Promotion and Advocacy Guide for Concrete Streets and Roads
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It is clear from the economic indicators that the two major market areas that the ready mixed concrete industry has depended on residential and commercial – will not fully recover their vitality for years to come. However, streets and roads offer an opportunity to diversify our portfolio and take share from competitors for long-term dependable growth and to insulate our businesses from future downturns.

The Opportunity

Gaining market share for concrete roads is a challenge, but the potential rewards are enormous.

With asphalt prices volatile and trending higher, concrete is now competitive on initial cost to go along with its longstanding life cycle cost benefits and many other advantages. Results from the MIT Concrete Sustainability Hub are now available that also bolster concrete’s position. State agency officials are looking to stretch their budgets and elected leaders are likely to be receptive to approaches leading to more economical “green” roads that they can champion on behalf of more efficient government.

Concrete parking lot potential in the U.S. is conservatively estimated at more than 225 million cubic yards per year with current concrete share at around 10% for new construction and less than 5% for rehabilitation. Concrete potential for local streets and roads is estimated at more than 200 million cubic yards per year with even less current market share than parking lots. For both parking lots and roads, the rehabilitation markets are considerably larger than that for new construction which is why concrete overlays represent the best single opportunity for ready mixed producers to expand their business.

If the ready mixed concrete industry expands the market share of parking lots and streets and local roads (SLR) by a very achievable 2% per year, national concrete production in 10 years will grow 26% beyond what can otherwise be expected based on historical trends.

Objectives and Approaches

The purpose of this guide, which is primarily intended for low market-share states, is to assist the concrete industry in getting fair treatment in the material selection process for streets and roads. Recommendations are included to help organize an effort to gain such treatment from state, county and municipal agencies, with additional approaches included to gain the objective through political/legislative means if needed. The goal of a streets and roads promotion effort should be the adoption an agency framework that ensures the selection of rigid or flexible pavements based on fair competition that provides maximum value for taxpayers. We refer to such a framework as a Competitive Paving Program. The fundamental recommended approach is based on advocacy of value for taxpayers, not the superiority of concrete. Establishing the value to taxpayers that will result from fair competition is the fastest route to a level playing field.

In markets where asphalt enjoys a dominant position there may have been little thought of alternatives among specifiers or the public. It makes sense to acknowledge that asphalt has benefits that make it a good choice in specific situations. In most circumstances, attacking asphalt is a losing proposition that may be taken as insulting to specifiers that have been selecting it throughout their careers.

In the same vein, concrete’s benefits should be presented without bravado or exaggeration. This approach is most likely to gain a reasonable hearing even in agencies where asphalt is presumed to be superior and it resonates well with politicians who may be brought into the process.

If the proven attributes of rigid pavements are not acknowledged by our competitors, it will be the dominant market-share owner attempting to squelch competition, further bolstering our position.

It is also important to be clear in all activities and outreach that the concrete industry fully supports a system where agency engineers continue to make decisions based on value for taxpayers.
paving decisions. We are simply seeking a framework that encourages concrete bids for projects where material selection will be fairly based on the requirements for that specific project. A major asset in our efforts is the work of MIT which has documented many of the benefits of rigid pavements. Making effective use of MIT materials and research results is an important factor for advancing a level playing field for concrete.

Under a competitive paving selection process, the attributes of both rigid and flexible pavements will be fairly considered before a selection is made for a particular project—and concrete’s market share will expand.

Going Large While Starting Small
State Departments of Transportation (DOTs) usually set practices that carry through to counties and municipalities even if not mandated there. The best approach for gaining a Competitive Paving Program at the local level is usually to establish it first within the state DOT even if that agency focuses only on primary roads. A solid basis for coalition building and planning is that all participants agree to work together in support of Competitive Paving Programs, from mainline through to local roads. NRMCA recommends that state concrete paving coalitions pursue Competitive Paving Programs at state DOTs while at the same time promoting “starter” concrete road projects in counties and municipalities around the state. Gaining small local projects such as intersections provides credibility for concrete roads and can lead to growing local opportunities.

Experience has shown that DOTs may give signs of support but fail to follow through over extended periods—sometime decades. The antidote for lack of real movement from DOTs is political advocacy and we recommend that coalitions anticipate the need for such an initiative from the outset. Reasonable outreach to DOTs may of course prove fruitful and in any case should be pursued before political advocacy is launched.

This guide primarily describes advocacy and promotion at the state level, but the strategies described work equally well for a county or city, where the public works department is targeted rather the DOT, a mayor or county executive instead of a governor, and the city or county council rather than the state legislature.

Role of Political Advocacy in Creating a Market
Though many of the promotion approaches described here are relevant for expanding concrete business in states that already have a meaningful market share, this guide is primarily intended for states with little share of the market. It is likely beneficial and may be essential in such markets to create elected-official awareness of the taxpayer benefits of a level playing field and to develop support for legislation that mandates a competitive paving selection process. This can help the concrete industry reach its objectives even if the legislation does not advance past a certain point. However, the larger the existing concrete share of the market, the more it makes sense to focus on working more exclusively with DOT and local public works officials rather than risk straining those relationships with appeals to elected officials.

Steps Outlined in this Guide
1. Assemble the leadership team.
2. Build a concrete paving coalition.
3. Conduct necessary research/analysis/assessment.
5. Educate coalition participants on strategies, issues, key messages and roles.
6. Pursue administrative/agency remedies.
7. While pursuing agency remedies, develop community support and local project opportunities.
8. Initiate elected-official advocacy strategies.
9. Build support, heighten pressure and expand local opportunities until a level playing field is achieved.
Step 1.

Assemble the Leadership Team

Opening a major market is a challenging task that requires a good plan, quality tools and coordinated effort over time, but it starts with leadership. Experience has shown that a unified group of concrete paving industry leaders can work together to rally a broad industry coalition and also gain key political support through streets and roads advocacy. Coalition participants may have varying interests within the overall objectives but should agree to work together in mutual support of concrete road paving from mainline to local streets.

The leadership team should understand the effort will likely need to be carried on over a period of years and that raising funds for campaign contributions and lobbying support may be needed to reach the objective. The creation of a Political Action Committee (PAC) to manage political contributions is one recommended approach if your state does not have one. The total investment will vary greatly. A large state such as Florida has averaged more than $60,000 per year in political contributions focused on streets and roads advocacy and more than that on a lobbyist retainer.

Step 2.

Build a Concrete Industry Coalition

The following groups and organizations are primary candidates for a powerful streets and roads coalition.

**Ready Mixed Concrete Producers, Cement Companies, Industry Suppliers**

In launching a successful statewide effort, in addition to other activities, the leaders of the largest industry companies should be prepared to explain the benefits and appropriate place for concrete streets and roads as a legitimate alternative to asphalt to elected officials and their staff. Launching an effective program will require this leadership participation and then the ongoing support from coalition company personnel.

**State & Local Associations**

Because of the varying nature of municipal and DOT decision-making practices, promotion plans need to be developed within each state and locality. State and local ready associations will generally be at the center of a streets and roads promotion effort, but can only be expected to act in response to a unified call by members to move ahead. Such an effort may require a change of association promotion priorities or sources of additional funding to add streets and roads to an existing portfolio of promotional efforts.

**ACPA Local Chapters**

Personnel of American Concrete Paving Association (ACPA) local chapters are very knowledgeable about concrete road paving and are likely to have strong relations with DOT officials. Some states are fortunate to have chapters that focus entirely within the state while others may share regional ACPA coverage with other states or have no ACPA local coverage at all. Where available, local ACPA chapters should be asked to support and participate in the streets and roads promotion effort. Local ACPA chapter promotion efforts may traditionally focus on mainline paving, but that experience should transfer well to local streets and roads. If the local ACPA chapter can supply technical resources to support the streets and roads effort it will be an important contribution toward a successful program. ACPA local chapters will appreciate new support in working with DOTs and so may be willing to lend assistance on local paving promotion.

**National Associations**

The role of NRMCA, ACPA and the Portland Cement Association (PCA) is to provide promotion tools and targeted assistance to help advance the promotion effort at the local and state level. National associations can encourage streets and roads promotion but are not able to provide local leadership or take the lead in developing specific promotion plans which must reflect local conditions.

NRMCA field staff are available for consultation, promotion and technical assistance as well as to make state presentations in support of moving ahead with streets and roads programs. NRMCA can also assist in the planning process by sharing the experiences of other states with the same objective.
Under the auspices of PCA, Regional Promotion Groups (RPGs) play an important role in funding regional concrete promotion efforts across most of the U.S., in part through targeted support of state ready mixed associations and other local groups. It is important that RPGs be kept fully informed of streets and roads promotion plans and are provided assurance that such plans will not negatively impact any existing promotion arrangements. Support for the goals and participation in the planning of streets and roads programs should be sought by states as RPGs may assist the effort in various ways, including providing technical support in RPG regions with qualified personnel.

NRMCA is available to organize streets and roads promotion and advocacy training, including information about MIT research and how to make best use of it. Such training may be offered as well in combination with the other national associations.

**Contractors**

Concrete does not get placed without contractors and you will not have an effective promotion team without participation from committed local contractors. (Recommendations for securing contractor participation appear below.) When asphalt producers talk with local officials they usually have the advantage of also being the contractors. Concrete contractors are needed on promotion teams to offset this advantage by providing customer confidence that all elements are in place for successful placements.

**Aggregates Industry**

It is advisable to include key representatives of the aggregates industry as they may consider the initiative to have significant potential impact on their business. Accommodating discussions and reasonable concerns at the outset of planning may avoid delay and possible active opposition to the initiative later in the process.

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### Step 3. Research/Analysis/Assessment

**Who owns the asset?**

The party responsible for maintaining local roads once they are built may be different from the agency making key recommendations or decisions on construction. If so, the ultimate asset owner should be included in promotion outreach as the maintenance responsibilities are directly tied to the paving material selection.

**What policies are in place regarding streets and roads project bidding and awards?**

Existing practices may provide only for an asphalt specification or some form of alternate design/alternate bid may already be in place. These practices must be fully understood in order to develop effective planning strategies and promotion approaches. Subdivision street requirements are sometimes different and need to be understood as well.

**What design guidelines are in place for streets and roads?**

ASSHTO 93 is still the primary design guide in many states, although others are beginning to adopt ASSHTO’s more recent Mechanistic Empirical Pavement Design Guide (MEPDG) which reduces the likelihood that needlessly thick concrete placements will be mandated. Part of the promotion plan should be encouragement and support for MEPDG.

**How much has been paid out in recent years due to asphalt cost escalators?**

Asphalt bids frequently include clauses which provide for price changes based on fluctuations in contractor costs for materials. Currently, 41 states have escalator clauses for asphalt projects, which can add great additional cost to asphalt projects. Show officials how many additional lane-miles could have been built using the funds paid out because of escalators in some recent years. For example, in North Carolina from 2008 through 2010, escalators boosted asphalt paving costs by $119 million.
What is the decision-making hierarchy?
The top of the chain may start with governor, county executive or mayor and work down through DOT head, district administrators and engineers, public works directors, maintenance directors, etc. Understanding the hierarchy in your locale is a prerequisite for preparing agency and advocacy strategies.

What existing concrete streets and roads can help demonstrate the competitive benefits of concrete?
Gather information on past projects that support concrete promotion. Examples showing the durability of concrete roads are very valuable.

What are the best local examples of inadequate asphalt solutions and where are the best opportunities to demonstrate the benefits of concrete?
Keep in mind and be ready to acknowledge that both asphalt and concrete roads can experience problems for a variety of reasons. Your goal should be to point out asphalt projects that have experienced cost overruns or not lived up to performance expectations where concrete would have been a better choice. Almost every jurisdiction has paving sections and intersections with problems that have repeatedly failed to be solved with asphalt. These are ideal projects to ask for the opportunity to demonstrate the value of concrete pavement.

Gather historical data on the cost of pothole repair to the city and estimate the cost of annual car repair.
As asphalt is much more susceptible to the problem, it is worthwhile to document the taxpayer expense of potholes if this is a factor in your area. Online searches of local newspapers may provide articles on the inconvenience and dangers of potholes. Injuries to motorists and motorcyclists could be documented and factored into estimates of the price that potholes inflict on the community. If no local information is available, note that about 500,000 auto insurance claims are filed each year for pothole damage, according to the Independent Insurance Agents of America. The group estimates that almost $4.8 billion is spent each year to repair damage to Americans’ cars resulting from potholes. You could estimate in your state based on vehicles registered as a percent of vehicles registered in the nation. If your state has a higher percentage of asphalt roads than the 93% national average, and/or you are in an above average freeze/thaw climate, the damages then are likely above average.

To what extent is the concrete industry an important sector in the state or local economy?
Be ready with the facts and figures showing the importance of our extended industry (employment, economic activity, local taxes paid etc.). One resource for this information for many states is PCA’s State Fact Sheets. [http://www.integratedpavingsolutions.org/statelist.html]

Who are the most influential civil engineers and geotechs in your region involved in streets and roads design?
Educate these firms about concrete paving and get them on track using the correct design procedure for the application.

What are the pricing trends for streets and roads material costs over the past decade and what is the future outlook?
Information on national price history and trends is available from PCA. Local information is even more compelling to demonstrate the need for a Competitive Paving Program. Be prepared with MIT research that provides credible Life Cycle Cost Analysis (LCCA) information which outlines the best approaches for using pricing history to minimize the risk of larger-than-anticipated maintenance expenses in the future.

What public works, engineering and other local groups exist that can be targeted for streets and roads promotion?
Local chapters of national associations or other state, county or local engineering groups should be identified such as the American Public Works Association (APWA) and the American Society of Civil Engineers (ASCE). Environmental groups such as local chapters of the United States Green Building Council (USGBC) should also be identified and targeted for promotion.
The coalition goal should be adoption of a Competitive Paving Program that levels the playing field for concrete. Below are some of the key provisions and points to consider in an elected-officials strategy. Key messages for elected officials, recommended for delivery if needed in Step 8 below, should also be determined at this point in the planning process.

Key Provisions for a Competitive Pavement Program
For true competition, transportation agencies should consider all proven paving technologies for all road projects. The engineer should decide which pavement application is best in a given circumstance. Most state DOTs, however, do not seriously consider concrete when designing roads. The following are key provisions which can help ensure a level playing field.

Provide Equal Opportunity for Concrete and Asphalt Project Bids
Pavement design for road projects, including selection of building material, should be determined by qualified engineers through an Alternate Design/Alternate Bidding (ADAB) program. This practice requires equivalent “apple to apple” designs for proposed projects from both concrete and asphalt contractors. This approach ensures the best project design and also helps deliver competitive pricing for the benefit of taxpayers. For equal competition in pavement selection, adoption is needed of improved design procedures. Pavement ME/MEPDG is being appropriately adopted by many states and should be further supported by StreetPave II, ACI-330 and other ME designs that remove overdesign and lower initial costs.

Require Meaningful Life-Cycle Cost Analysis (LCCA)
LCCA is an economic tool that looks beyond the initial price tag and also considers the service life of a pavement, including maintenance, user cost, reconstruction, rehabilitation, restoration, resurfacing and salvage value. Most states have LCCA guidelines in place, but they are often ignored or too limited in scope, such as by using a common inflation rate for all paving materials. Realistic LCCA will also take into account anticipated cost increases for specific building material. MIT research shows that over a 50-year time frame, over and above the general inflation rate, the mean real price of concrete can be expected to increase by 4% while asphalt increases by more than 50%. Choosing the most cost-effective pavement can save taxpayers millions of dollars over the life of a single project.

Track Project Costs and Performance
To help agencies make the best pavement choices over time, states should adopt an asset management program to maintain cost and performance information for physical assets such as roadways and bridges. Such tracking should include maintenance costs which will enable increasingly accurate LCCA estimates.

Publish a Concrete Road Design Guide
States should develop and publish (or update) concrete design and construction guidelines. This guide will most likely cover primary roads and should be developed with the assistance of the coalition that can provide expert support and model guides from other states. A separate design guide for local streets should also be sought.

Each state coalition should adapt these general provisions to develop their own program that takes into account existing market specifics. In some jurisdictions, for example, where environmental concerns are prominent, meaningful Life-Cycle Analysis (LCA) and/or the benefits of cool pavements may also be key elements in a Competitive Paving Program.

Experience has shown that state agency officials, wedded to decades of cooperation and familiarity with the asphalt industry, will often talk about...
concrete paving but move ahead with a competitive program only under political pressure that may include legislation, the threat of legislation or some other forcing function.

While we recommend preparation for a political advocacy initiative from the beginning, be aware that elected officials are unlikely to offer support unless you have made a reasonable effort to work with the DOT without meaningful results. Strategies for seeking DOT administrative remedies are covered in the next section of this guide and should be moving ahead, along with efforts to gain local “starter” projects, even as your advocacy strategy is being finalized. If acceptable administrative progress is not forthcoming, the elected-official strategy should be put in motion. DOT officials are not likely to be pleased, but with political support for competitive paving legislation in place, many states have found that reasonable accommodation with the agency follows. This same dynamic can also play out in counties and cities as well.

Elected officials are generally willing to engage in discussions that can lead to more efficient government and taxpayer value through safer, more economical and better performing streets and roads. The objective is to recruit politicians who will support a competitive paving agenda and introduce or support legislation mandating such a program.

Your state ready mixed concrete association and other industry organizations will ideally be aligned and engaged with this promotion and advocacy effort, and can provide organizational support for the creation of coalition strategy and plans. Make sure meetings and discussions are held in accordance with antitrust policies and laws. Plan to take advantage of state legislative sessions or municipal board meetings. Determine who has existing relationships with elected officials. Develop a timeline and assign tasks to coalition members.

**Points to Consider in Formulating an Elected-Official Strategy**

The better informed and knowledgeable elected officials are, the better they can support their constituencies. You have the right to communicate to lawmakers and state your views, just as you have the right to vote. They want to understand issues that are of importance to the community and they frequently rely on knowledgeable constituents to provide it. Communication from even a small group of constituents will merit an elected official’s attention.

- Hiring a political consultant or lobbyist is recommended as an effective way to move the political process forward. States with a lobbyist on retainer may be able to add this as a special project for a reasonable additional fee.
- States should consider creating a Political Action Committee (PAC) to support elected officials who support Competitive Paving Programs. Relatively small political contributions are often greatly appreciated and helpful.
- Make a list of your best elected-official prospects and assign coalition members to each. In-person visits are much more effective than phone calls, letters or e-mails, although there is a place for all these communication methods within an overall strategy. Every relevant elected official should be considered as fair game for a promotional appeal.
- You can identify state or municipal board members by searching the Internet. There is a good chance that someone in your coalition already knows the state representative or your municipal board member. NRMCA has a grassroots lobbying Web site where you can find your state representatives—see Resources at the end of the document.
- The most influential prospects should be visited by industry leaders who can most effectively represent the industry’s economic impact and political influence. Plan to communicate with them individually and as a team. The mayor, party leaders, county executive and governor are key elected officials to meet. If receiving a less than positive response, meeting with the officials’ political opposition may be useful.

Elected officials usually lack any understanding of paving issues and they have limited time to consider your position. Therefore, communications should be limited to discussion of only key propositions that must be covered in simple terms. A single collateral item created to capture the key points as simply as possible is “Model Elected Official Streets and Roads Promotion Document.” That and other collateral are available in the resource companion to this guide found at www.ConcretePromotion.org/streets.html.

- Documents with more technical detail are appropriate for the staff of elected officials and for transportation officials.
- In-person visits to elected officials are most effective, but the entire community of supporters in favor of Competitive Paving Programs should be encouraged to call, write and email their officials to show community support.
- The key to influencing elected officials is to convince them that your proposed changes to laws or policy will benefit their constituents. The more stakeholders and citizens you can engage in the dialogue, the more officials you can bring on-board.
- Tim Kuebler of Titan America has written a case study of an industry advocacy effort in Florida, “Eight Rules to Live By for Effective Streets and Roads Advocacy.” This document (available at the resources link) should be considered required reading when considering an advocacy strategy in your state.
Step 5.

Educate the Coalition on Strategies, Issues, Key Messages and Roles

Key benefits of concrete roads are described below. Coalition participants also need to fully understand the strategy, issues and key messages outlined above. Many more in-depth references and links are included in the online resources, including MIT research results and fact sheets.

**Key Benefits of Concrete Streets and Roads**

**Life Cycle Cost Analysis (LCCA)**
Saves money! Concrete pavements have an initial cost competitive with most asphalt options, lower maintenance costs and a longer life. A recent PCA survey of DOT specifiers concludes that concrete pavement lasts 29.4 years on average before a major rehabilitation is required, asphalt after 13.8 years. Many concrete placements last well beyond 30 years before rehabilitation is required.

**Life Cycle Analysis (LCA)**
Saves the planet! As shown by MIT research, concrete pavements can exhibit a lower environmental footprint associated with production, delivery and maintenance than asphalt pavements.

**Safety**
Saves lives! Concrete never ruts and develops potholes or the equivalent much less frequently than asphalt, protecting vehicles and motorists.

**Fuel Efficiency and Lower Emissions**
Roads account for 27% of all greenhouse gas emissions in the U.S. MIT research shows that asphalt must be 60% thicker than concrete to provide the same stiffness for comparable fuel consumption due to deflection-induced pavement-vehicle interaction. Consistent with that research, Florida International University conducted the research along 28 miles of Interstate 95 in Brevard County that demonstrates passenger vehicles on rigid pavements used 3.2 percent less fuel compared to flexible pavements. The study concludes that if all Florida highways were rigid concrete construction the annual savings in fuel consumption would be 500 million gallons, the annual savings to the public more than $2.0 billion, and CO2 emissions would be reduced by over 5 million tons.

**Cool Pavements**
Concrete’s lighter color reduces the amount of power necessary for illumination and mitigates the urban heat island effect.

**Locally Produced**
Concrete is typically produced regionally from abundant resources.

**Renewable**
Concrete can be 100% recycled at the end of its service life.

**Recycling Waste**
The use of industrial byproducts in concrete improves pavement longevity, saves money, lowers energy usage and reduces the generation of greenhouse gases.

**Advocacy/Promotion Roles for Coalition Participants**
A carefully orchestrated program of reaching key decision makers and influencers is required for a successful promotion/advocacy initiative. The assistance of professional lobbyists in helping develop the advocacy plan and delivering the message will move the process forward faster and significantly increase the chances for success.

The most experienced and knowledgeable paving coalition members should carry the promotion effort to the DOT, including the state ACPA representative if available. Coalition company leaders need to take the lead in contacting the governor and the most influential legislators. Other coalition participants should be assigned to meet with other legislators to lobby for support.

With a focus on county or municipal paving opportunities, coalition members or companies should similarly take responsibility for executive and legislative leader advocacy. In smaller cities and counties, individuals or smaller groups may take the lead in developing support for concrete roads and seek assistance from coalition members as needed.

Assignments need to be made and responsibility accepted for all the required elements needed to implement the competitive paving initiative. These assignments should be recorded, circulated and regularly reviewed with target dates and an ongoing assessment of needed next steps.
Step 6.

Pursue Administrative/Agency Remedies

The coalition objective should be for the DOT to become supportive of a Competitive Paving Program whether on its own or under pressure resulting from political activities. In the later case, DOT support may come in order to avoid legislative and/or public scrutiny of its policies which could expose outdated practices not in the public interest. DOT cooperation and support leading to positive changes will be welcome whenever it appears for whatever reason.

Having reviewed all appropriate DOT and municipal information on requirements and processes for streets and roads paving (Step 3), develop a plan for contacting DOT officials to request changes needed to create a Competitive Paving Program in your state. It is recommended that this effort be reasonable but aggressive and it should begin with the top DOT official. Give the agency a fair chance to be responsive, but share a timetable from the outset establishing parameters for progress. If acceptable progress is not forthcoming, the elected-official strategy should be put in motion (Step 8).

Concrete often costs less than asphalt when the latest design methodologies are used and both first-cost and life-cycle costs are included in the bidding process. To ensure the best value for taxpayers, agency leaders should adopt a Competitive Paving Program that includes equivalent concrete and asphalt designs. Such a program should also embrace the Mechanistic Empirical Pavement Design Guide for efficient and cost-effective pavement design. In addition, there is great benefit for taxpayers if the state publishes or endorses a local streets and roads concrete pavement design guide for use by county and municipal governments.

Advocating a Competitive Program to Agency Officials

- In some geographic areas there is a fundamental need to first establish that concrete is a legitimate paving option. Be ready to document that concrete is already highly valued for streets and roads in many parts of the country.
- Concrete benefits should be reviewed. A key point is that more bids for projects will tend to encourage lower bids and provide better value for the state and its citizens. Concrete streets are usually competitive on initial cost and dramatically reduce maintenance costs, accidents, drainage problems and complaints. Help agency officials understand that our industry is a resource available to serve the community’s pavement needs. Be prepared with examples of existing streets that are substandard and dangerous and make the point that concrete’s durability and other attributes can lead to a better solution in many circumstances.
- MIT research provides credible evidence of many of the benefits of concrete for use in streets and roads and clearly establishes concrete as a better choice than asphalt in some circumstances. Collateral and research results are available for use at www.ConcretePromotion.org/streets.html.

- Be aware that an “asphalt vs. concrete” approach to the conversation with DOT officials is not the most constructive approach. We suggest you frame the discussion around the benefits of “stiffer pavements,” which provides a less self-serving tone. Support for stiffer pavements will automatically lead to concrete.
- Review current streets and roads design guides and specifications and note the agency’s outlook for adopting Mechanistic & Empirical Program Design Guide (MEPDG). Seek clarification and correction of any published guidelines that are working against concrete acceptance. Request that a concrete streets and roads design guide be published by the DOT and offer to assist in creating one, or request endorsement of a design guide published by our industry. Ask for endorsement of ACPA’s StreetPave program as an approved design tool.
- Request adoption of a Competitive Paving Program for the state and detail the provisions you are recommending as necessary to achieve it. (See provisions outlined in Step 2.)
- Ask for a letter from DOT to clarify whatever concrete support is already in place or that it can immediately provide. Examples might include that concrete is an authorized streets and roads paving material, or that concrete is accepted as an alternate on streets and roads projects, as may be the existing policy (if not the practice).
- Try to gain support from the DOT to publish and/or endorse a street and local road specification or set of guidelines even without jurisdiction for local roads. Such a guide will reduce the local tendency to follow primary
road guidelines resulting in overdesign. The concrete paving coalition can help with the development of these guides by providing expertise and model documents in use in other states. For example, in Minnesota, the DOT has endorsed a design guide created by the concrete industry that includes local streets, curb and gutter, sidewalks and parking lots.

**Promoting a Reasonable LCCA Policy**

Life cycle cost analysis (LCCA) is an economic procedure used to compare structurally equivalent competing design alternates, over the lives of each alternate, considering all significant costs (and benefits), expressed in equivalent dollars. Generally speaking, equivalent designs have the same structural capacity and perform similarly.

Gaining a reasonable LCCA policy is fundamental in achieving a Competitive Paving Program as this is where the long-term cost benefits of rigid pavements are demonstrated. Most states have LCCA provisions, but these are usually flawed in a number of ways, including the use of estimates of future road rehabilitation costs that do not take into account historical pricing trends. (Over the last 40 years, concrete has inflated at about the rate of general inflation, but asphalt has inflated 1% faster—a very substantial difference over the rehabilitation life of pavements.) LCCAs should employ an “escalation” factor that adjusts the future year anticipated costs by taking into account historical inflation rates for different materials. MIT has developed sophisticated analysis techniques that provide strong price forecasting models that can be utilized in LCCA future-cost comparisons. [MIT results on material inflation are included in the online resources as is PCA’s “LCCA in Nine Steps” publication.]

Following are recommendations from a recent University of Alabama report on key LCCA elements. These recommendations are included as an example and may not be ideal in your state.

- **Threshold to do a LCCA**
  Recommended that $3 million project and above be the level at which an LCCA is required. (In Maryland, a $1 million threshold is under discussion.)

- **Analysis/Performance periods**
  Recommended 50 years.

The chart below summarizes recommendations for a fair LCCA methodology:

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<th>Fair Process Recommendations for LCCA</th>
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<td><strong>Equivalent Designs</strong></td>
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| **Rehabilitation Schedules** | • Match the rehabilitation schedules for each design with the expected performance  
  • Account for increased traffic expectations |
| **Discount/Inflation Rates** | • Account for actual inflation rate of each product  
  • Use a Real Discount rate that is representative of current economic conditions |
| **Analysis Period** | Use at least a 50-year analysis period to capture full economic benefit of each pavement type |
| **Indexing of Material Prices** | Remove the asphalt index for all alternate pavement bidding projects  
  OR  
  Adjust the asphalt pavement bid price based on the historical 10-year trend for indexing adjustments prior to comparing initial costs and calculating Life Cycle Costs |
| **Material Quantity Specifications** | Balance specifications by having:  
  • Same thickness standards and grade-control requirements  
  • Pay for both materials either on Square Yard basis or Cubic Yards for concrete and tons for asphalt |
| **Discount Rate** | Recommended using OMB 30-year rate. |
| **Agency Costs** | Recommended to include all administrative, design/engineering and construction management costs in the total agency cost calculations, except these costs can be left out of initial construction because they will be similar for asphalt and concrete alternatives. |
| **Salvage Value** | Recommended that remaining service lives (RSL) be included in the LCCA and calculated using straight-line depreciation. |
| **Price Adjustment Clause (PAC) or indexing** | Recommended that PACs be included in the LCCA and that the DOT develop a procedure in use at PennDOT (they calculate how much is spent in last year for PAC and use a multiplier on the AC initial costs). [An improved approach would be to utilize the MIT process recommendations to account for long-term inflation of rehabilitation activities.] |
| **Material specific escalation rates** | Recommended that DOT adopt a process for accounting for material price uncertainty in an LCCA through the use of material specific escalation rates for both asphalt and concrete used in future rehabilitation activities. |
| **Probabilistic Approach** | Recommended that DOT adopt a probabilistic approach to LCCA and RealCost software be updated and used to conduct the analysis. |
| **Provide Equal Opportunity for Concrete and Asphalt Project Bids** | Pavement design for road projects including selection of building material should be determined by qualified engineers through an Alternate Design/Alternate Bidding (ADAB) program. This practice requires equivalent “apple to apple” designs for proposed projects from both concrete and asphalt contractors. This approach ensures the best project design and also helps deliver competitive pricing for the benefit of taxpayers. For equal competition in pavement selection, adoption is needed of improved design procedures, such as Pavement ME/MEPDG. |
Step 7.

While Pursuing Agency Remedies, Develop Community Support and Local Project Opportunities

Gaining support from state and municipal agencies for concrete to be able to compete fairly for streets and roads projects is important but not an end in itself. Ongoing general promotion and pursuit of local project opportunities is needed to help gain a Competitive Paving Program and to grow business opportunities through local starter projects.

- It is worthwhile from the outset, at every opportunity, to show that all facets of the local concrete industry will work together to produce quality local roads, including ready mixed producers, cement companies, contractors, and relevant industry organizations and associations.
- Start talking with developers early to get their support. Ask developers who are enthusiastic about concrete streets to share their interest with appropriate officials.
- Offer concrete municipal streets and roads seminars, and demonstrations for all relevant agencies and constituencies.
- Look for opportunities to attend and/or take a booth at appropriate conferences and shows, and seek speaking opportunities at state transportation conferences and other suitable venues.
- Participation in local chapters of environmental and engineering groups (such as USGBC and ASCE) is a good way to spread the word and gain influential allies.
- Many states have non-partisan “think tanks” on key issues. Look to get involved in transportation-related issues to gain awareness and support for concrete roads. In a similar manner, participate in state and local specifier and environmental groups to build support for concrete.
- Make promotional information available, including MIT results and share success stories as appropriate.
- Give consideration to both Roller Compacted Concrete (RCC) and concrete overlays as applications growing in popularity that can help move the concrete streets and roads market forward. RCC is a very cost-effective material and designed with a thin topping of asphalt; it might be more palatable as an entry point for specifiers having nothing but asphalt experience. Concrete overlays can also create compelling streets and roads (and parking lots) reconstruction cost savings by leaving most of the existing material in place as a base for the concrete topping. Be prepared for questions on maintenance and repair to show “cradle to grave” thinking on concrete road ownership.

These are some recommended practices for increasing the odds in favor of concrete for local projects:

- Getting some initial projects is crucial and a willingness to proceed with small test projects makes sense.
- Many communities start with concrete intersections and then move ahead with concrete streets.
- Review “letting reports” and other project information sources for upcoming projects and work with local contractors to provide alternate/value engineered estimates.
- Know pavement and material costs in your area.
- Identify projects and move forward as early in the process as possible.
- Find the owner, civil engineer and geotech. Bring in members of the promotion team that represent all facets of a successful concrete project, including ready mixed producer and contractor.
- Use StreetPave software to show decision-makers an “apples-to-apples” comparison of concrete and asphalt designs.
- Utilize appropriate promotion support materials and tools (detailed in online resources).
- Negotiate design with the civil engineer and geotech.
- Give price quotes and regularly follow up with all parties until a concrete project is awarded and the project is built and open to traffic.
- Completed concrete projects are the best encouragement for consideration of future projects. Take advantage of opportunities by promoting new project events and issuing press releases.
When you can document that reasonable appeals to the DOT have not resulted in reasonable or timely responses, it is time to initiate the elected-official strategy formulated in Step 4.

**Key Messages for Elected Officials**

- Let politicians know that our industry will strongly support elected officials that are willing to work toward delivering the benefits of a Competitive Paving Program to taxpayers and citizens. Be ready to make contributions to the campaign funds of supportive politicians and to rally all our industry employees, business contacts, friends and neighbors for their support.

- The key message is that competitive bidding of equivalent road designs for both asphalt and concrete will lead to cost savings and longer-lasting roads for taxpayers.

- Explain that the Concrete Sustainability Hub at MIT has developed a framework for LCCA for paving and share key sustainable benefits of concrete that it has documented. (See details in Resources section.)

- Remind this audience that streets and roads are among the most critical and visible elements of the city/state infrastructure. They attract or discourage business, industry and residents. They can improve or impair safety, traffic flow and aesthetics.

- Make the case for concrete as a worthy competitor to asphalt by summarizing its attributes as a paving material and pointing out the public benefits of a Competitive Paving Program. Concrete streets are usually comparable on initial cost and dramatically reduce maintenance costs, accidents, drainage problems and complaints. In the long run many more roads can be built or improved for the same investment through a Competitive Paving Program. Much more information on concrete streets and roads benefits is referenced in the resource section of this guide, but focus on key benefits that are likely to be most effective in your setting.

- Concrete producers are local businesses making use of local ingredients that generate local and state economic activity, commerce and tax revenues, whereas the asphalt industry relies heavily on imported oil for its product. The concrete industry represents thousands of jobs for the state through its use of local raw materials and local construction teams. Concrete is produced locally from abundant resources that are mined and manufactured within the state or region. Be ready with the facts and figures showing the importance of the concrete industry in your state or area (concrete and cement plant locations, employment, economic activity generated, etc.). If possible, research and report on taxes paid by both the concrete and asphalt industries. Check the resources in this guide for assistance.

- MIT research shows that rigid pavements can be designed and maintained to reduce vehicle fuel consumption and the associated emissions. If areas of a state exceed National Ambient Air Quality Standards (NAAQS) set by EPA, that area is referred to as being in "non-attainment", and the state must develop a plan to get that area back into attainment. Concrete roads can assist in this effort and help a state to encourage new economic development that would otherwise be at odds with the requirement to reach attainment.

- States or municipalities should not be obligated to maintain substandard subdivision roads placed by developers. Push for adoption of reasonable and competitive street standards in subdivision ordinances. Support for such a mission shows an interest in the public good and creates more concrete opportunities.

- If an elected official acknowledges a lack of interest in supporting concrete at least you know where he or she stands. But an enthusiastic response without corresponding action is equally worthless. Push for commitments and a timeline on specific action items. An unwillingness to support this request is strong evidence of a lack of intent to consider change.

- Find the most influential possible champion(s) willing to work with the coalition with the willingness to introduce legislation if necessary to reach the objective. Others willing to support or seriously consider such legislation from among the legislative and executive branches will be needed to add momentum and bolster the initiative.
Step 9.

Build Support, Heighten Pressure and Expand Local Opportunities Until a Level Playing Field is Achieved

Elected-official advocacy is a form of politics. Politics has aptly been called the “art of the possible” which reminds us it may require compromise to move ahead in an acceptable timeframe. Any compromise that substantially benefits taxpayers through increased selection of rigid pavements can be considered a success. Such success may require a multi-year effort, but the payoff will be worth the effort and investment.

Concrete’s share of the market will start to grow with a Competitive Paving Program in place. Ready mixed producers will be most likely to benefit at this point with a focus on local streets and roads, especially with the backing of the full concrete paving coalition. The greatest obstacle to increasing concrete market share for streets and roads will have been overcome, but the full rewards for your efforts will only be realized with ongoing promotion to expand awareness of the benefits of concrete pavements.

A comprehensive collection of resources and links for concrete streets and roads promotion and advocacy is available on the NRMCA Promotion Resource Center site at:
www.ConcretePromotion.org/streets.html

NRMCA appreciates the invaluable contributions to this guide from numerous concrete industry participants. To provide feedback for future editions, contact Glenn Ochsenreiter at glenn@nrmca.org.

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