

LTRC / DOTD Experience and Involvement with University Transportation Centers

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Outline

- Participation
 - Historical
 - Mechanism(s)
- Project selection
- Project closeout
- Implementation of results
- T² and education
- Case study
 - ROI



UTC Participation

- Regional
 - Southern Plains Transportation Consortium (SPTC)
 - Transportation Consortium of South-Central States (Tran-SET)
- Tier 1
 - National Center for Intermodal Transportation and Economic Competitiveness (NCITEC)
 - Mid-America Transportation Center (MATC)
 - Maritime & Multimodal Transportation Research and Education Center (MarTREC)
 - Cooperative Mobility for Competitive Megaregions (CM2)



UTC Participation

- Letter of support
 - Monetary amount (combination of in-kind and cash)
 - Only on **projects of interest** to DOTD
 - Universities give ½ of IDC and 1 month release time
 - DOTD covers remaining cost share
 - Cash or in-kind services



UTC Project Selection

- Method 1
 - LTRC annual work program priority list
 - Drawback – has to fit the UTC objectives / mission
- Method 2
 - Choose from ranked UTC problem statements
 - Drawback – may not be of interest to DOTD
- Method 3 (last resort)
 - Give alternate project funded solely by DOTD meeting objectives / mission



UTC Project Closeout

- LTRC Manual of Research Procedures
 - Final Report (LTRC cover page)
 - Research Assessment Implementation Report (RAIR)
 - Implementation team



UTC Results Implementation

- DOTD interest
 - Seamless and smooth
 - Products / deliverables presented with training
- LTRC assists with pilot projects
 - DOTD
 - Locals



UTC T² and Education

- Dedicated publications group
 - Technology Today articles
 - Technical Summaries (2 page maximum)
 - Videos
- Encourage research articles
 - Research Pays Off, Roads and Bridges, etc.
- LTRC Seminar Series
 - Presentations of results, field trials, lessons learned, etc.



Case Study - NCITEC

- Participated through Louisiana State University
- Projects were selected using Method 1 – research priority list
 - 7 funded in Year 1
 - 5 funded in Year 2



Case Study – NCITEC (Year 1 Projects)

| PRIORITY | TITLE OF PROJECT | PRINCIPAL INVESTIGATOR | TOTAL FUNDS | UTC FUNDS | UNIVERSITY MATCH | LTRC CASH MATCH | LTRC/LADOTD STAFF TIME AS MATCH |
|---------------|---|------------------------|---------------------|-------------------|-------------------|-------------------|---------------------------------|
| HIGH | The Impact of Modifying Jones Act on the US Domestic Shipping | Asaf Ashar | \$ 185,219 | \$ 92,168 | \$ 58,168 | \$ 34,000 | \$ - |
| HIGH | Improving Freight Crash Incident Management | Chester Wilmot | \$ 143,201 | \$ 76,346 | \$ 25,346 | \$ 51,000 | |
| HIGH | Development of a Tool for Documenting, Tracking, Recording and Analyzing Improvements to Intersection Sites and Roadway Departures in Curve Locations | Helmut Schneider | \$ 215,660 | \$ 67,660 | \$ 106,000 | \$ 42,000 | |
| HIGH | Development of Minimum Requirements for Local Growth Management Policies | John Renne | \$ 282,076 | \$ 141,321 | \$ 90,321 | \$ 51,000 | |
| HIGH | Development of Performance Measurement for Freight Management | Peter Kelle | \$ 150,870 | \$ 74,768 | \$ 62,768 | \$ 12,000 | |
| HIGH | Administration - Part 1 | Skip Paul | \$ 42,194 | \$ 42,194 | | | \$ 42,194 |
| HIGH | Administration - Part 2 | Skip Paul | \$ 41,618 | \$ 20,809 | | | \$ 20,809 |
| MEDIUM | Economic Impact Analysis of Short Line Railroads | Jared Llorens | \$ 111,244 | \$ 51,505 | \$ 38,505 | \$ 13,000 | |
| MEDIUM | Developing a Highway Safety Fundamentals Course | Xiaoduan Sun | \$ 50,780 | \$ 25,316 | \$ 16,816 | \$ 8,500 | |
| | LSU F&A on subcontracts to UNO & ULL | | \$ 15,826 | \$ 7,913 | \$ 7,913 | | |
| TOTALS | | | \$ 1,238,688 | \$ 600,000 | \$ 405,837 | \$ 211,500 | \$ 63,003 |



Case Study – NCITEC (Year 2 Projects)

| TITLE OF PROJECT | PRINCIPAL INVESTIGATOR | TOTAL FUNDS | UTC FUNDS | UNIVERSITY MATCH | LTRC CASH MATCH | LTRC/LADOTD STAFF TIME AS MATCH |
|--|------------------------|---------------------|------------------|-------------------|------------------|---------------------------------|
| Administration | Skip Paul | \$ 78,948 | \$ 39,448 | \$ - | \$ - | \$ 39,500 |
| ITS Video Detection Technology for Traffic Counting | Sherif Ishak | \$ 199,992 | \$ 99,996 | \$ 59,996 | \$ 40,000 | |
| Travel Time Estimation in Urban Areas Using Bluetooth Receivers | Chester Wilmot | \$ 279,954 | \$139,977 | \$ 27,000 | | \$ 112,977 |
| A Simulation Model for Intermodal Freight Transportation in the State of Louisiana | Peter Kelle | \$ 207,360 | \$103,680 | \$ 62,680 | \$ 41,000 | |
| Drugged Driving in Louisiana: Quantification of its Impact on Impaired Driving crashes and deaths and the Legal, Enforcement and Public Health Implications and Potential Strategies | Helmut Schnider | \$ 258,798 | \$129,399 | \$ 78,399 | \$ 51,000 | |
| Development of an Optimal Ramp Metering Control Strategy for I-12 | Sherif Ishak | \$ 175,000 | \$ 87,500 | \$ 52,500 | \$ 35,000 | |
| TOTALS | | \$ 1,200,052 | \$600,000 | \$ 280,575 | \$167,000 | \$ 152,477 |



Case Study – NCITEC Return on Investment

- Total Funds \$2,438,740
- UCT Funds \$1,200,000
- University Match \$686,412
- LTRC Cash Match \$378,500
- DOTD Time Match \$215,480

- ROI = (Total Funds - LTRC Cash)/LTRC Cash
 - 544%



Case Study – NCITEC Return on Investment

- Total Funds \$2,438,740
 - UCT Funds \$1,200,000
 - University Match \$686,412
 - LTRC Cash Match \$378,500
 - DOTD Time Match \$215,480
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- ROI = (Total Funds - LTRC Cash – Time Match)/(LTRC Cash + Time)
 - 312%



Questions

