

## INFRASTRUCTURE CASE STUDY:

### *Metro Region Freeway Lighting*

## SUMMARY

PROJECT TYPE	YEAR
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Freeway lighting	2017
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### DEAL STRUCTURE

Design-build-finance-operate-maintain agreement

### TOTAL COST

\$145 million (including energy)

### FINANCING

Private financing and equity

### FUNDING

Availability payments from the Michigan Department of Transportation (with \$79 million in federal funds)

### PUBLIC BENEFIT

Increased safety on freeways and greater long-term energy efficiency

# Background

As of August 2015, less than 70 percent of freeway lights in the Detroit metro area were properly functioning, a serious safety and visibility concern. Additionally, 87 percent of the old freeway lights were high pressure sodium or metal halide fixtures, which are not energy efficient. To solve this problem, the Michigan Department of Transportation (MDOT) entered into a 15-year public-private partnership with Freeway Lighting Partners, LLC, (FLP) to replace approximately 15,000 lights in the Detroit metro area with energy-efficient LEDs and maintain 98 percent functionality of the lights after two years.<sup>1</sup> This is the first public-private partnership (P3) on a freeway lighting project in the United States.<sup>2</sup>

## Project Description

Highway lighting is a safety priority for MDOT, but the transportation budget did not allow for replacement of lights and increased maintenance.<sup>3</sup> A contract with private partners allowed the project to move forward. FLP consists of Star America Infrastructure and Aldridge Electric, Inc., as equity owners.<sup>4</sup> Aldridge Electric is the design-build partner, Parsons Brinkerhoff, Inc., is the designer, and Cofely Services, Inc., will be the operations and maintenance provider.<sup>5</sup> BlackRock Infrastructure joined as a financier in October 2015 (two months after the agreement was negotiated).<sup>6</sup>

The replacement and rehabilitation of the freeway and tunnel lighting system will take place during the first two years of the contract, and then FLP will operate and maintain the system for the remaining 13 years. The agreement was made in August 2015. MDOT expects \$13 million in savings over the life of the contract, in part due to the more energy-efficient lighting.<sup>7</sup> An additional benefit is that FLP will be liable for the first \$150,000 in losses from theft, and the risk will be shared 50/50 for damages up to \$250,000.

This project will be privately financed by FLP and BlackRock. One of BlackRock Capital's entities, Allianz Life Insurance of North America, provided financing, while FLP contributed equity.<sup>8</sup> MDOT will pay two milestone payments, \$6 million once lights are operating at 90 percent (required within one year) and an additional \$6 million paid upon "substantial completion" (98 percent operating required within two years) to the private financiers.<sup>9</sup> Additionally, MDOT will pay quarterly service payments based on availability and energy savings during the 13-year operating and maintenance phase (estimated at \$2.1 million, not including power costs).<sup>10</sup> To help cover these costs, MDOT received \$79 million in federal funds.<sup>11</sup> Milestone payments will not be submitted if the requirements are not met and are subject to deductions under the terms of the agreement.<sup>12</sup>

## Benefits and Criticisms

Full judgment cannot be passed on this project until the two-year construction period has concluded next year, but if activities proceed as expected, it seems likely that the freeway lighting P3 will be a success. The state will obtain savings through energy efficiency, and it will have used an innovative approach to make room for a priority project without making cuts to the transportation budget. The state carries little risk because they are covered for theft for up to \$150,000 (copper theft is the concern), and the main milestone payments will only be paid upon completion of fulfillment of project terms.<sup>13</sup> The public will benefit from safer, more illuminated highways that are more energy efficient.

# Takeaways

This project demonstrates the breadth and depth of possibility with public-private partnerships. It is an example of how financing can be structured to advance investment in critical infrastructure beyond more traditional roads, bridges, and transit services into energy, utilities, and public spaces. Further, the public entity issued the request for proposal with six explicit goals to hold the partner accountable for delivering on throughout the project lifespan: safety, efficiency, mobility, quality, finance, and schedule.<sup>14</sup> Making these goals explicit and transparent can help ensure all partners are acting in the same interest, and stakeholders affiliated with and interested in the project, including the public, can clearly track performance according to set goals.

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## Endnotes

1. Michigan Department of Transportation, Office of Communications, "Transportation Innovation: Shedding a light on safety upgrades," Press Release, August 2015. <http://www.michigan.gov/mdot/0,4616,7-151--362656--,00.html>.
2. Business Wire, "BlackRock Infrastructure Announces Public Private Partnership to Fund Michigan Freeway Lighting," October 2015. <http://www.businesswire.com/news/home/20151020006040/en/BlackRock-Infrastructure-Announces-Public-Private-Partnership-Fund>.
3. Rachel Permack, "15,000 freeway lights in metro Detroit to be replaced with LED bulbs in MDOT partnership," Crain's Detroit Business, October 22, 2015. <http://www.crainsdetroit.com/article/20151022/NEWS/151029939/15000-freeway-lights-in-metro-detroit-to-be-replaced-with-led-bulbs>.
4. Corey Brock and Elizabeth Cousins, "P3 turns lights on in Detroit, Michigan," Infra Insight, August 27, 2015. <http://www.infrainsightblog.com/2015/08/articles/ppps/p3-turns-the-lights-on-in-detroit-michigan/>.
5. Ibid.
6. National Council for Public Private Partnerships, "BlackRock infrastructure joins Michigan's freeway lighting P3," October 23, 2015. <http://www.ncppp.org/blackrock-infrastructure-joins-michigans-freeway-lighting-p3/>.
7. Rachel Permack, "15,000 freeway lights in metro Detroit to be replaced with LED bulbs in MDOT partnership," Crain's Detroit Business, October 22, 2015. <http://www.crainsdetroit.com/article/20151022/NEWS/151029939/15000-freeway-lights-in-metro-detroit-to-be-replaced-with-led-bulbs>.
8. Corey Brock and Elizabeth Cousins, "P3 turns lights on in Detroit, Michigan," Infra Insight, August 27, 2015. <http://www.infrainsightblog.com/2015/08/articles/ppps/p3-turns-the-lights-on-in-detroit-michigan/>.
9. Michigan Department of Transportation, "Delivery of a Public-Private Partnership (P3s) Metro Region—Freeway Lighting P3." [http://www.acecmi.org/uploads/4/2/3/0/42305689/delivery\\_of\\_a\\_public-private\\_partnership3\\_.pdf](http://www.acecmi.org/uploads/4/2/3/0/42305689/delivery_of_a_public-private_partnership3_.pdf).
10. Ibid.
11. Rachel Permack, "15,000 freeway lights in metro Detroit to be replaced with LED bulbs in MDOT partnership," Crain's Detroit Business, October 22, 2015. <http://www.crainsdetroit.com/article/20151022/NEWS/151029939/15000-freeway-lights-in-metro-detroit-to-be-replaced-with-led-bulbs>.
12. Michigan Department of Transportation, "Project Agreement Schedules, Execution Version: Delivery of Freeway Lighting as a Design-Build-Finance-Operate-Maintain Project," August 24, 2015. [https://www.michigan.gov/documents/mdot/Project\\_Agreement\\_-\\_Schedules\\_500703\\_7.pdf](https://www.michigan.gov/documents/mdot/Project_Agreement_-_Schedules_500703_7.pdf).
13. Rob Morosi, "Transportation Innovation: Shedding a light on safety upgrades," Michigan Department of Transportation, August 18, 2015. <http://www.michigan.gov/mdot/0,4616,7-151--362656--,00.html>.
14. Michigan Department of Transportation, "Request for Qualifications: Delivery of Freeway Lighting as a Public-Private Partnership Project Metro Region," March 6, 2014. [http://www.michigan.gov/documents/mdot/Metro\\_Region\\_Freeway\\_Lighting\\_P3\\_-\\_Request\\_For\\_Qualifications\\_449682\\_7.pdf](http://www.michigan.gov/documents/mdot/Metro_Region_Freeway_Lighting_P3_-_Request_For_Qualifications_449682_7.pdf).



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