially if in non-attainment area) • Federal Senators • Federal Representatives • State elected officials • County judges, commissioners, supervisors, etc. • School district officials (if project improves school zones) • Regional council of governments <p><i>(...continued on next page)</i></p>

Table 1: Scoring with InSync

1. Key Scoring Criteria	2. Defined	3. InSync Specific
Partnerships/Supporters	<i>(continued)</i>	<ul style="list-style-type: none"> • State or local agencies that are peripherally involved, including neighboring jurisdictions • Local businesses along the route • Business associations • Economic development agencies • Redevelopment agencies • Bicycle clubs or associations (attesting to overall improved safety within corridor improves bicycle safety, etc.)
Safety	<p>How does your project reduce the number of collisions and risk of injuries or fatalities for those traveling in vehicles, as well as for pedestrians and bicyclists?</p> <p>How does your project improve safety for citizens?</p>	<p>InSync projects improve safety by:</p> <ul style="list-style-type: none"> • Reducing accidents by up to 30%. • Reducing response time for emergency vehicles by reducing congestion. • Reducing response time through emergency response override features. • Improving safety of pedestrians and bicyclists at intersections. <p>(See rhythmtraffic.com/deployments for supporting information.)</p>

Table 1: Scoring with InSync

1. Key Scoring Criteria	2. Defined	3. InSync Specific
<p>Project Schedule</p>	<p>Most applications ask when will you start and end the project? What are the significant milestones?</p> <p>This is an excellent opportunity to differentiate your project from others by providing a more detailed summary of important steps. Use the schedule to demonstrate to evaluators that you understand the steps necessary to successfully complete the project. Also use it to illustrate that you understand federal and state regulations pertaining to grant management (e.g. competitive procurements, audits, records retention, prevailing wage rates, etc.). InSync’s published deployment schedule is a good reference in your development of your project schedule.</p>	<p>Show that you understand the “period of performance” by aligning your project dates with the grant deadline dates. Do not show a schedule that goes beyond the date all grant funds must be expended or closed out. Show milestones for:</p> <ul style="list-style-type: none"> • Date grant agreement is expected to be executed with funding agency. • Environmental clearances. • Systems engineering analysis. • Developing a request for proposals, evaluating proposals, awarding a contract (show that you understand federal and state procurement regulations). • Kick-off meeting with successful contractor. • Weekly or monthly meetings with contractor. • Product testing. • Project completion/notice of completion filed. • Requesting reimbursement for funds from funding agency. • Providing required reports (e.g. quarterly progress reports, etc.). • Records retention (show that you will maintain your grant and project records for at least four years).

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1. Key Scoring Criteria	2. Defined	3. InSync Specific
<p>State of Good Repair</p>	<p>The project's ability to improve the condition of existing transportation systems/facilities, etc. with particular emphasis on projects that minimize life-cycle costs.</p>	<p>InSync projects improve existing transportation systems by:</p> <p>Improving traffic flow and reducing congestion through traffic signal synchronization without the expense of adding lanes or reworking roads.</p> <p>InSync projects minimize life-cycle costs by:</p> <ul style="list-style-type: none"> • Requiring minimal ongoing maintenance and active operations. It is a small ongoing investment of agency time and money. • Automating traffic signal optimization frees up agency resources to concentrate on other needs. • Reducing wear and tear on roads, including striping, due to continual traffic flow versus stop/start traffic congestion.

Prove It with Stats and Facts

The difference between a good application and a great application that is more likely to get funded is in the details. A good application claims installing an adaptive traffic control system (ATCS) will improve safety by decreasing accidents. A great application provides concrete data to support this claim. The following section provides specific data to bolster the answers in your application. The information has been gathered from various government agency sources and from research completed at intersections installed with InSync systems around the country. Find examples that best match your scenario or that address key scoring criteria for your specific application.

Economic Benefits and Cost/Benefit:

According to the Texas Transportation Institute, the annual cost of traffic congestion is \$87.2 billion in wasted fuel and lost productivity which translates to \$750 per traveler. [City Name] has [#] of drivers, implying a waste of approximately [\$] due to congestion. Signal optimization via ATCS will substantially reduce the financial burden on drivers on the [Name] corridor by as much as 40 percent.

(<http://tti.tamu.edu/2009/07/08/economic-factors-tap-the-brakes-on-traffic-congestion/>)

The Washington State Department of Transportation estimates that the benefit-cost relationship of traffic signal synchronization is 40:1, while the benefit-cost relationship of adding one new lane of travel in each direction is 10:1. (http://www.wsdot.wa.gov/NR/rdonlyres/2D87F406-BBF6-46C7-BC07-87B865643B8B/O/Doug_Congestion_Relief_Folio.pdf)

[City Name] expects to reduce greenhouse gas emissions and fuel consumption by 20-30 percent as a result of the ATCS system with a total project cost of [\$]. This is a significant reduction for a minimal cost investment, especially when compared to the alternative construction costs of road-widening.

Insurance provider AAA estimates financial costs in the United States to be \$6 million per fatality, and \$126,000 per non-fatal injury collision. Comparing the total cost of [\$] for this ATCS project, to the reduction in just [# (insert the number of fatalities and/or non-fatal injury collisions needed to cover the cost of the project)] collisions, the benefit on a financial basis is easily achieved, not to mention the benefit of saving lives and improving safety. (<http://www.usatoday.com/news/nation/story/2011-11-02/fatal-vehicle-crashes-cost-millions/51051030/1>)

Environmental Benefits:

On its website, the U.S. Department of Transportation's Federal Highway Administration claims, "On average ASCT improves travel time by more than 10 percent. In areas with particularly outdated signal timing, improvements can be 50 percent or more." They continue by saying, "Adaptive signal control technologies are also kinder to the environment. Using ASCT can reduce emissions of hydrocarbons and carbon monoxide due to improved traffic flow." (<http://www.fhwa.dot.gov/everydaycounts/technology/adsc/>)

Independent studies completed along intersections throughout the United States installed with an ATCS (InSync ATCS from Rhythm Engineering) show 20-30 percent reduction in fuel consumption and emissions, based on improving traffic flow with 60-90 percent fewer stops and improving travel time by up to 50 percent. (<http://www.rhythmtraffic.com/deployments>)

The U.S. Department of Transportation's Federal Highway Administration website lists the following "Quick Facts" about ATCS:

- Outdated traffic signal timing currently accounts for more than 10 percent of all traffic delays.
- When traffic signals are responsive to traffic demands, overall travel times are decreased.
- Average speeds improve when adaptive signal control technologies are used.
- Adaptive signal control typically improves travel time and delay by 10 percent.
- Within the United States, adaptive signal control technologies have been in use for roughly 20 years, though they have been deployed on less than 1 percent of existing traffic signals. (<http://www.fhwa.dot.gov/everydaycounts/technology/adsc/quickfacts.cfm>)

Comparative Case Studies:

Following are examples of InSync deployments you can use as comparisons to your deployment. There are several more available for you to use if needed. Contact Rhythm Engineering to explore other case studies you can employ as comparisons in your grant application.

The population and average daily traffic (ADT) count for [City Name], is similar to that of Grapevine, Texas in the greater Dallas-Fort Worth area, with a population of 50,000 and a citywide ADT of 300,000 vehicles. An adaptive traffic control system installed in Grapevine in 2010 resulted in reducing stops by up to 88 percent, decreasing delays by up to 81 percent, and lowering travel time by up to 45 percent. Additionally, fuel consumption was reduced by up to 31 percent, equating to an annual savings for motorists of \$8,067,234, and greenhouse gas emissions dropped up to 40 percent. [City Name] expects results similar to those in Grapevine with the installation of an ATCS based on the similarity of city population, ADT, and project scope. (<http://americancityandcounty.com/roadways/suburb-modifies-traffic-signals-improve-commutes>)

The scope of [City Name's] proposed project is similar to the ATCS installation in the Town of Mount Pleasant, South Carolina, a suburb of Charleston. As part of a pilot program performed with the South Carolina DOT, Mount Pleasant (population 67,843) installed an ATCS at seven traffic signals with the goal of improving traffic flow and reducing congestion. The system reduced commuters' travel time by up to 29 percent in the northbound lanes and up to 17 percent in the southbound lanes. Average speed increased by 9.3 mph (35 percent) in the northbound lanes, and 3.6 mph (14 percent) in the southbound lanes. Stops decreased by 50 to 67 percent, thereby reducing fuel usage for accelerations and reducing greenhouse gas emissions. Based on these results, the pilot has been deemed a success, and the Town of Mount Pleasant is expanding the ATCS installation to twenty additional signals. (<http://www.tompssc.com/civicalerts.aspx?AID=173>)

An ATCS installation along a 1,800 foot portion of an arterial corridor with two traffic signals in Upper Merion Township, Pennsylvania (population 28,395) in the greater Philadelphia area is similar in size and scope to [City Name's] proposed project. Similar to [project's corridor name], the Route 202 corridor in Upper Merion had a high traffic volume (ADT of 47,000 vehicles) in relation to the population size. The heavy traffic volume was due to the close proximity of the King of Prussia Mall and heavy commuter traffic from several nearby freeways. The recent timing plans installed in the city were still unable to alleviate the traffic challenges. By installing ATCS at just two signals, the results were significant – 35 percent reduction in stops, 53 percent reduction in delays, 79 percent increase in average speed, 30 percent reduction in emissions, 28 percent reduction in fuel usage and 44 percent reduction in travel time. (<http://www.rhythmtraffic.com/deployments>)

Expeditious Completion of Project:

ATCS can be installed and fully functioning in as little as 90 days, which is particularly expeditious by comparison to the alternatives of road-widening or other construction projects.

The Federal Highway Administration's (FHWA) Every Day Counts (EDC) initiative is designed to identify and deploy innovation aimed at reducing the time it takes to deliver highway projects, enhance safety and protect the environment. The EDC specifically cites ATCS as technology that can be deployed rapidly and is beneficial to improving traffic flow and safety. (<http://www.fhwa.dot.gov/everydaycounts/technology/adsc/>)

Some ATCS products, such as InSync by Rhythm Engineering, are known as "plug-and-play systems" that utilize existing controller hardware and central system software. Existing agency-owned traffic signal hardware does not need to be discarded or upgraded for deployment of these systems.

Innovation:

As included in "Expeditious Completion of Project," the Federal Highway Administration's (FHWA) Every Day Counts (EDC) specifically recommends ATCS as innovative technology to replace outdated traffic signals and recommends accelerating the adoption of ATCS across the United States. (<http://www.fhwa.dot.gov/everydaycounts/technology/adsc/>)

In a study conducted by engineering firm HDR, real-time ATCS were found to be innovative and significantly improved over the more traditional traffic control systems from the past, superior even to those released in the early 2000s. Since 2009, the ATCS market has expanded due to new technology advances. The most advanced systems now use real-time information gathered from the location along with encoded mathematical algorithms. The systems act as "traffic robots" using both "eyes" and "brains" to control traffic flow efficiently for each intersection. (<http://www.hdrinc.com/sites/all/files/content/white-papers/white-paper-images/3675-adaptive-traffic-control-systems-in-the-united-states-updated-summary-and-comparison.pdf>)

ATCS products and projects have been awarded numerous "innovation awards" worldwide, including:

- **Excellence in Transportation Award** from the Kansas City Chapter of the Institute of Transportation Engineers (KCITE) for the City of Lee's Summit, MO's ATCS project using InSync from Rhythm Engineering, 2010.
- **Project of the Year Award** from the Mid-Atlantic Section of the Institute of Transportation Engineers (MASITE) for Dewberry's road diet using an ATCS (InSync from Rhythm Engineering) in Carlisle, PA, 2011.
- **Excellence in Engineering and Palmetto Award** from American Council of Engineering Companies of South Carolina, Columbia, SC, was awarded to the Town of Mount Pleasant and key participants (including ATCS company Rhythm Engineering for their product InSync) for the incorporation of the new ATCS technology which reduced travel time, emissions and fuel expenses.

Safety:

- The Federal Highway Administration (FHWA) reported that accidents at or near intersections represent approximately 21 percent (7,043 of 33,808) of reported fatalities on U.S. roadways in 2009. With intersections accounting for a disproportionate share of safety problems, intersection safety is a national, state and local priority. (<http://safety.fhwa.dot.gov/intersection/>)
- The American Association of State and Highway Transportation Officials (AASHTO) in conjunction with other highway safety agencies, proposed a comprehensive Strategic Highway Safety Plan (SHSP) to address twenty-two specific challenges to improving safety. The SHSP claims that "on average, there are five crashes at intersections every minute and one person dies every hour of every day at an intersection somewhere in the United States." The SHSP goes on to say, "About one in every four fatal crashes occurs at or near an intersection, one-third of which are signalized." (<http://safety.transportation.org/doc/Safety-StrategicHighwaySafetyPlan.pdf>)
- The SHSP proposed strategies for decreasing danger at intersections include optimizing clearance intervals (Strategy 17.2 A2) and employing signal coordination (Strategy 17.2 A4). (http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_500v12.pdf)
- The Crash Mitigation Factor Clearinghouse reports signal coordination results in a 93.6 percent CMF for rear-end collisions. (http://www.cmfclearinghouse.org/study_detail.cfm?stid=219)

The following safety results are from InSync installations around the United States:

- The City of Springdale, Arkansas (population 69,797) installed an ATCS along nine intersections in April 2010. The Springdale Police Department reported a 30 percent reduction in collisions along the corridor based on data for a twelve-month period before and twelve-month period after the installation.
- InSync is proven to reduce traffic accidents in actual deployments by 13% to 30%, according to "Traffic Control Solutions Shows Initial Safety Benefits" by Jim Clark P.E. of HNTB Corporation.

(Ask Rhythm Engineering for supporting documentation if needed.)

- The City of Topeka, Kansas (population 127,473) installed an ATCS at seven intersections along 21st Street. They reported a 27 percent reduction in collisions in the year following the installation, from 142 collisions to 104. (<http://cjonline.com/news/2012-04-11/green-light-tunnel-includes-drop-crashes>)
- The Missouri DOT installed an ATCS at twelve signals along two and a half miles of Highway 291 in Lee's Summit, Missouri (population 91,364). The installation was part of Operation Safe Highway 2009, a joint effort with the Lee's Summit Police Department. The final report showed the ATCS was responsible for reducing collisions on the highway by 17 percent. (<http://library.modot.mo.gov/RDT/reports/Ri08026/or10020.pdf>)

Grant Opportunities

There are likely dozens of federal grant opportunities and even more state and local grants that may be a good fit for your funding needs. When searching for grants, think of possibilities from two angles. First, which grants seem tailored to the tactics of your project – traffic signal optimization? Second, which grants align with the benefits of your project – better livability, environment, safety, economics, etc.? This Playbook includes a few examples of each as well as examples of the basic information and criteria to help you understand if a grant is a good fit for your project and what information to gather on other grants you may identify. The final consideration in choosing which type of grant to pursue is strategic – will your application stand out or is it similar to dozens or even hundreds of other applications?

Note about Systems Engineering Analysis: Federal regulation 23 CFR 940 requires all intelligent transportation systems (ITS) projects funded with the federal highway trust (which includes FHWA-administered funding) to submit a systems engineering analysis. Most traffic professionals have become familiar with this requirement and the extensive guidance and support offered through the FHWA Resource Center. As is true of all aspects of grant applications, the systems engineering analysis should not be product-specific, but can rely on the applicant's preferred traits, benefits and results of existing product technologies. While the FHWA-administered opportunities are some of the grants best tailored to signalization projects, other grant sources may be easier to apply for because they do not require this step.

Congestion Mitigation and Air Quality Improvement (CMAQ) Program

Funding Agency: Federal Highway Administration funding flows from federal to state and then to region. Funds are managed through regions, often Metropolitan Planning Organizations (MPOs) and regional transportation planning agencies.

Website: http://www.fhwa.dot.gov/environment/air_quality/cmaq/ (Federal level)
Call for projects comes from regions. (Not all regions participate in each funding cycle.)

Federal Level Contact: Michael Koontz
Office of Natural Environment
Air Quality Team (HEPN-10)
(202) 366-2076
michael.koontz@dot.gov

Purpose of Program: To fund transportation projects or programs that will contribute to attainment or maintenance of the National Ambient Air Quality Standards (NAAQS) for ozone, carbon monoxide and particulate matter.

The CMAQ program supports two important goals of the Department of Transportation: improving air quality and relieving congestion. These goals were strengthened in a provision added to the CMAQ statute by SAFETEA-LU, establishing priority consideration for cost-effective emissions reduction and congestion mitigation activities when using CMAQ funding.

Since congestion relief projects also reduce idling, the negative emissions impacts of “stop and go” driving, and the number of vehicles on the road, they have a corollary benefit of improving air quality. Based on their emissions reductions, these types of projects are eligible for CMAQ funding. The U.S. DOT believes State and local governments can simultaneously reduce the costly impacts of congestion while improving air quality.

Deadline: Varies, check with your Regional Transportation Agency.

Requirements: All projects and programs eligible for CMAQ funds must come from a conforming transportation plan and Transportation Improvement Plan (TIP), and be consistent with conformity provisions contained in section 176(C) of the Clean Air Act and the Transportation Conformity Rule. Projects need to be included in TIPs or statewide transportation improvement projects developed by MPOs or States respectively, under the metropolitan or statewide planning regulations. Projects also must complete the National Environmental Policy Act (NEPA) requirements and meet basic eligibility requirements for funding under titles 23 and 49 of the United States Code.

Funding Background: CMAQ was reauthorized in 2005 under the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). Under SAFETEA-LU, the program has provided just under \$9 billion in authorizations to State DOTs and metropolitan planning organizations, and ultimately their project sponsors, for a growing variety of transportation-environmental projects.

Total funds available FY 2011 – \$1.977 billion on a Federal level.

States receive an apportioned amount based on a statutory formula using population and air quality classifications as designated by the EPA.

Local match required – Can be as low as 12 percent

Funding cycle – Annual

Examples of Funded Projects: The following project was funded through CMAQ funds.

City of Parma, Ohio: Awarded \$1,520,000 in 2007 for a city-wide traffic synchronization project.

Economic Development Administration (EDA) Public Works & Economic Development Facilities Program

Funding Agency: Economic Development Administration (EDA) U.S. Department of Commerce

Website: <http://eda.gov/>

Regional Contacts: For directory of regional contacts, visit: <http://eda.gov/contact.htm>

Purpose of Program: To support the construction or rehabilitation of essential public infrastructure and facilities to help communities and regions leverage their resources and strengths to create new and better jobs, drive innovation, become centers of competition in the global economy and ensure resilient economies.

Deadline: Applications accepted on an on-going basis.

Application Threshold: Applicant must be located in an area that is experiencing economic distress, defined by EDA as:

- Unemployment that is, for the most recent 24-month period for which data are available, at least one percentage point greater than the national average unemployment rate; or
- Per capita income that is, for the most recent period for which data are available, 80 percent or less of the national average per capita income; or
- Suffering as a result of a "Special Need," as determined by EDA. A project is eligible pursuant to a "Special Need" if the project is located in a region that meets one of the criteria described below:
 - Closure or restructuring of industrial firms or loss of a major employer essential to the regional economy.
 - Substantial out-migration or population loss.
 - Underemployment, meaning employment of workers at less than full-time or at less skilled tasks than their training or abilities permit.
 - Military base closures or realignments, defense contractor reductions-in-force, or Department of Energy defense-related funding reductions.
 - Natural or other major disasters or emergencies, including terrorist attacks.
 - Extraordinary depletion of natural resources or other impact attributable to a new or revised Federal regulation or policy that will have a significant impact on a community to avoid an extraordinary depletion of natural resources.
 - Communities undergoing transition of their economic base as a result of changing trade patterns.
 - Other special need. The area is experiencing other special or extraordinary economic adjustment needs, as determined by the Assistant Secretary.

Previous Funding Information: *Total funds available FY 2012 – Allocating \$1111.6 million*

Funding range FY 2011 – High \$2 million; Average: \$1.7 million; Low: \$500,000

Local match required – Generally 50 percent, preference will be given to application with cash match as opposed to in-kind match.

Project Readiness: EDA expects that all projects will proceed efficiently and expeditiously and encourages investments with demonstrated capacity to be implemented quickly and effectively, accelerating positive economic impacts.

Evaluation Criteria:

Review Procedure

- Optional Preliminary Review – Eligible applicants may obtain written feedback on their application before a funding cycle deadline. Based on this feedback, the applicant may revise and/or supplement the application or submit a substantially revised application by the funding cycle deadline or in time for consideration in a subsequent funding cycle.
- Responsiveness Review
- Merit Review – Applications will be reviewed independently based on the evaluation criteria listed below. Applications will be deemed: non-competitive, competitive, or highly competitive.
- Competitive and highly competitive applications will be forwarded to the EDA Investment Review Committee for further evaluation.
- Investment Review Committee – Recommendation will be made to the Regional Director who will make the final funding decision.

Review Criteria

- 30 percent - National Strategic Priorities: Application encourages job growth and business expansion, as well as promoting one or more of the following initiatives:
 - Technology-led economic development,
 - Support to small- and medium-sized businesses,
 - Global competitiveness and innovation,
 - Responses to economic dislocation because of auto industry restructuring or natural disasters,
 - Commercialization of research, and/or
 - Environmentally sustainable development.
- 25 percent - Economically Distressed and Underserved Communities: Applications that strengthen diverse communities that have suffered disproportionate economic and job losses or long-term severe economic distress, and/or are rebuilding to become more competitive in the global economy.
- 25 percent - Return on Investment: Applications that demonstrate a high return on EDA's investment by demonstrating that the project will:
 - Construction Assistance
 - Lead to the creation and/or retention of jobs, particularly high wage jobs for a particular community,
 - Serve as a catalyst for private sector investment.
 - Non-Construction Assistance
 - Be likely to stimulate economic development by demonstrating a high probability of leading to actionable projects or identifying specific benchmarks that will measure progress towards outputs.
- 10 percent - Collaborative Regional Innovation: Applications that support the development and growth of innovation clusters based on existing regional competitive strengths, which may be demonstrated by the extent to which an investment will:
 - Promote collaboration among multi-jurisdictional leadership,

- Link and leverage regional assets, and/or
- Implement or build upon effective planning efforts.
- 10 percent - Public/Private Partnership: Applications that use both public and private sector resources, and/or leverage complementary investments by other government/public entities and/or non-profits.

High Risk Rural Roads (HR3) Program

Funding Agency: Federal Highway Administration managed at State level

Website: <http://safety.fhwa.dot.gov/hsip/> (Federal Level)

See additional information for HR3 available on HSIP site.

Check your State Transportation Agency for local website.

Federal Level Contact: Erin Kenley

HR3 Program Contact

202-366-8556

erin.kenley@dot.gov

Purpose of Program: Correct or improve the safety of a rural road. Funds are only eligible for roadways functionally classified as a rural major or minor collector, or rural local road which:

- Have accident rates for fatalities and incapacitating injuries exceeding the statewide average for those functional classes of roadways; or
- Will likely have increases in traffic volume that will likely create an accident rate for fatalities and incapacitating injuries that exceeds the statewide average for those functional classes of roadway.

Deadline: Annual, check with your State Transportation Agency.

State Requirements: States will administer HR3 funds. A State must develop and implement a strategic highway safety plan, produce a program of projects or strategies to reduce safety problems, evaluate the plan on a regular basis and submit an annual report to the Secretary that describes not less than 5 percent of locations exhibiting the most severe safety needs with a description of the potential remedies, costs and impediments to resolve these safety needs.

Previous Funding Information: *Total funds available federally 2012 – \$90 million*

Maximum funds for a single project – \$900,000

Minimum funds for a single project – \$100,000

Local match required – 10 percent

Funding cycle – Annual

Project Categories: All projects will be ranked on their benefit/cost (B/C) ratio.

Statewide Project Selection:

- Projects will be prioritized in descending order, statewide, using the calculated B/C.
- All HR3 funds will be targeted for projects in Statewide Project Selection.
- Staff will review each district's project list in conjunction with the statewide project.
- Approximately 3 to 4 months after the application due date the approved projects list will be posted.

Eligible Project Types: A specific safety problem must be identified for correction and the proposed countermeasure must correct or substantially improve the condition. Examples of project types funded:

- An intersection safety improvement.
- Installation of a priority control system for emergency vehicles at signalized intersections.

Eligible Project Costs: Preliminary engineering including NEPA clearance and preparation of plans, specifications, and estimates, right of way, construction engineering and construction.

Evaluation Criteria: The evaluation criteria will differ by State, but will rely heavily on benefit/cost ratio.

Example of Funded Projects: The following projects were funded through HR3 funds.

- *Tulare County, CA* – Awarded \$303,930 to install traffic signals.
- *San Joaquin County, CA* – Awarded \$885,600 to install traffic signals.

Highway Safety Improvement (HSIP) Program

Funding Agency: Federal Highway Administration Managed at State level

Website: <http://safety.fhwa.dot.gov/hsip/> (Federal Level)

Check your State Transportation Agency for local website.

Federal Level Contact: Erin Kenley

HSIP Program Contact

202-366-8556

erin.kenley@dot.gov

Purpose of Program: Correct or improve the safety on any publicly owned roadway or bicycle/ pedestrian pathway or trail. A highway safety improvement project corrects or improves a hazardous road location, or addresses a highway safety problem.

Deadline: Annual, check with your State Transportation Agency.

State Requirements: States will administer HSIP funds. A State must develop and implement a strategic highway safety plan, produce a program of projects or strategies to reduce safety problems, evaluate the plan on a regular basis and submit an annual report to the Secretary that describes not less than 5 percent of locations exhibiting the most severe safety needs with a description of the potential remedies, costs and impediments to resolve these safety needs.

Previous Funding Information: The amount of federal safety funds available for the local HSIP program will be determined in the next Federal Transportation Act. At this time it is expected the funds will remain similar to their 2011 levels.

Total funds available federally 2011 - \$100 million

Maximum funds for a single project – \$900,000

Minimum funds for a single project – \$100,000

Local match required – 10%

Funding cycle – Annual

Project Categories: All projects will be ranked on their benefit/cost (B/C) ratio.

- Statewide Project Selection:
 - Projects will be prioritized in descending order, statewide, by using the calculated B/C.
 - 60-75 percent of HSIP funds will be targeted in Statewide Project Selection.
- District Project Selection:
 - Projects that do not receive funding under the Statewide Project Selection will compete under the District Project Selection.
 - Projects with the highest B/C ratios will be selected for funding.
 - 25-40 percent of HSIP funds will be targeted for projects in District Project Selection.
 - Staff will review each district's project list in conjunction with the statewide project.
 - Approximately 3 to 4 months after the application due date, the approved projects list will be posted.

Eligible Project Types: A specific safety problem must be identified for correction and the proposed countermeasure must correct or substantially improve the condition. Examples of project types funded:

- An intersection safety improvement.
- Installation of a priority control system for emergency vehicles at signalized intersections.

Eligible Project Costs: Preliminary engineering including NEPA clearance and preparation of plans, specifications, and estimates, right of way, construction engineering and construction.

Evaluation Criteria: The evaluation criteria will differ by State but will focus on the benefit/cost ratio.

Example of Funded Projects: The following project was funded through HSIP funds.

- *City of Rancho Palos Verdes, CA* – Awarded \$707,000 in 2011 for Traffic Signal Synchronization Project to improve safety and mobility.

Safe Routes to School (SRTS) Program

Funding Agency: U.S. Department of Transportation, Federal Highway Administration

Website: <http://safety.fhwa.dot.gov/saferoutes/>

Federal Contact: Becky Crowe
Federal Highway Administration
Office of Safety
804-775-3381
rebecca.crowe@dot.gov

Purpose of Program: Infrastructure Projects:

- Projects are defined as either infrastructure or non-infrastructure. There is a separate application for each type of project.
- Infrastructure projects are engineering projects or capital improvements that will substantially improve safety and the ability of students to walk and bicycle to school.
- They typically involve the planning, design and construction of facilities within a two mile radius from an elementary or middle school.

Non-Infrastructure Projects:

- Non-infrastructure projects are education, encouragement and enforcement activities that are intended to change community behavior, attitudes and social norms to make it safer for children in Grades K-8 to walk and bicycle to school.
- Should increase the likelihood of programs becoming institutionalized once in place.

Deadline: Annual, check with your State Transportation Agency.

Funding Information: *Actual funds awarded 2011 nationally – \$202 million*

The legislation established a number of parameters related to program funding which address the following items:

- Apportionment Formula – Funds are provided to each State and the District of Columbia by formula based on the State's percentage of the national total of school-aged children in grades K – 8.
- Minimum Allocation–No State shall receive less than \$1 million in any fiscal year.
- Infrastructure and Non-infrastructure Funds – As described in the "Purpose of Funds" section, funds are made available for two different types of projects (infrastructure and non-infrastructure), with not less than 10 percent and not more than 30 percent of each State's apportionment required to be spent on non-infrastructure activities.
- Duration of Availability – Funds shall be available for obligation in the same manner as if such funds were apportioned under chapter 1 of title 23, USC; except that such funds shall not be transferable and shall remain available until expended.
- No Local Match Permitted – the Federal share of the cost of a project or activity shall be 100 percent.
- Set-Aside for Administrative Expenses – Prior to distributing funding to the States, FHWA may deduct up to \$3 million each year for administrative expenses to carry out the SRTS Program.

Resources: In 2011, an SRTS Online Guide was developed which provides specific suggestions for traffic signal synchronization: http://guide.saferoutesinfo.org/engineering/traffic_signals.cfm

Evaluation Criteria: Each State DOT develops its own procedures and policies for soliciting and selecting projects for funding including selection criteria, funding cycles, grant amounts, time limits, etc. The Federal Program Guidance provides the broad outlines and requirements a State should follow when implementing its program. FHWA recommends that States establish and consider

multiple eligibility criteria including but not limited to:

- Demonstrated needs
- Identification of safety hazards
- Potential of proposal to reduce child injuries and fatalities
- Potential of proposal to create a safer walking and bicycling built environment within approximately two miles of a school
- Potential of proposal to encourage walking and bicycling among students
- Identification of current and potential safe walking and bicycling routes to schools
- Number of child pedestrians or bicyclists currently using routes
- Number of child pedestrians or bicyclists anticipated to use routes
- Community support for application

Transportation, Community & Systems Preservation (TCSP) Program

Funding Agency: Federal Highway Administration

Website: <http://www.fhwa.dot.gov/discretionary/>

Contact: Wesley Blount
Office of Human Environment
202-366-0799
wesley.blount@dot.gov

Purpose of Program: The TCSP Program looks to fund projects which will:

- Improve the efficiency of the U.S. transportation system.
- Reduce environmental impacts of transportation.
- Reduce the need for costly future public infrastructure investments.
- Ensure efficient access to jobs, services and centers of trade.
- Examine community development patterns and identify strategies to encourage private sector development patterns and investments that support these goals.

Deadline: Varies, check with your State Transportation Agency to see if they have established a centralized process and State-specific deadline that is before the FHWA deadline. Some State Transportation Agencies review and rank their State's applications first, then determine which will be submitted to the FHWA. They do not allow for applications to be submitted directly to the FHWA.

Evaluation Criteria: FHWA notes that the following criteria will be considered in the evaluation of candidates for this program:

- *Livability* – Improving livability, especially through activities such as operational improvements, safety improvements, complete street strategies, traffic calming, street connectivity improvements and others.
- *State of Good Repair* – Improving the condition of existing transportation facilities and systems with particular emphasis on projects that minimize life-cycle costs.
- *Safety* – Improving the safety of transportation facilities and systems in the United States.
- *Expeditious Completion of Project* – Ability to complete the project quickly.

- *State Priorities* – For States that submit more than one project, consideration will be given to the individual State's priorities.
- *Leveraging of Private or Other Public Funding* – Commitment of other funding sources to complement the requested TCSP funding.
- *Amount of TCSP Funding* – Modest sized requests are more desirable; they allow more States to receive funding.

Previous Funding Information: *Total Funds Awarded in 2011* – \$56.7 million

Success rate 2011 – Over 700 applications received, 65 awarded (less than 10 percent acceptance rate)

Funding range FY 2011 – High: \$3.3 million; Average: \$872,577; Low: \$54,457

Local match required – 20 percent

Funding cycle – Annual

Examples of Funded Projects: The following list identifies various traffic signal synchronization projects funded through TCSP grants from 2006 through 2011.

- *Philadelphia, PA* – Awarded \$3,261,000 in 2011 for Traffic Signal Project to Improve Safety and Mobility.
- *Elizabethtown, PA* – Awarded \$233,600 in 2010 for Regional Traffic Signal Synchronization.
- *Utica, NY* – Awarded \$444,600 in 2009 for Traffic Signal Modernization.
- *Baton Rouge, LA* – Awarded \$316,589 in 2008 for Signal Synchronization.
- *Houston, TX* – Awarded \$1,291,950 in 2006 for Computerized Traffic Signal System.

Transportation Investment Generating Economic Recovery (TIGER) Program

Funding Agency: U.S. Department of Transportation

Website: <http://www.dot.gov/tiger/>

Contact: Howard Hill
U.S. Department of Transportation
(202) 366-0301
TIGERGrants@dot.gov

Purpose of Program: For capital investments in surface transportation infrastructure projects that will have a significant impact on the nation, a metropolitan area or a region.

Deadline: Varies, watch www.grants.gov for release of Request for Proposal (RFP).

Previous Funding Information: Total Funds Available – \$500 million

- \$120 million reserved for projects in rural areas.
- Not more than 25% of the funds will be awarded to projects in a single state.
- Up to \$175 million will be used for TIGER TIFIA Payouts.

Funding range FY 2011 – High: \$20 million; Average: \$11.1 million; Low: \$1 million

Maximum funding request – \$200 million, though it is unlikely that maximum will be reached for any project. Minimum grant is \$10 million. For projects located in rural areas, the minimum grant is \$1 million.

Local match required – 20%, DOT may fund up to 100% in rural communities

Funding cycle – As funding is authorized

Success rate previous year – 848 applications received; 46 projects funded. Success rate was 5%.

Evaluation Criteria: Primary Selection Criteria:

Long-term Outcomes: More weight to this criterion than to either of the Secondary Selection Criteria. Projects that are unable to demonstrate likelihood of significant long-term benefits in any of the five long-term outcomes identified in this criterion will not proceed in the evaluation process. The following types of long-term outcomes will be given priority:

- *State of Good Repair* – improve the condition of existing transportation facilities or systems.
- *Economic Competitiveness* – contribute to the economic competitiveness of the United States over the medium to long term.
- *Livability* – foster livable communities through place-based policies and investments that increase transportation choices and access to transportation services for people in communities across the U.S.
- *Environmental Sustainability* – improve energy efficiency, reduce dependence on oil, reduce greenhouse gas emissions and benefit the environment.
- *Safety* – improve the safety of U.S. transportation facilities and systems.

Job Creation & Near Term Economic Activity: Projects that are expected to quickly create and preserve jobs and stimulate rapid increases in economic activity, particularly jobs and activities that benefit economically distressed areas. More weight to this criterion than to either of the Secondary Selection Criteria. This criterion will be considered after it is determined that a project demonstrates a likelihood of significant long-term benefits in at least one of the five identified long-term outcomes criterion.

Secondary Selection Criteria: Less weight to these criteria than to the Primary Selection Criteria.

- *Innovation* – projects that use innovative strategies to pursue the long-term outcomes outlined above.
- *Partnership* – projects that demonstrate strong collaboration among a broad range of participants and/or integration of transportation with other public service efforts.

Example of Funded Projects: The following project was funded through TIGER funds.

City of Philadelphia, PA – Awarded \$10,000,000 in 2011 to upgrade over 100 traffic signals along three transit arteries covering nearly 16 miles.

State Air quality Control Agencies

When searching for funding opportunities, often times the greatest successes come as you explore regional and local agencies. For example, many States have Air Quality Control Agencies which occasionally offer funding through grant programs. We have provided examples of regional and

local Air Quality Control Agencies from a sampling of States and encourage you to research further within your own State if it is not listed here.

CALIFORNIA:

In California there are 35 Air Quality Management Districts (AQMDs) under the Air Resources Board which in turn reports to the California Environmental Protection Agency. Different funding opportunities can be found at each of these levels, including at the local AQMD level. It is important to know which district your city or county is part of, and become a frequent visitor to their website to look for updates. As opportunities are available, go to conferences, meetings or seminars sponsored by your local AQMD; these are great opportunities to meet members of the governing board. The more you learn about the “hot topics” important to the people who may be evaluating your project, the more you will understand how to write your grant application.

Website link to locate your local California AQMD: <http://www.arb.ca.gov/capcoa/roster.htm>.

The Coachella Valley Emission Reduction Project is an example of funding available from the South Coast Air Quality Management District, one of the 35 AQMDs in California. We have provided you with details to give you an example of what may be available at your local level:

Coachella Valley Emission Reduction Project

Purpose: To fund projects that reduce air pollution, including the reduction of traffic congestion in the Coachella Valley.

Total Funds: \$53 million

Website: <http://www.aqmd.gov/prdas/CVRFP-AB1318/Coachella.htm>

Contact: Tracy Goss, P.E.
(909) 396-3106
tgoss@aqmd.gov

FLORIDA: Similar to California, air quality in the State of Florida is managed within its own agency, the Division of Air Resource Management (DARM), which also reports to the Florida Department of Environmental Protection. The DARM is divided into six Regional Districts, providing additional regional support as necessary.

Website link to locate your District: http://www.dep.state.fl.us/air/about_us/district_contacts.htm.

Additionally, there are eight Local Air Programs that report to four of the six Districts offering services at a more localized level.

Website link to determine if your area is supported by a Local Air Program: http://www.dep.state.fl.us/air/about_us/local_contacts.htm

ILLINOIS: In the State of Illinois, the Bureau of Air is responsible for air quality, under the jurisdiction

of the Illinois Environmental Protection Agency. On the Bureau of Air's website (<http://www.epa.state.il.us/air/>), you will find a link to the Partners for Clean Air coalition: (<http://www.cleantheair.org/>).

Successfully securing grant funding is about building relationships with key organizations who share your mission. Partners for Clean Air is a non-profit coalition dedicated to bringing cleaner air to the Chicago metropolitan area. Formed in 1995 by 15 charter members, the coalition has grown to include 250 member organizations committed to doing their part for better air quality. The Steering Committee includes the Illinois EPA as Chair, and numerous other government agencies, local organizations and businesses.

Becoming involved with organizations such as Partners for Clean Air is an excellent way to develop relationships which can prove to be very beneficial. Contacts within these types of organization are helpful for writing letters of support, providing information about funding opportunities and helping you discover the "hot topic" issues for individuals/groups who may review your applications.

TEXAS: In Texas, the Texas Commission on Environmental Quality (TCEQ) oversees the Office of Air. The TCEQ website provides valuable information on a host of environmental issues and also includes a link to a webpage designed as an air quality resource for governments within the State of Texas. Here you will find a link to various funding opportunities. The Office of Air website provides detailed data and links to resources that can demonstrate your project's need based on greenhouse gas emissions and pollution levels.

Website link to Texas Commission on Environmental Quality: <http://www.tceq.texas.gov/>

Website link to Texas Office of Air: http://www.tceq.texas.gov/agency/air_main.html#report

WASHINGTON STATE: The State of Washington's Department of Ecology, which oversees the State's Air Quality Program, has divided the State into eight Local Clean Air Agencies. These agencies are responsible for protecting local air quality. Each has a website which offers a wealth of local information.

Website link to a map of jurisdictions for Local Clean Air Agencies and a directory with their contact information and individual websites: http://www.ecy.wa.gov/programs/air/PDFS/Control_Officers.pdf

State Energy Conservation Offices

Similar to Air Quality Control Agencies, State Energy Conservation Offices or Energy Efficiency Commissions offer a wealth of information and may be another excellent source for funding opportunities. We have provided you with website links for some of these offices for a few States, just to give you an idea of what to look for in your State. In some cases these offices fall under the umbrella of Environmental or Ecology Departments, in other cases they are found under the jurisdiction of Commerce Departments. It is worth your time to learn more about your State's energy offices, familiarize yourself with their website and investigate the resources they have to offer. In addition to providing grant funding information, these website links may offer viable information to show the need for your project in a specific area.

ARIZONA: <http://azenergy.gov/>

CALIFORNIA: <http://www.energy.ca.gov/efficiency/index.html>

COLORADO: <http://www.colorado.gov/energy/>

FLORIDA: <http://www.freshfromflorida.com/offices/energy/>

ILLINOIS: http://www.ildceo.net/dceo/Bureaus/Energy_Recycling/

MASSACHUSETTS: <http://www.mass.gov/eea/>

NEVADA: <http://www.energy.state.nv.us/>

NEW JERSEY: <http://nj.gov/nj/green/>

NORTH CAROLINA: <http://www.energync.net/>

OREGON: <http://www.oregon.gov/ENERGY/> & <http://www.oregon.gov/ENERGY/CONS/index.shtml>

TEXAS: <http://www.seco.cpa.state.tx.us/>

WASHINGTON STATE: <http://www.commerce.wa.gov/site/526/default.aspx>

About the Author

There are many grant writing companies available for hire, but few have the proven track record that Blais & Associates, Inc. (B&A) boasts. It has been particularly successful in securing funding for transportation projects. Rhythm Engineering selected B&A to research and write this Grant Funding Playbook because of its track record, focused expertise and practical advice.

B&A launched in California in 2000. Since that time it has written hundreds of grant applications for its clients and achieved a 60% success rate from government and private funding sources. In 2011, they wrote over \$146 million in grant proposals.

From offices located in Texas, California, Ohio and Missouri, B&A serves clients across the United States, fulfilling their various grant management needs. While it cannot guarantee success, B&A has a proven track record that shows a return of \$15 to \$75 in grant funds for every \$1 spent on grant writing costs.

B&A pledges that any application developed on its client's behalf will be professionally written, focus on the scoring criteria and effectively tell their client's story. This guide is a compilation of their proven successful grant writing strategies, specifically focusing on transportation grants and InSync.

For more information on Blais & Associates, Inc., please contact them directly.

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