
Stepping Out on Concrete Streets & Roads

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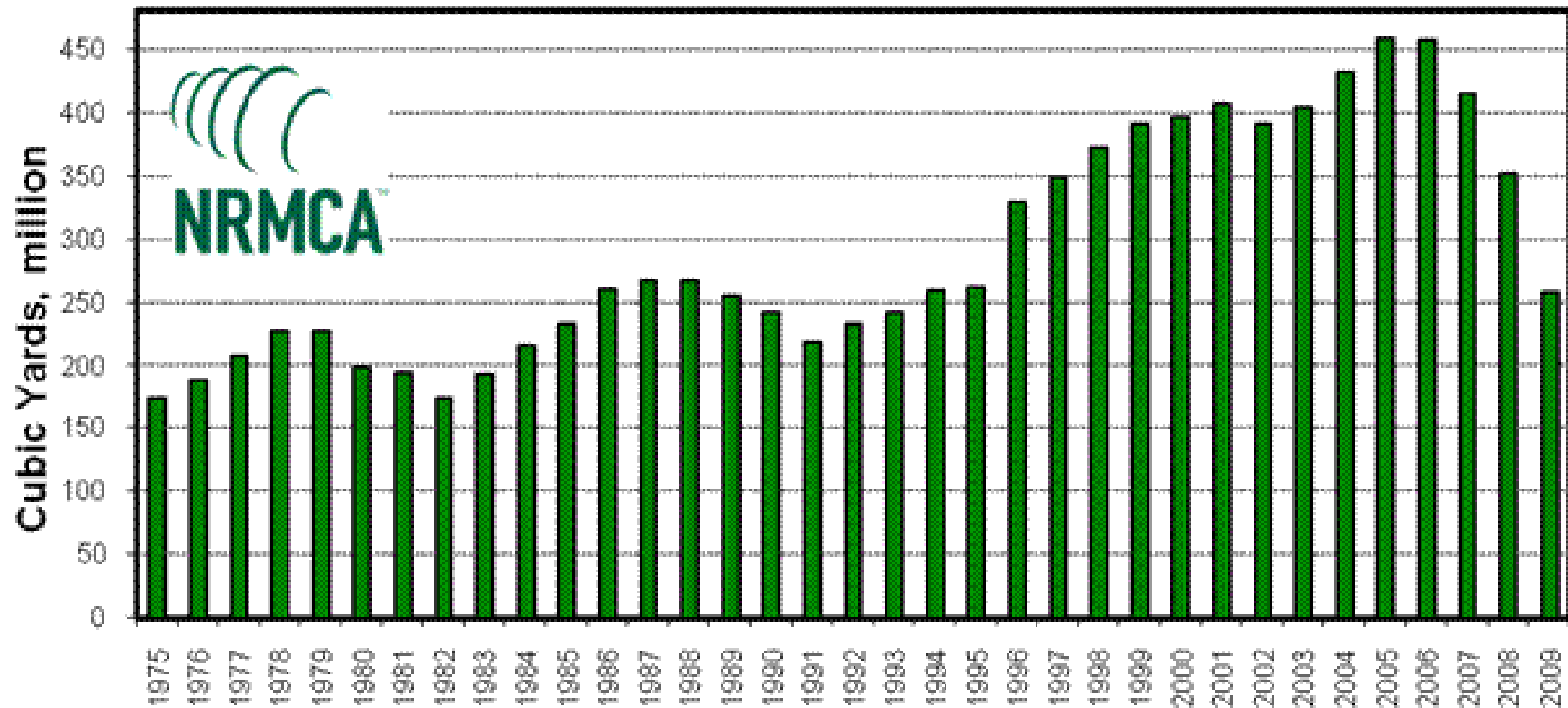
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U.S. RMC Production: 1975-2009

US Ready Mixed Concrete Production



U.S. RMC Production: 1993-2009

Year	US RMC Production		Percent Change
	Cubic Yards	Cubic Meters	
1993	241,819,000	184,895,000	4%
1994	259,255,000	198,226,000	7%
1995	261,482,000	199,930,000	1%
1996	329,390,000	251,852,000	6%
1997	348,398,000	266,385,000	6%
1998	372,033,000	284,456,000	7%
1999	390,658,000	298,697,000	5%
2000	395,614,000	302,486,000	1%
2001	406,091,000	310,497,000	3%
2002	390,301,000	298,424,000	-4%
2003	404,333,000	309,153,000	4%
2004	431,498,000	329,923,000	7%
2005	458,290,000	350,409,000	6%
2006	456,768,000	349,245,000	0%
2007	414,644,000	317,037,000	-9%
2008	351,673,000	268,889,000	-15%
2009	257,458,000	196,852,000	-27%

Virginia RMC Production: 1996-2009

Estimated Ready Mixed Concrete Production

	Virginia	US	Percent of US
1996	6,591,000	329,390,000	2.0%
1997	7,016,000	348,398,000	2.0%
1998	7,355,000	372,033,000	2.0%
1999	7,620,000	390,658,000	2.0%
2000	8,143,000	395,614,000	2.1%
2001	8,545,000	406,091,000	2.1%
2002	7,787,000	390,301,000	2.0%
2003	7,718,000	404,333,000	1.9%
2004	9,106,000	431,498,000	2.1%
2005	9,795,000	458,290,000	2.1%
2006	9,696,000	456,768,000	2.1%
2007	8,709,000	414,644,000	2.1%
2008	7,416,000	351,673,000	2.1%
2009	5,605,000	257,458,000	2.2%

2010 YTD Production

Month	2010 Monthly Production (cu.yd.)	Percent Change from 2009	2010 YTD Production (cu.yd.)	Percent Change from 2009	Projected Annual Production*
January	12,650,000	-22.1%	12,650,000	-22.1%	
February	12,495,000	-26.4%	25,145,000	-24.3%	
March	19,868,000	1.7%	45,013,000	-14.7%	255,814,302
April	24,053,000	8.1%	69,065,000	-7.9%	
May	23,216,000	1.0%	92,282,000	-5.8%	
June	26,030,000	-0.4%	118,312,000	-4.7%	259,729,383
Estimated ready mixed concrete production for 2009, yd ³					258,551,000

Outlook

- Prospects for both residential and commercial construction remain weak for an extended period
- Growth requires taking new market share in a segment with ongoing activity
- Streets & local roads offer such an opportunity...

New Streets & Local Roads Promotion Support Program

- Support long requested by NRMCA members
- NRMCA/ACPA Collaborative Effort
- Program for members, state affiliates and ACPA chapters
- NRMCA National Resource Directors (NRDs) will provide planning and training support
- Promotion materials & tools now available
- First states showing interest: VA & FL

Promotion Toolkit

- Collateral
- Presentation templates– local information required for maximum impact
- ACPA's StreetPave for economic comparison with asphalt
- www.ConcreteStreets.org targeted to specifiers
- Promotion material available for download at www.ConcretePromotion.org

Key Promotion Elements

- Concrete's lower cost of ownership
- Further savings through appropriate design thickness rather than traditional over-design
- Appropriate concrete design software: Mechanistic-Empirical Pavement Design Guide (MEPDG), not traditional AASHTO
- StreetPave is similar to MEPDG but easier to use
- Concrete's sustainability & minimal maintenance requirements

What is Mechanistic-Empirical?

MECHANISTIC = Mechanical Response

EMPIRICAL = Derived from Experiment & Observation rather than theory

Apply Load(s)



Measure Stress & Strain
in the Concrete



AASHO Road Test

Mechanistic-Empirical Pavement Design

- Based on most advanced pavement performance models
- Comprehensive methodology incorporates layer thicknesses, material properties, climate, and traffic loadings
- Real-world experiments and observations confirm accuracy of models
- MEPDG and StreetPave both incorporate this approach

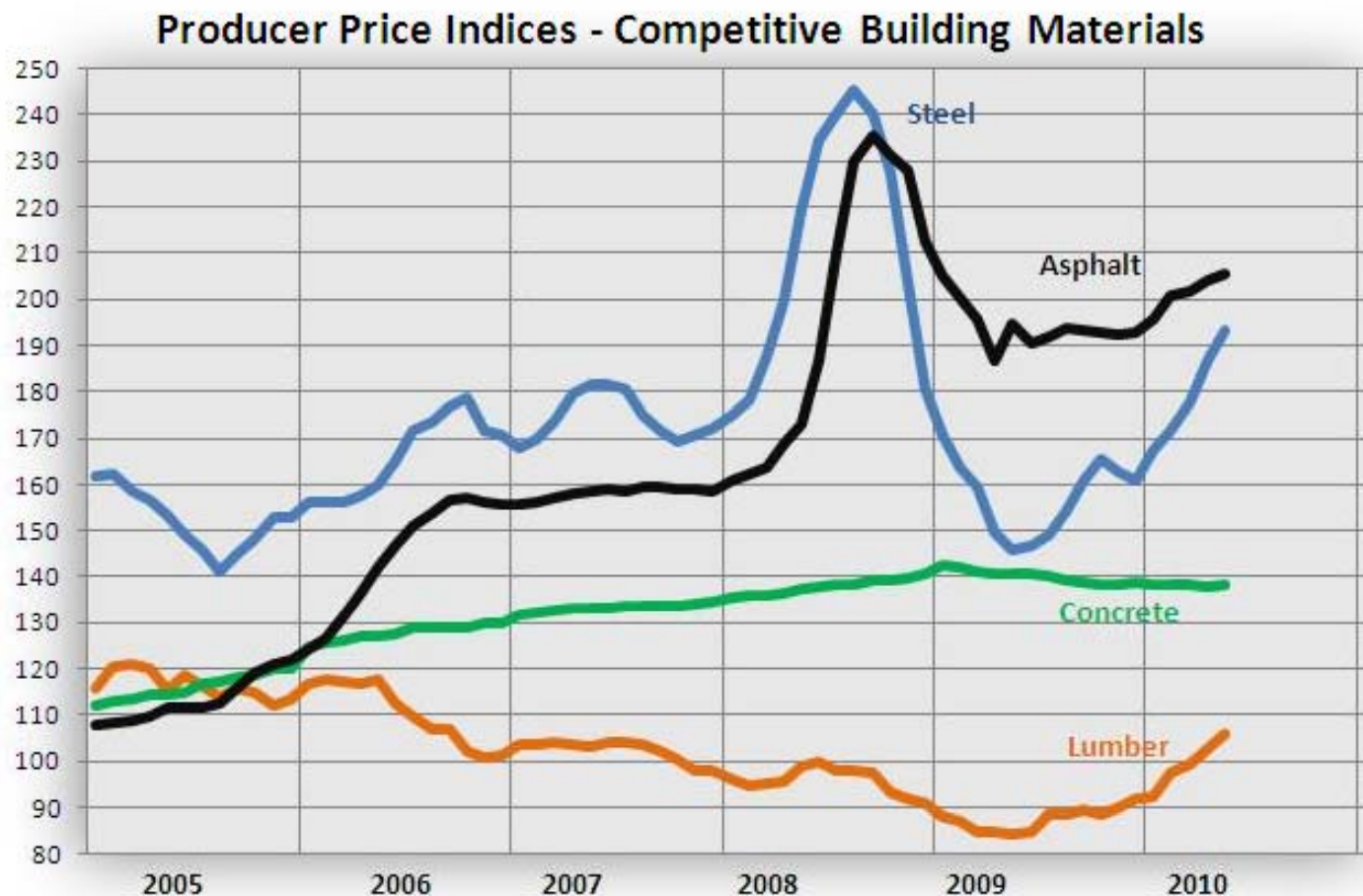
StreetPave

- Software tool primarily for streets and roads
- Uses mechanistic-empirical modeling for thickness determination (like MEPDEG but less complex)
- Allows life cycle cost analysis (LCCA) to compare “hard costs” (if local cost & performance data available).
- Direct comparisons of concrete and asphalt designs

Key Points

- Traditional AASHTO design is decades old and is based on highway design rather than local roads
- Many states investing more in maintaining existing roads than building new ones
- Traffic loads are growing– vehicles are getting heavier
- Pavements using dowels and narrow joints are very quiet
- Asphalt prices and supply much more volatile– the trend is lower supply and higher prices

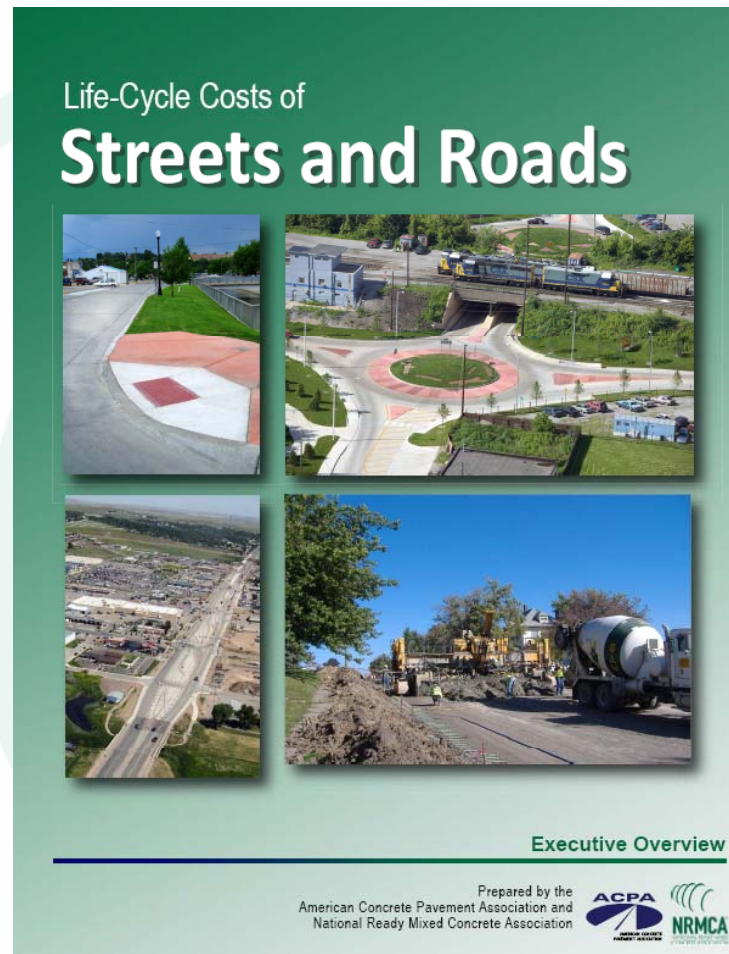
Building Material Prices: Advantage Concrete



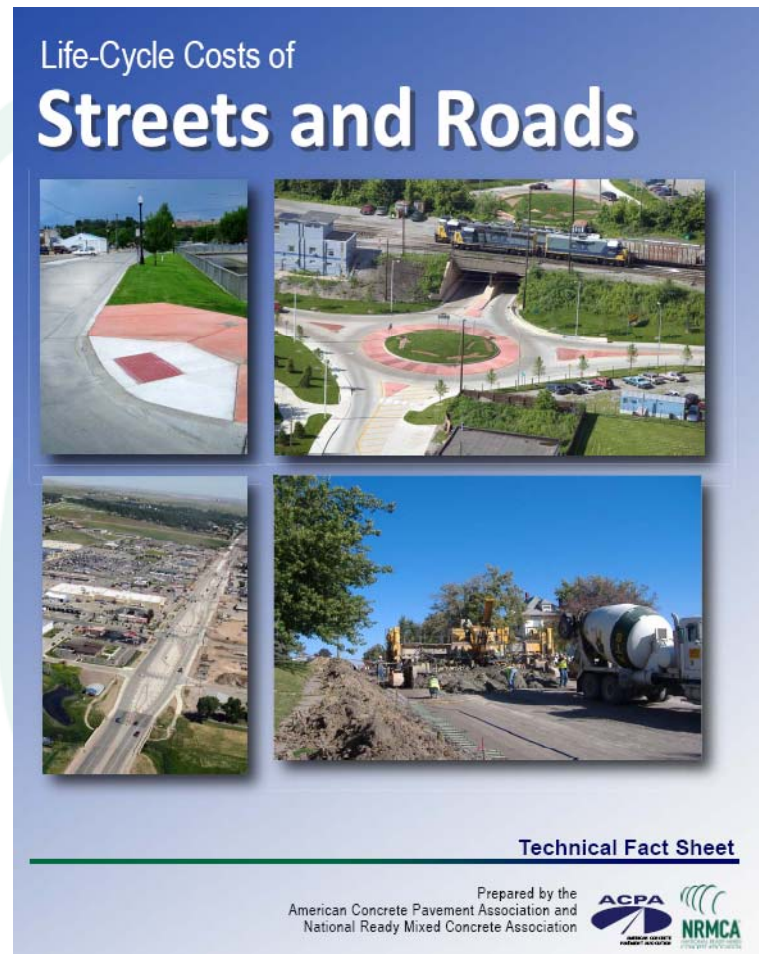
Last 12 months: Asphalt up 5.4%-- concrete down 1.8%

Source: Department of Labor, Bureau of Labor Statistics

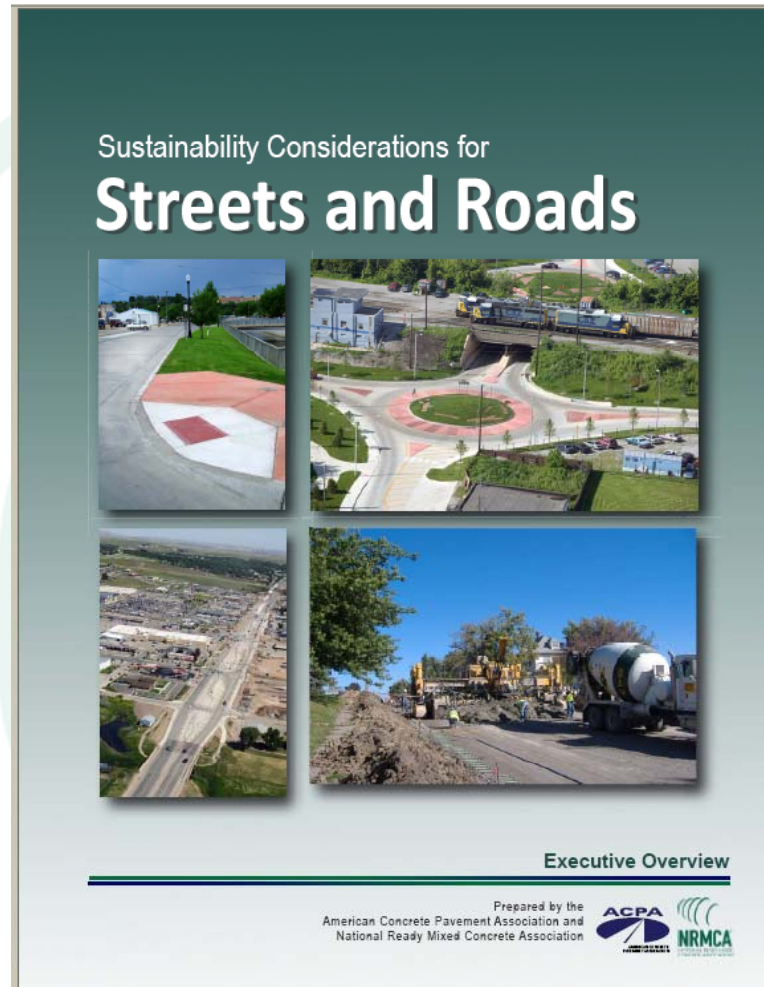
Life-Cycle Cost— Executive Overview



Life-Cycle Cost— Technical Fact Sheet



Sustainability Considerations



Collateral & Tools Available at www.ConcretePromotion.org

Concrete Promoters' Resource Center

Streets & Roads Sustainability Pervious Paving & Parking Tilt-Up ICFs SCC Flowable Fill Other Resources

HOME

Parking Lot Strategic Plan

- [Overview](#)
- [BUD Program](#)
- [Design Assistance](#)
- [CPA Software](#)

Promotion Photos

Downloads

Pervious Project Directory

Success Stories

Promoter Directory

Resource Center Partners

Promotion News



Technical Resource:

Welcome to the Resource Center!

Concrete has been a leading building material for thousands of years. No other construction material provides the strength, durability and economy of concrete. Modern ready mixed concrete also provides remarkable flexibility in meeting the needs of challenging placement and sustainable design. *We in the concrete industry are fortunate to work with an outstanding product that has served mankind for ages and yet is advancing rapidly.*

The Concrete Promoters' Resource Center has been developed to assist promoters in creating broader awareness of the benefits of concrete through enhanced communication, shared knowledge and access to the best tools. At launch, the site has the most depth in support of concrete parking promotion but will quickly mature in support of all key ready mixed applications. We hope you agree there is much to be gained through having a central resource center that supports the spectrum of promotion opportunities for ready mixed concrete.

Visitors to the site can view and download promotion photos, videos and presentations, consult a directory of industry promoters, search databases of pervious projects and success stories, and review tools and materials available to support the industry's parking lot strategic plan and other key concrete applications. A "bulletin board" forum is under development to be added soon.

*Let's work together to advance concrete as the construction material of choice--
For today, tomorrow and ages to come!*

► Please take a moment to [REGISTER](#) in the Concrete Promoter Directory! ◀

Concrete Answers Sites for Architects, Engineers and Developers

ASCE

CRSI

ACPA
AMERICAN CONCRETE PAVEMENT ASSOCIATION

Insulating Concrete Form Association

NRMCA

PCA

pti

Streets & Local Roads

NRMCA-ACPA Streets & Local Roads Promotion Support Program

[Summary](#) | [Tools & Collateral](#) | [Training](#) | [Local Promotion Planning](#) | [Local Collaboration](#) | [Website](#)

Program Summary

NRMCA and ACPA have collaborated to provide support to NRMCA producer members, State Affiliates and ACPA-affiliated Chapter/State paving associations that are interested in advancing and augmenting local concrete promotion for streets and local roads. Promotion tools, presentations, collateral materials and assistance will be provided to support organizations interested in this market segment. Though it is a challenging time to take on major new promotion initiatives, streets and roads are a largely untapped market opportunity for ready mixed concrete growth.

Tools and Collateral

► Print-On-Demand Flyers

These flyers will be suitable for hand-out or mailing to help generate initial interest in concrete streets and roads. Two **executive overviews** and a **technical fact sheet** are available. An email version will also be provided.

- [Executive Overview: Cost and Performance of Streets and Roads](#) (PDF)
Pavement type selection for streets and roadways just got easier. In addition to costs and performance considerations, this literature also cites some surprising aesthetic considerations that may have a dramatic effect on downtown revitalization plans. (QD029)
- [Executive Overview: Sustainability Considerations for Streets and Roads](#) (PDF)
Long before there was a "green" movement, many people recognized the significant impact that pavement type selection can have on the environment around us. This literature examines some important considerations when considering pavement type in urban, suburban, and exurban settings. (QD030)
- [Technical Fact Sheet: Life-Cycle Costs of Streets and Roads](#) (PDF)
Initial costs of pavements are becoming increasingly competitive, as many MPO's, cities, counties, and townships are finding out. Even so, a growing number of agencies/owners are looking beyond those competitive first costs to find even greater savings over the intended design life of the pavements. This literature explores the basic considerations used to determine the objective life-cycle costs of pavement systems. (QD031)

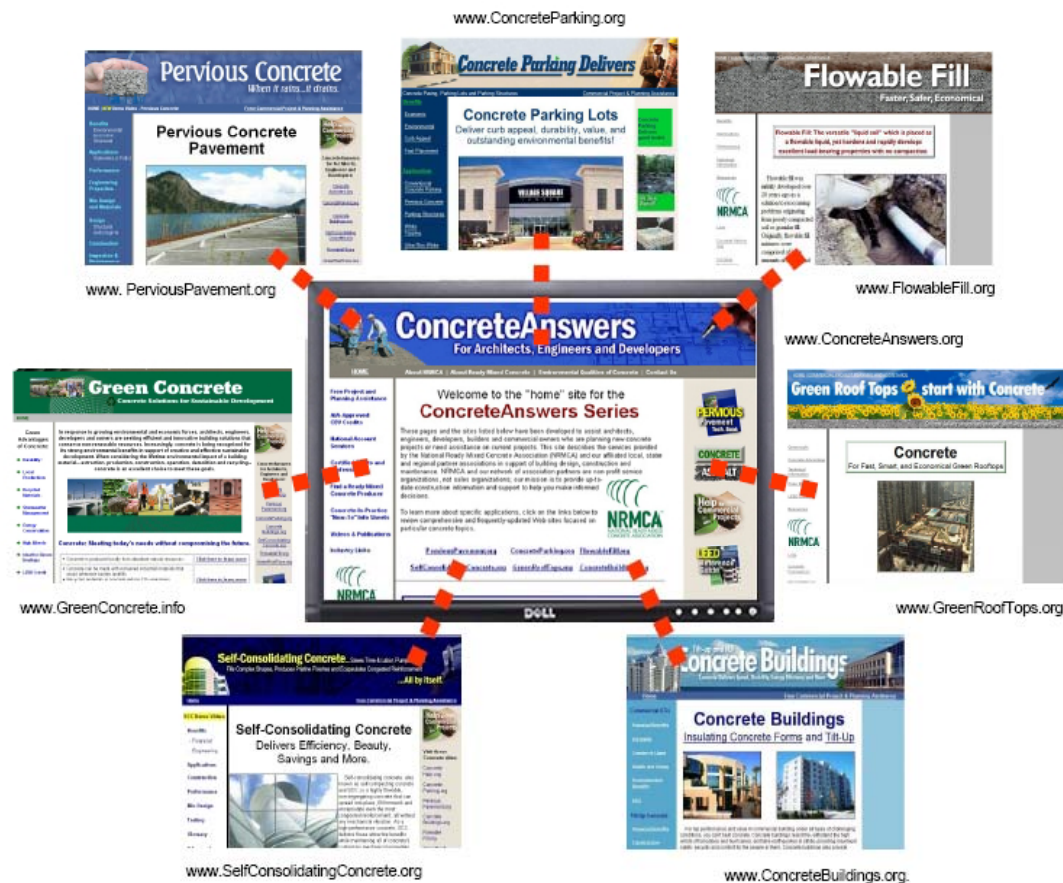
► StreetPave Software

Presentations for Municipal Decision-Makers and Specifiers



- [LCCA Train-the-Trainer Presentation](#) (PPT)
StreetPave and LCCA training primarily intended for field forces of NRMCA and ACPA.
- [LCCA Template for Specifier Audience](#) (PPT)
For more technical specifier audiences including engineers. The presentation is a template that requires configuration by local promoters.
- [Executive-Level PowerPoint Presentation](#) – *(Coming Soon!)*
For general specifier audiences and non-technical decision-makers. This is an overview presentation covering basic features and benefits of concrete.

ConcreteAnswers Series Web Sites



“Knowledgeable Specifiers are the Industry’s Best Prospect”

ConcreteAnswers Series


Website	Google Ranking	Search Term(s)
ConcreteAnswers.org	#1	<i>concrete help</i>
ConcreteBuildings.org	#1	<i>concrete buildings</i>
ConcreteParking.org	#1	<i>concrete parking</i>
ConcreteParking.org	#2	<i>parking lot</i>
FlowableFill.org	#1	<i>flowable fill</i>
GreenConcrete.info	#1	<i>green concrete</i>
GreenConcrete.info	#3	<i>sustainable concrete</i>
GreenRoofTops.org	#1	<i>concrete green roofs</i>
PerviousPavement.org	#1	<i>pervious concrete; pervious pavement; porous pavement</i>
SelfConsolidatingConcrete.org	#1	<i>self consolidating concrete</i>

www.ConcreteStreets.org

ConcreteAnswers Series for Architects, Engineers and Developers. Click for more Answers.




CONCRETE STREETS

The Durable, Safe and Economical Community Investment



HOME
PERFORMANCE
COST
TRANSPORT-SYSTEM PRESERVATION
SUSTAINABILITY
CIVIC PRIDE
INNOVATION

Resources
[Concrete Publications](#)
[Industry Links](#)
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Help for Commercial Projects

- Concrete-Answers Central Help Site
- Concrete Parking
- Pervious Pavement
- Concrete Buildings
- Green Concrete
- Self-Consolidating Concrete
- Flowable Fill
- Green Rooftops

Coming Soon:
Decorative Concrete

PERVIOUS Pavement Tech. Book

Concrete: No toxic runoff

CONCRETE vs ASPHALT

The Right Choice Beneath Your Tires

If you have ever purchased a product online, shopped for groceries, driven your kids to soccer practice, traveled across the country, or even driven across town to work, you have enjoyed the benefits of this country's vast network of roadways, highways, airports, and industrial pavements. In fact, every day, in a multitude of ways, almost everyone is impacted by a transportation network that is largely taken for granted.

Whether you are directly or indirectly responsible or involved in preserving surface transportation infrastructure, or just someone who depends on that network, it is time to take a new look at some of the challenges and new opportunities that are available today.

To get straight to the point, **concrete pavement is the best choice under your tires.** For today and tomorrow, concrete pavement is the most cost-effective and sustainable option for highways, airports, roadways, and other pavement applications. Please click the links on the left and browse through this site to find out why.

For even more information on concrete streets and local roads, please visit www.pavements4life.com. You may also email info@acpa.org with any questions or comments, or for contact with a local representative in your area.

Local Promotion Planning

- Municipal and DOT decision-making practices vary greatly, so promotion plans need to be developed locally
- NRMCA and ACPA are working to develop supporting materials and “best practices” recommendations to assist local groups in assessing local markets and developing effective promotion plans.

Local Collaboration Essential for Success

Collaboration among producers, contractors, designers and promotion groups such as state ready mixed concrete associations and local chapters of ACPA is a key element for success.

QUESTIONS OR COMMENTS ?

www.NRMCA.org

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