

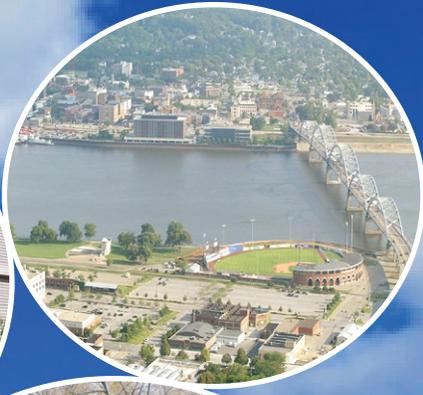


Bi-State Region Clean Air Partnership

“Make Outdoor Air Quality Visible”

Strategic Plan

June 2014



Prepared by:





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Strategic Plan

December 2011

Updated June 2014

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Prepared by:



1504 Third Avenue, P.O. Box 3368
Rock Island, IL 61204-3368
Phone: (309) 793-6300 • Fax: (309) 793-6305
Website: <http://www.bistateonline.org>

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Bi-State Region Air Quality Task Force

Chair – Steve Boka

Organization	Name	Organization	Name
ADT Illinois	Chuck Oestreich	Henry County Health Department	Gail Ripka
Air Quality Bureau		Henry County Highway Department	Steve Brandau
Alcoa	John Riches	Iowa Department of Economic Development	Jan Loyson
Alter Barge Line	Bruce Cary	Illinois Department of Transportation	Tom Kelso
Arnold's Body Shop	John Arnold	Illinois Department of Transportation	Susan Stitt
City of Bettendorf	Michelle Javornik	Illinois Environmental Protection Agency	Darwin Burkhart
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City of Colona	Judith Gilbert	Iowa Department of Economic Development	Sherry Timmins
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City of Davenport	Gary Statz	Iowa Department of Transportation	Debra Arp
City of East Moline	Cole O'Donnell	Iowa Department of Transportation	Garrett Pedersen
City of Moline	Scott Hinton	Iowa Department of Transportation	Sam Shea
City of Moline	JD Schulte	Iowa DNR Air Quality Bureau	Matthew Johnson
City of Moline	Erica Williams	Iowa Waste Exchange	Julie Plummer
City of Muscatine	Steve Boka	Iowa Waste Reduction Center	
City of Rock Island	Larry Cook	Kraft Foods of North America	Jacque Copell
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Deere & Company		MetroLINK	Jennifer Garrity
Environet, Inc	Jennifer Walker	MetroLINK	Chelsey Hohensee
Environmental Division		MidAmerican Energy	Shelly Rosa-Gastaldo
Federal Highway Administration	Betsy Tracy	Midway Oil Company	David Requet
Genesis Health System	James Lehman	Muscatine Power & Water	Brandy Olson
Gerdau	Jack Skelley	Muscatine Power & Water	Don Pauken
Gerdau	Jennifer Van Hall	Nestle Purina Petcare Co	Frank Clark
Grain Processing Corp	Mick Durham	Nichols Aluminum	Jeff Keester
Greater Muscatine Chamber of Commerce & Industry	Bill Phelan	Nichols Aluminum	Brian McCabe

Organization	Name	Organization	Name
Quad Cities Chamber of Commerce	Tom Flaherty	Scott County Health Department	Tammy Loussaert
Quad Cities First	Mat Pruitt	Seneca Foundry	Lawrence Helm
Quad City Conservation Alliance		Sivyer Steel Corporation	Neal Horwedel
Quad City Health Initiative	Nicole Carkner	SSAB/IPSCO Steel Inc	Tom Sanicola
Rock Island Arsenal	Tara Hill	Tri-City Building & Construction	Rory Washburn
Rock Island County Board	Virgil Dueysen	Tri-City Heat	Robert Rose
Rock Island County Health Department	Wendy Trute	Trinity Health System	Pamela Mahieu
Scott Co Health Department	Ed Rivers	Tri-City Heat	Robert Rose
Scott County	Dee Bruemmer	W G Block & Company	Judi Brooks
Scott County Health Department	Tim Dougherty	Williams White And Company	Sunder Subbaroyan

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**Bi-State Region
Clean Air Partnership**

Bi-State Clean Air Partnership – “Make Outdoor Air Quality Visible” Strategic Plan

Project Goals

The Project Vision is to “*Make Outdoor Air Quality Visible.*” In previous public opinion surveys (1999 & 2005) completed by the Air Quality Task Force, water and land pollution awareness was greater than air quality awareness. Making the issue of outdoor air quality “*visible*” is critical, not by physically seeing the pollution but by understanding how it affects health and the environment.

Collaborative

The Bi-State Region Air Quality Task Force acted as the collaborative element to oversee this project and its target areas. The expectation for the group was to be representative of government, business and industry, the health field, education institutions, citizen groups, and interested citizens. The Task Force’s mission is consistent with the strategic plan vision and includes their efforts to:

- Maintain attainment status for National Ambient Air Quality Standards (NAAQS) through voluntary measures
- Provide for communication between public and private entities on voluntary emission reduction measures by sharing experiences and knowledge
- Support individual and group voluntary measures/activities, such as public education, and mobile/stationary source reduction initiatives

Assessment

One aspect of this project was to educate air quality partners and identify the types of assessment tools available through resource agencies to “*Make Outdoor Air Quality Visible*” through tangible measurements. Task Force meetings began in April 2010. The group utilized their meetings to educate Task Force members on various issues related to voluntary emission reductions, including greenhouse gas inventories, transportation conformity, emissions inventories, potential emission reduction opportunities, energy conservation, green fleets, status of Bi-State Clean Air Partnership members, community land use planning for air quality, and spatial analysis of point and area source actual and potential emitters. The group has continued to host educational presentations such as those regarding alternative fuels infrastructure, electric vehicle incentives programs through EPA, and case studies of alternative energy sources implemented in local communities. As part of the 2013 update of this strategic plan, the task force was asked to review and prioritize the strategies, and provide additional input for the Strengths, Weaknesses, Opportunities, and Threats or “SWOT” analysis. Promotional items have been distributed promoting www.qctransit.com. The task force also reviewed a freight survey devised by Bi-State staff and distributed to area freight providers. Bi-State staff is continuing educational outreach activities such as interviews with freight providers and offering educational materials and services regarding eco-driving to local high schools.

Task Force Input. Input was sought from the Air Quality Task Force members on what the air quality strengths, weaknesses, and needs are in order to make voluntary emission reduction improvements. Additional input was requested and incorporated as part of the “Make Air Quality Visible II” update. The following were identified:

1. What are our region’s strengths related to air quality and our ability to improve it?

- Existence of the Air Quality Task Force – The group is well organized, meets regularly, stays informed, is active, and has a good track record of success. All of these qualities add up to the ability to positively impact air quality.
- The Air Quality Task Force and elected the official’s understand the issues and have good corporate support of efforts.
- High level of support from local policy makers.
- Economy – A variety of industries and businesses, and a more stable regional economy than in other parts of the Midwest.
- Existing commitment – Many of the region’s corporations and public entities are committed to improving air quality but need assistance to do it.
- Existing resources – In the urban areas, like the Quad Cities, there are public transportation assets and other resources in place to support air quality activities.
- Bi-State created the Clean Air Partnership and works to diligently communicate the issues with both ground level ozone and fine particulates to a wide variety of businesses, property owners and educators. This is a tremendous advantage if the Bi-State Area ever has to face the restrictions imposed by non-attainment.
- Several cities in the Quad Cities Area are participating in the “Cool Cities Plan,” which works toward enhancing public transportation and improving biking and pedestrian facilities.
- Growing support for alternative fuel infrastructure.
- Municipal vehicles using alternative fuels and hybrid technology.
- Local burn bans are in affect and well enforced.

2. What are weaknesses that may prevent our region from improving air quality?

- Maintaining appropriate funding is challenging. Funding levels at other organizations, such as the Illinois EPA, could result in less involvement from those organizations as their resources become strained and their ability to perform discretionary tasks become limited.
- Developing consensus a for which Best Management Practices (BMPs) to implement is an issue. There is a perception of an Iowa vs. Illinois problem.
- Our metropolitan area separated into two air quality regions does not work to the advantage of the statistical area as a whole. [The Bi-State Region is served by U.S. Environmental Protection Agency Regions 5 & 7.]
- There is group ambivalence and apathy resulting from an inability to sense air pollution.
- Cost – Many of the most effective air quality improvement measures are costly. It is very costly to revamp processes, buy equipment, and obtain the permits necessary to have a significant impact on air quality/emissions. Utilities pass these costs onto customers who are already hit by the economic downturn and rising cost of living. Industries can only raise prices so much before it affects sales and revenues.
- Misplaced industry targets – Every industrial process creates some pollution and has some emissions of some sort. Labels such as “polluter industry” can be detrimental to a business, hamper improvement, and are often not representative of the facts. For example, when Blackhawk Foundry closed, there were still high PM 2.5 readings in the neighborhood. The high readings did not always correlate to production days. We’ve also seen that lack of

correlation in Muscatine. Local air quality is not just a local problem, it's a Midwestern problem. There needs to be recognition of industries that show environmental excellence and compliance leaders to dispel the labels. There also need to be more education on energy sources and how low-cost electric production is important to the economy.

- Regulatory Uncertainty – The uncertainty that comes with the many changes to the ambient air quality standards and other environmental regulations is a barrier to improving air quality. It is difficult for businesses to consider major investments at a time when the regulatory framework is in flux. One cannot justify making an investment to control one pollutant but run the risk of moving out of compliance with another. The sheer volume and complexity of all the changing regulations can potentially paralyze investment.
- Local characteristics – In Muscatine, compared to some of the region's other communities, there is higher unemployment, less diversity in industry, higher high school dropout rates, lower household income, etc. This affects the economic vitality of Muscatine and the resources available to public bodies. The more rural counties also don't have access to public transportation assets. (Henry County, IL is served by Abilities Plus, RIM Rural Transit, and River Bend Transit. The MY Trip program was a pilot project. The concepts developed in the effort are being utilized to encourage and educate potential transit riders in rural areas on ways they may access public transit.)
- The area has never entered non-attainment, and thus it is very challenging to generate enthusiasm for a “problem” that doesn't seem to exist. Many people equate air pollution with something they can see and feel, which generally is not the case in our region.

IADNR: “The U.S. Environmental Protection Agency (EPA) has designated the City of Muscatine and areas around the city in nonattainment for the 1-hour SO₂ National Ambient Air Quality Standard (NAAQS). This designation became effective on October 4, 2013. A nonattainment area is designated when outdoor (ambient) air pollution levels violate the NAAQS. EPA determined that the SO₂ monitor located at Musser Park in Muscatine violated the 1-hour NAAQS for SO₂.”

3. Can you describe opportunities or options that we are not doing that may improve air quality? What are some of your own emission reduction success stories?

- The existence and continual activity of the Air Quality Task Force
- There is opportunity to garner support for electric vehicles with a regional effort to obtain funding to build charging stations. Rock Island developed a greenhouse gas inventory report to give the area a baseline for emissions reductions.
- Promotion of CNG to encourage private development for refueling stations accessible to the general public
- Public call-in to report obvious vehicle emissions, followed by notification/information via mail to the registered license plate holder. [Reporting programs have been demonstrated to be a less effective public education and emission reduction strategy than other incentive and positive reinforcement strategies.]
- There is little education in Muscatine about what individuals can do to improve their own air quality and what is already being done by local industry. The Muscatine citizens just hear from activists about how bad certain companies are. Little optimism is shared in the media. There is a great opportunity to educate this community.
- There is an opportunity to promote biking to work and other individual choices that improve air quality and health. There is opportunity for investment/support for transportation alternatives. There is also opportunity to support charging stations for electric cars.

- The increased cost of gasoline may be a blessing in disguise because it is incentivizing actions such as driving an ultra-low emission hybrid vehicle, using alternative transportation such as cycling and public transit, and purchasing products that are recyclable and have low VOCs.
- We are not using the Walking School Bus method of getting our kids to school. During the school year, auto traffic around elementary schools is a tangle as parents bring to and pick up their kids at school. The kids would benefit with a bit of exercise and our air would be cleaner.
- More effort could be made to promote a more walkable community design.

4. What threats do you foresee related to air quality and reducing emissions?

- Federal tightening of standards may serve to reclassify the air quality in the area while actual emissions levels remain stagnant or even decrease. A primary threat to air quality is reduced funding levels for organizations, such as the Air Quality Task Force and Bi-State Regional Commission, that work to protect air quality.
- Apathy on the part of the citizenry and the feeling that we don't need to do things until we are forced to by the federal government is a problem. The down turn in the economy and the perception that any effort to control air quality is or will be too costly and will limit economic growth.
- Continued loss of legislative support for alternative fuel incentives
- Tough economic times putting stress on already strained industries
- Regulatory uncertainty— see above comment
- Political issues – It is difficult to avoid the industry vs. environment argument but they are not mutually exclusive. The messages promoted by Bi-State need to avoid some of these political pitfalls.
- If residents don't see or feel a problem personally, they are less concerned about it.

Extent of environmental and public health problems

Although major air pollution sources are regulated by Iowa and Illinois States' resource agencies, there are other secondary or non-point source pollution contributions that may also be affecting the environmental health in the target areas of the Quad Cities and Muscatine. No local assessments of the land use/emissions relationship have occurred in previous emission reduction efforts. Voluntary emission reduction efforts to reduce precursors to ozone have been pursued since 1998, primarily raising awareness and general public education using USEPA/FHWA "It all adds up to cleaner air." An array of efforts has been promoted, but no specific assessment has occurred to help prioritize solutions or systematically measure effects. Assistance through the Special Planning and Research (SPR) program was used to aid in an assessment of potential land use sources in the Bi-State Region with emphasis for the target areas of the Quad Cities and Muscatine, as a way to channel pollution reduction and prevention efforts with the ultimate goal of improving outdoor air quality. This 2013 update, funded through Congestion Mitigation and Air Quality (CMAQ) funds, is taking information completed in 2010 and reviewing/updating relevant emission reduction tools.

To determine the extent of the problem, this section describes the outdoor criteria pollutants of most interest in the Bi-State Region. Additionally, public health information, commuting, and land use are also summarized to understand the issues surrounding poor air quality.

Ozone. In fall 1998, the Quad Cities, Iowa/Illinois was alerted by the Iowa Department of Natural Resources (IADNR) and Illinois Environmental Protection Agency (ILEPA) that the metropolitan area had experienced a few episodes where ozone levels in the atmosphere were considered unhealthy based on

the 8-hour ozone standard and air quality index. Although the general air quality in the Quad Cities Area is considered good by many of the standards for pollutants, the National Ambient Air Quality Standards contain revised thresholds for concentrations of ozone in the lower atmosphere based on health considerations. It is the health-based thresholds that concern Quad Cities' officials and the state agencies. The U.S Environmental Protection Agency (USEPA) revised the standard for ozone design values from 85 parts per billion to 75 parts per billion, making the standard more stringent. Within the last year, there have been proposals to reduce the ozone standard within the range of 60-70 ppb. This revision will be re-evaluated in 2013, based on newer health-based data. These efforts to lower the threshold for ozone will have an impact. The three-year ozone design value average from 2002 to 2004 for the Quad Cities was 75 ppb. More recently, the three-year ozone design value average (2010-2012) for the Quad Cities was 67 ppb. The local, state, and federal efforts to reduce the number of unhealthy air days are being realized with a combination of emission reduction efforts and education.

Fine Particulates. The USEPA lowered the 24-hour fine particulate standard (PM_{2.5}) from 65 to 35 micrograms per cubic meter (ug/m³) of air on December 17, 2006. The more stringent standards have made it challenging for the Quad Cities and Muscatine areas to stay in compliance with the National Ambient Air Quality Standards. The Iowa DNR Air Quality Bureau has reported monitoring data indicating that one monitor in Scott County measured just above the revised standard for fine particulates in 2007. For the current three-year period from 2010 to 2012, the fine particulate design value is 35 ug/m³ and is very close to non-attainment status for this pollutant.

Additionally, a research study cooperatively funded by local Quad Cities Area and Muscatine government and industry was completed in February 2009 by the University of Iowa. Results indicated both local source and regional factors contributing to higher fine particulate episodes in both target areas. The study looked at monitoring data from Iowa to evaluate the source and type of pollution. Ammonium nitrate and nitrogen oxides appear to be the precursors to fine particulate pollution in our area. (An executive summary of Understanding Episodes of High Airborne Particulate Matter in Iowa available online at: http://www.engineering.uiowa.edu/~cs_proj/iowa_pm_project/understanding_episodes_feb19version_exec_sum.pdf.) Beyond this result, further study will be required to determine exact or likely contributing sources, which will require detailed monitoring not available in the area today and at a rather high cost. In a separate effort from this grant, the area is seeking federal funding for such monitoring efforts and working cooperatively with the Iowa Department of Natural Resources and Illinois Environmental Protection Agency.

Health Information. Nationally more than 23 million people suffer from asthma and around 13.6 million adults have been diagnosed with chronic obstructive pulmonary disease (COPD). (Source: Healthy People 2020; www.healthypeople.gov) In comparison with other areas of the country in the *State of the Air* by the American Lung Association (2011), the Davenport-Moline-Rock Island, IA-IL Metropolitan area ranked 193 of 277 metropolitan areas for high ozone days but ranked 28 of 277 metropolitan areas for annual particle pollution. (Source: <http://www.stateoftheair.org/2011/states/>)

Another aspect of increased health problems is additional burden on the healthcare system. Respiratory diseases affect many facets of society and contribute to higher insurance rates, lost productivity, and tax dollars. Healthcare expenditures due to asthma alone are estimated at \$20.7 billion annually (Source: Healthy People 2020; www.healthypeople.gov)

In assessing environmental affects, it is also be important to examine vulnerable populations in relation to potential air emissions in the target areas. Typically, in older, more established communities, these populations are located in aging neighborhoods with more environmentally challenged areas – brownfields, grandfathered industries, older infrastructure, narrower and more congested streets, etc.

People at risk from air pollution include people under 18 and over 65 years old; individuals with asthma, chronic bronchitis, emphysema, cardiovascular disease, and diabetes; and those in poverty. For example in the Quad Cities Area, the population under the age of 19 and over 65 represent 42% of the people, and are often categorized as potentially sensitive groups for pollutant exposure. This same group in Muscatine County represents 41% of the people.

For sensitive populations, such as the at-risk groups noted, poor air quality can reduce lung function and aggravate existing respiratory and pulmonary conditions. Therefore, controlling outdoor air quality triggers can aid an individual's upper respiratory health and the treatment of the condition. According to the Illinois Department of Public Health (ILDPH), asthma is defined as a chronic lung disease caused by inflammation of the lower airways and episodes of airflow obstruction. Asthma episodes or attacks can vary from mild to life-threatening. Hospitalizations and emergency visits for asthma were the closest equivalent data to compare counties between Illinois and Iowa. Using data from the Iowa and Illinois Departments of Public Health, the emergency room visits for Scott and Muscatine Counties per 10,000 persons (2008) was 61.1 and 25.6, respectively. Scott County had the highest in the State of Iowa, followed by Wapallo County with a rate of 60.0. (Source: IADPH *Asthma in Iowa—A Plan a Plan to Improve the Health of Iowans with Asthma* 2010-2015, May 2010) In Henry, Mercer, and Rock Island Counties, Illinois respectively, the rates per 10,000 for hospitalizations (2005-2007) were 10.5, 6.3, and 11.5. Pope County, Illinois had the highest rate of hospitalizations for asthma at 54.1 per 10,000. (Source: ILDPH *Burden of Asthma in Illinois 2000-2007*, April 2009) While there are a number of potential triggers for worsening upper respiratory or cardiovascular conditions, poor air quality has been identified as one, and reducing ozone and particle matter emissions will benefit these sensitive populations.

Commuting. Currently, commuting patterns data (2007-2011 American Community Survey) indicated that for the Quad Cities Area, the most common form of transportation to work is by car, truck, or van with 92.8%. Of those drivers, 91% drive alone to work, while 9% carpool. Other means of travel include walking to work (2.2%) and public transit (0.8%). FY2010 unlinked rides for the three public transit systems combined amounted to 4.6 million unlinked rides in the metro area. The Quad Cities metropolitan area has projected unlinked rides to increase to 5.9 million by 2015. Detailed commuting patterns for the Bi-State Region are presented in Tables 1 and 2. The contribution to poor air quality from transportation can be significant. Improving vehicle emissions by either reducing their use or improving their emissions output can have a great impact on improving air quality.

Table 1-A
Commuting Patterns Among Counties in the Bi-State Region for Workers 16 and over, 2006-2010

Commuting to →	Henry County, IL	Mercer County, IL	Rock Island County, IL	Muscatine County, IA	Scott County, IA
Residents of ↓					
Henry County, IL	13,373	140	6,212	58	1,770
Mercer County, IL	147	3,343	2,269	674	789
Rock Island County, IL	746	188	49,711	748	14,154
Muscatine County, IA	0	87	449	16,322	1,006
Scott County, IA	195	11	14,943	1,345	59,963

Source: U.S. Census Bureau, American Community Survey 5-year estimates, 2006-10

Table 1-B
Commuting Patterns in the Bi-State Region for Workers 16 and Over: 2006-2010 5-year averages

	Henry County, IL	Mercer County, IL	Rock Island County, IL	Muscatine County, IA	Scott County, IA
Residents who commute within the region	21,553	7,222	65,547	17,864	76,457
Residents who commute outside the region	2,272	863	2,435	2,538	3,255
Total workers	23,825	8,085	67,982	20,402	79,712

Source: U.S. Census Bureau, American Community Survey 5-year estimates, 2006-10

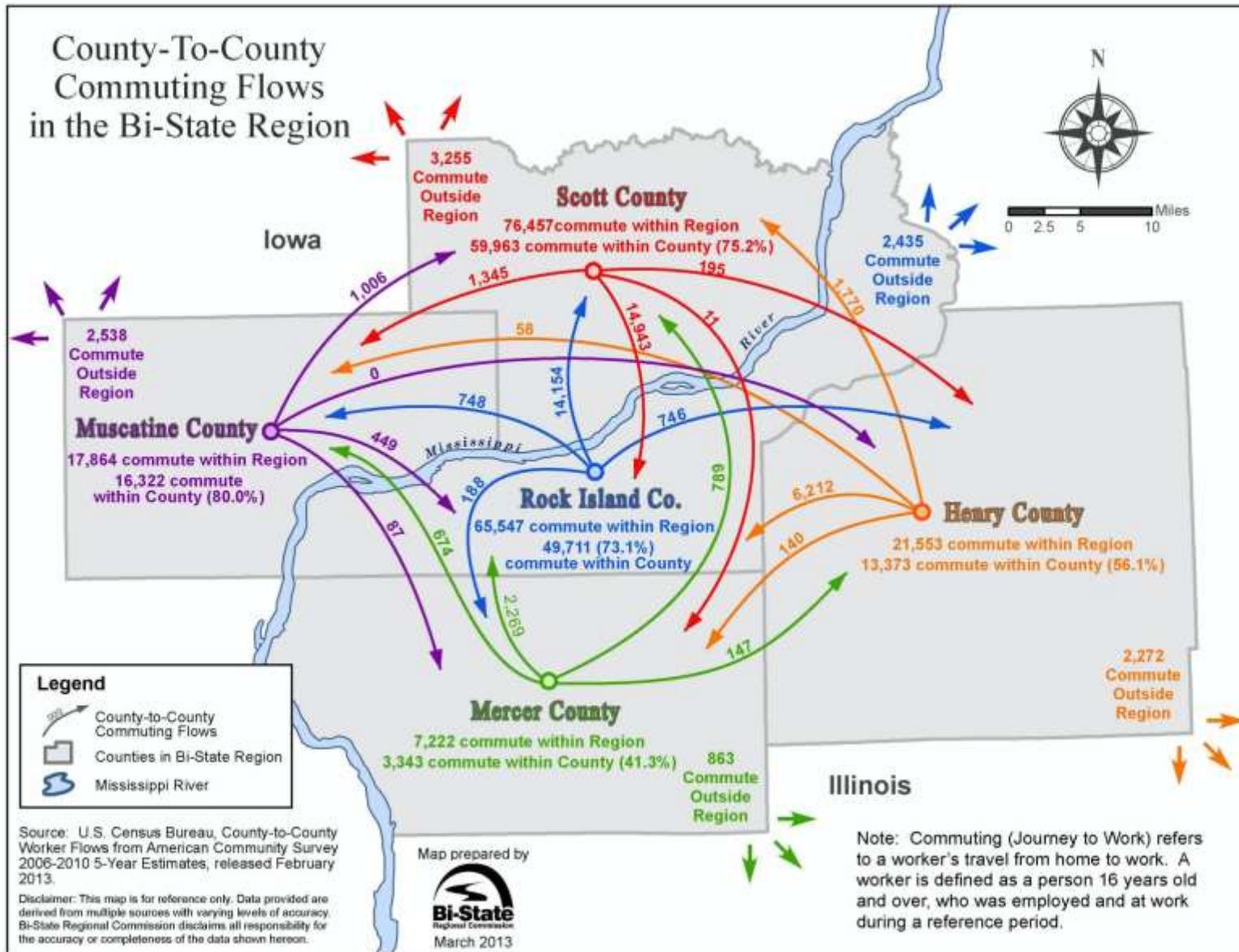
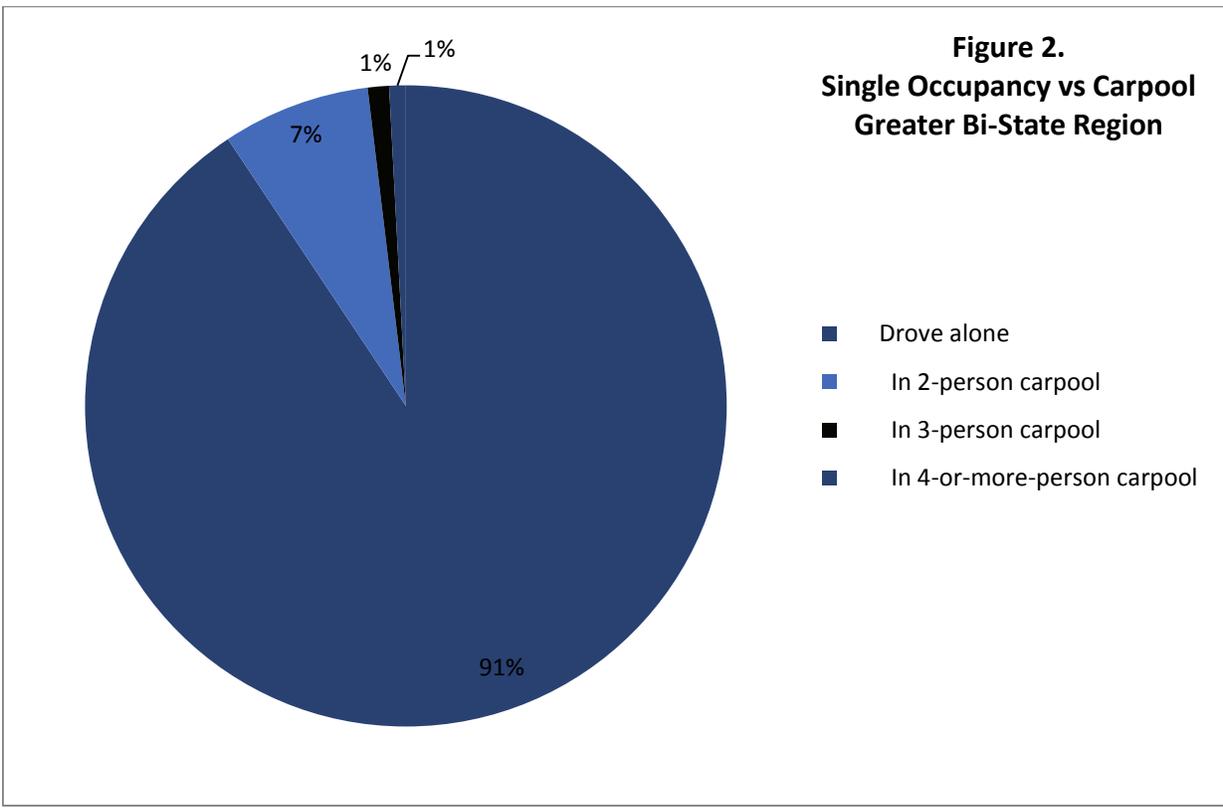
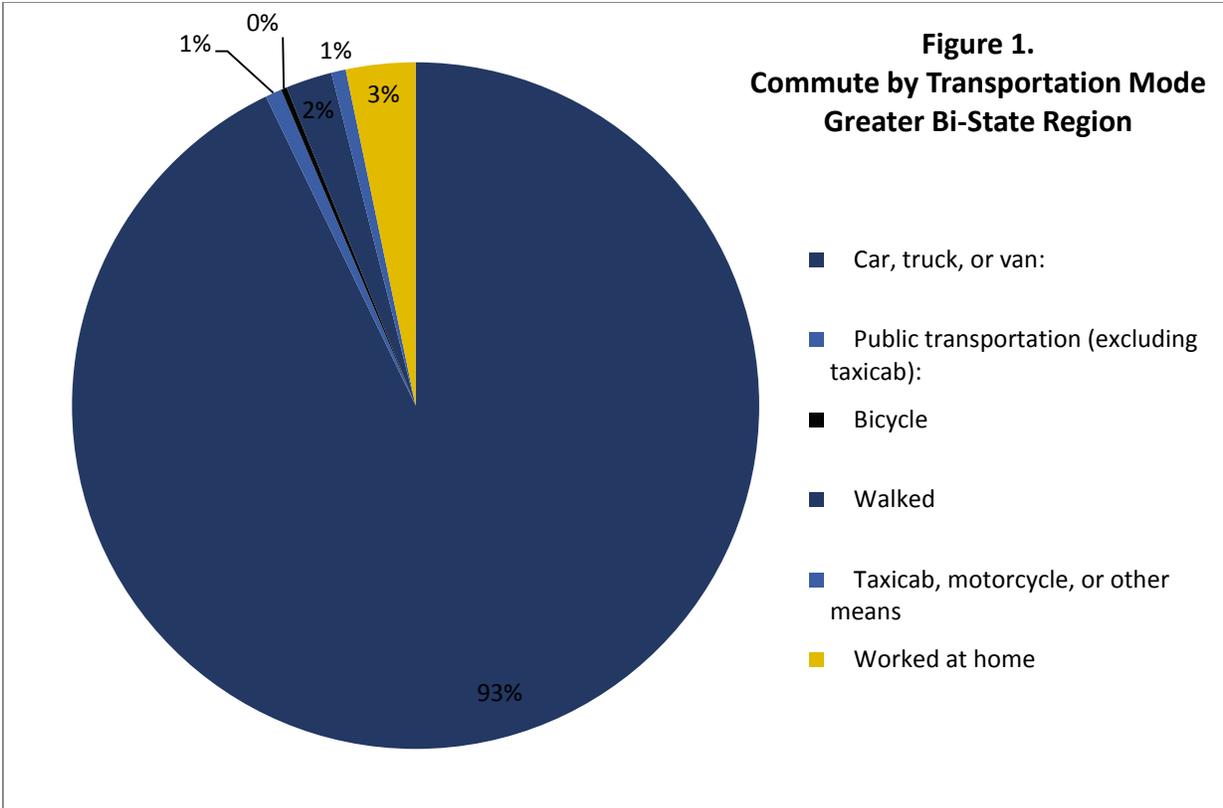


Table 2
Commuting by Transportation Mode in the Greater Bi-State Region, 2007-2011

	Henry County, Illinois		Mercer County, Illinois		Rock Island County, Illinois		Muscatine County, Iowa		Scott County, Iowa	
	Estimate	MoE	Estimate	MoE	Estimate	MoE	Estimate	MoE	Estimate	MoE
Total:	23,874	+/-519	7,949	+/-239	68,034	+/-986	20,373	+/-537	80,280	+/-1,063
Car, truck, or van:	22,267	+/-542	7,206	+/-252	62,618	+/-1,042	18,990	+/-626	75,037	+/-1,059
Drove alone	19,625	+/-565	6,334	+/-241	56,424	+/-1,042	16,899	+/-604	69,423	+/-1,062
Carpooled:	2,642	+/-391	872	+/-178	6,194	+/-534	2,091	+/-353	5,614	+/-468
In 2-person carpool	2,131	+/-339	750	+/-172	4,866	+/-452	1,684	+/-324	4,433	+/-433
In 3-person carpool	298	+/-126	116	+/-51	787	+/-217	159	+/-70	635	+/-156
In 4-or-more-person carpool	213	+/-110	6	+/-8	541	+/-203	248	+/-88	546	+/-129
Public transportation (excluding taxicab):	17	+/-20	0	+/-89	1,027	+/-242	106	+/-65	403	+/-136
Bus or trolley bus	6	+/-9	0	+/-89	1,016	+/-245	106	+/-65	403	+/-136
Streetcar or trolley car (carro publico in Puerto Rico)	0	+/-89	0	+/-89	0	+/-89	0	+/-74	0	+/-74
Subway or elevated	0	+/-89	0	+/-89	11	+/-18	0	+/-74	0	+/-74
Railroad	11	+/-17	0	+/-89	0	+/-89	0	+/-74	0	+/-74
Ferryboat	0	+/-89	0	+/-89	0	+/-89	0	+/-74	0	+/-74
Bicycle	60	+/-49	15	+/-24	234	+/-116	30	+/-35	211	+/-83
Walked	397	+/-118	121	+/-55	1,746	+/-250	552	+/-213	1,558	+/-234
Taxicab, motorcycle, or other means	193	+/-78	75	+/-36	459	+/-139	141	+/-54	500	+/-144
Worked at home	940	+/-152	532	+/-137	1,950	+/-362	554	+/-138	2,571	+/-283

(Source 2007-2011 American Community Survey)



Cumulative Impact Assessment. As part of this analysis, a cumulative impact assessment was completed to examine land uses that may have a cumulative effect on air quality. The assessment was derived from Community Land Use Planning for Air Quality, March 2011 Iowa Department of Natural Resources and Iowa Department of Economic Development. Answers to the series of questions are detailed in Appendix A. Additionally, a future land use map for the Quad Cities and Muscatine Areas are referenced. Through the use of comprehensive plans and zoning and other development regulations, the cumulative effects of certain land uses can be mitigated by siting and area dispersion.

Spatial Analysis. To “Make Outdoor Air Quality Visible,” the Air Quality Task Force with the assistance of Bi-State Regional Commission staff used spatial analysis to examine whether there were land use patterns and concentrations of businesses or industries that might provide an opportunity for targeted emission reduction discussions, education, and implementation activities.

Distribution of Vulnerable Populations and Major Employers. Map 1 shows areas of concern where these vulnerable populations exist in relation to major employers. This example from Bi-State’s transportation planning experience illustrates geographically where vulnerable populations – with no vehicle, median household income, persons w/disabilities, or populations under 18 and over 64 – exist in relation to major employers. This comparison provides a tool to evaluate transportation benefits or effects. This overlay concept was proposed as part of the strategic planning effort to help assess potential pollution sources within these target areas. Other GIS techniques were used to assess other data to visualize potential pollution sources and identify implementation strategies.

Distribution of Major Point Sources. Using summary data from the states’ emission inventories, further review was done through spatial analysis of point and area source locations. Map 2 identifies the major point source (Title V) industry locations in the Bi-State Region. The air quality monitors were also mapped for illustration and relation to sources. From the series of educational meetings, the point sources were determined to be already known and regulated by either the Iowa Department of Natural Resources (IADNR) or Illinois Environmental Protection Agency (ILEPA). Many of these facilities are located along the Mississippi River in older industrial areas of the communities. As stated in the feedback above, these facilities are either meeting regulatory compliance or under the supervision of the state air resource agency and working to meet compliance standards. Regulatory uncertainty, more stringent standards, limited resources, and lack of understanding weigh heavily on point source industries. The Air Quality Task Force will continue to monitor the status of these industries; however with sufficient attention to these sources by state agencies, the Air Quality Task Force examined other sources for targeting its emission reduction efforts.

Distribution of Critical Area Sources. As a next step, potential area source industries were examined. Area sources, sometimes referred to as nonpoint sources, can include commercial and consumer organic solvent usage, stationary fuel combustion, waste treatment, miscellaneous industrial manufacturing, and fueling stations, among others. Map 3 identifies potential area sources based on the Standard Industrial Code (SIC) classification for the type of business and location. From the emissions inventories of the Bi-State Region, the industries determined to contribute to outdoor air emissions include:

- Mining and quarrying of nonmetallic minerals, except fuels
- Kindred food and products
- Printing, publishing, and seven allied industries
- Chemical and allied products
- Railroad, motor freight, water, and air transportation
- Electric, gas, and sanitary services

Using ReverenceUSA.gov infogroup™ data, business locations were identified and mapped. Again, many of these businesses are located near the Mississippi or Rock Rivers or along major highway corridors, such as U.S.61 in the Quad Cities.

Distribution of Freight Facilities and Transportation Network. The third spatial analysis examined transportation specifically. Maps 4 and 5 outlined freight terminals, locks and dams, weigh stations, railroad yards, and/or industrial parks/sites for the Quad Cities and Muscatine Areas. The Bi-State Region has substantial multimodal freight capabilities and is seen as a logistics economic cluster. These maps also include a half mile buffer to better visualize the distribution of and proximity between freight facilities. The half-mile buffer was determined by surveying other studies that sought to examine proximal relationships between various sources. By examining concentrations of these facilities, the Task Force can seek to identify opportunities to improve localized air quality.

Strategic Planning Efforts

Following the assessment and analysis, the results were examined to determine actions that captured the project vision and supported project goals by maximizing human health, reduced emissions, and environmental benefits within the target areas. The following Strategic Plan was identified as a way to move forward and reduce emissions in the Bi-State Region. Strategies are outlined in Table 3 and include the targeted emission and/or audience, timeframe to work on the effort, and the purpose and/or goal of the strategy.

**Table 3
Bi-State Clean Air Partnership –
“Make Outdoor Air Quality Visible”
Strategic Plan**

Strategy	Emissions/ Audience	Timeframe (2012- 2017)	Purpose/Goal
Define a Bi-State Clean Air Partnership “Brand”	All Sources/Area businesses and their customers.	Throughout the 5 years	Create an incentive for businesses and organizations to join the Clean Air Partnership by branding them as a socially-conscious and responsible “green” business.
Produce a Public Service Announcement/ Locally Produced Message for YouTube or other Video Media	All Sources/General Public	1 st Year, Spring/ Summer	Educate the public on Air Quality issues affecting the Quad Cities Area and measures they can take to do their part to reduce emissions.
Lawn Mower Rebate / Low Emission Gas Can Give Away	Non-road Sources/ Quad Cities and Muscatine citizens who care for lawns	TBD	Incentivize lawn mower users to upgrade to new models with better emissions controls and to utilize low emission gas storage containers.
Provide “Eco-Driving” Educational Materials: to Drivers Education Courses; & Local Government Fleets	On-road Sources/ Drivers Education Students; Local Governments	Initiate Late 1 st /Early 2 nd continue throughout 5 years	Encourage new drivers to practice inherently safe, economical and earth friendly driving habits.
Promote Transit and Alternative Transportation	On-Road Sources/ General Public	Throughout the 5 years	Increase ridership for public transportation and encourage zero emissions transportation (biking/walking).
Initiate Anti-idling Effort	On-Road and Non-road Sources/ Public Services (Police, Fire, Schools), Colleges/ Universities, and AQTF Businesses	Survey Middle to End of First Year, Develop and Implement Strategy throughout 5 years	Establish an anti-idling culture among the targeted audiences.
Staff an Interactive Booth at the Earth Week Fair	All Sources/ Earth Week Fair attendees	Earth Week of 1 st or 2 nd Year (possibly multiple years)	Further public education to “Make Air Quality Visible”.
Bi-State Clean Air Partnership Solicitation	Area Non-Point Sources/ Business, Industry, Governments	Throughout the 5 years	Encourage involvement of targeted organizations in voluntary emission reduction.
Commuter Choice	Point Source/ Industries	Late 2 nd Year early 3 rd Year	Encourage alternative transportation by providing education on tax credit opportunities.
Smartways Transportation/ Freight Summit	On-Road and Non-Road Sources/ Freight logistics	Throughout the 5 years; Summit Year 2	Encourage USEPA Program to encourage fuel conservation,

Strategy	Emissions/ Audience	Timeframe (2012- 2017)	Purpose/Goal
	industry– motor, rail, water and air		and best practices in fleet management & operations
Sharing Programs	Point Source/ Industries or Colleges	3rd Year early 4 th Year	Investigate feasibility and potential hosting organizations to encourage alternative transportation by via ridesharing, car sharing or bike sharing programs.
Agricultural Outreach	Area Non-point Source/ Natural Resources Conservation Service and Soil & Water Conservation Districts, Farm Bureau	Throughout the 5 years	Investigate opportunities to discuss best practices related to fertilizer application and confinement operations related to air quality
Promote Alternative Vehicles and Alternative Fuels	On-road Sources	Throughout the 5 years	Research and educate on infrastructure needs. Support IL Green Fleets Program (electric, compressed or liquid natural gas, propane, and biofuels)
Energy Conservation	Point Sources and Area Sources	Throughout the 5 years	Encourage conservation and alternative energy sources (wind, solar, biomass, etc.)
Promote Walkable Communities and Neighborhoods/ Complete Streets	On-Road Sources/ General Public	Throughout 5 years	Encourage improvement of the built environment and promote walking to school and other destinations within communities.
Promote Local Foods Initiative	On-Road Sources/ General Public	Throughout 5 years	Encourage systematic changes in the supply chain for food stuffs. Less shipping distance generally means fewer emissions.

Prioritization. The Air Quality Task Force provided input regarding prioritization of these strategies as part of the 2013 plan update. The task force agreed that the Bi-State Clean Air Partnership should have a branding campaign to improve recognition of the organization and bolster membership. Membership should be incentivized by recognition from the community. Several ideas on how to brand the group were provided included taping into the race community by setting up a booth and/or distributing promotional items at events such as the BIX and the Quad Cities Marathon. The healthy lifestyle environment of the events would overlap well with the Clean Air Partnership message. It may be beneficial to seek out a partnership with the Heart and Lung Association as part of the campaign efforts. Another opportunity highlighted was advertising in movie theatres. Members of the task force noted that their organizations had seen strong success in advertisements in that medium. It was also mentioned that the Clean Air Partnership website should reflect the branding campaign.

The other recommendation made by the task force was to seek out “low-hanging fruit” sorts of projects to help jump start the group and improve recognition of the Partnership.

Progress. The following table is an assessment of progress of the strategic plan as of November 2013:

Table 4
Air Quality Strategic Plan Progress Assessment

Strategy	Tasks Completed Thus Far	Tasks Not Yet Implemented
Define a Bi-State Clean Air Partnership “Brand”	Included BSCAP in newspaper advertisements to improve brand recognition	Have not yet incentivized membership; need to improve membership; need to create relation to “environmental excellence”
Produce Public Service Announcement	Released several public service announcements through radio and television under Alcoa Grant, Utilized QR Codes and web-based advertising to try various mediums	Have not produced a video.
Lawn Mower Rebate/Low Emission Gas Can Give Away	N/A	Organize and Seek Funding and Sponsors
Eco-Driving Educational Materials to Drivers Ed Courses and Local Government Fleets	Distributed Eco-Driving Materials via news tabs, Drafted letter to area schools offering materials and presentations to classes	Provide materials to drivers education and local government fleets directly
Promote Transit and Alternative Transportation	News tabs used to promote alternative transportation, promotional giveaways purchased under Alcoa grant with www.qctransit.com printed on them; held alternative transportation workshop for local governments and interest groups. Working in cooperation with QC Health Initiative on Built Environment Goal to facilitate public health and fitness through infrastructure.	Continue effort
Initiate Anti-Idling Effort & Trip Chaining	N/A	Not Yet Implemented
Staff Interactive Booth at Earth Week Fair	Accomplished	Potentially staff booth in future years
Bi-State Clean Air Partnership Solicitation	Advertised in new tabs	Implement more targeted approach
Commuter Choice	N/A	Not yet implemented

SmartWay® Transportation/ Freight Summit	Drafted letter and distributed surveys to local freight providers which included EPA's SmartWay® Program Information	Engage in more direct communications and establish relationships with local freight providers. Organize Freight Summit
Sharing Programs	N/A	Need to research implications. IADOT will be launching statewide ridesharing program.
Agricultural Outreach	N/A	Not yet implemented
Promote Alternative Vehicles and Alternative Fuels	Hosted EV discussion in Air Quality Task Force	Continue research and education efforts
Energy Conservation	Promoted in Clean Air Counts campaign	Ongoing
Promote Walkable Communities and Neighborhoods/Complete Streets	Many communities endorse a complete streets policy. Muscatine is working toward a Blue Zone designation and working on sustainability issues, as are other communities/counties within the region	Ongoing
Promote Local Foods Initiative	Local efforts being made to understand problems and formulate solutions for the food system.	Ongoing

The Air Quality Task Force will work with local governments, organizations, and businesses within the Bi-State Region to move these strategies forward to improve air quality and reduce emissions. The plan is expected to be reviewed annually and updated at least every five years.

Public Awareness and Outreach

Media Campaign. In an effort to continue public education and outreach and “Make Outdoor Air Quality Visible,” a newspaper tab was produced featuring information on fine particulates, ground-level ozone, transportation-related emission reduction, and recognition of current Bi-State Clean Air Partnership members. The four-page, color newspaper tab ran on December 10, 2011 in the Argus-Dispatch, Quad City Times, and Muscatine Journal reaching 101,000 subscribers. Additional print ads were subsequently published that focused on the Bi-State Clean Air Partnership. These ads were designed to increase awareness of the group and to lay the groundwork for future efforts to create a desirable brand to entice potential partners. Two newspaper ads were also placed in the Argus-Dispatch with a River Action Riverfront Revival Map of proposed future projects along the Mississippi River. These ads emphasized transit and simple tips for improving air quality. The Riverfront Revival map featured additions to the multi-purpose trail system, redevelopment of the riverfront, and

improvements to natural areas, all of which aid in improving air quality. Additionally, a radio ad was produced from a “It all adds up to cleaner air” template on trip chaining with a holiday message. This ad was played on the four radio stations with the greatest audience in the Bi-State Region. The ad was run approximately 50 times on each station over a three-week period. For two of the stations, it was estimated that the ad was heard by 115,800 people five times each. The other two stations have a total listener base of 119,100. The December 2011 campaign was a concentrated effort to raise awareness during the holiday season when additional travel choices are made and a time when energy use and fuel consumption is increased.

Freight Survey. A survey was created and distributed to local freight providers in an effort to gather information regarding voluntary efforts to reduce emissions as well as gather input on how the transportation system may be improved. In addition, information regarding the EPA’s SmartWay® program was included in a letter and the survey itself. There were two responses to the survey. Both respondents were freight carriers. Both already participated in EPA’s SmartWay® Program and had a number of voluntary emission reduction practices in place. Cost was identified as the most significant barrier to implementing more fuel efficient equipment. A copy of the survey can be viewed in Appendix B of this document.

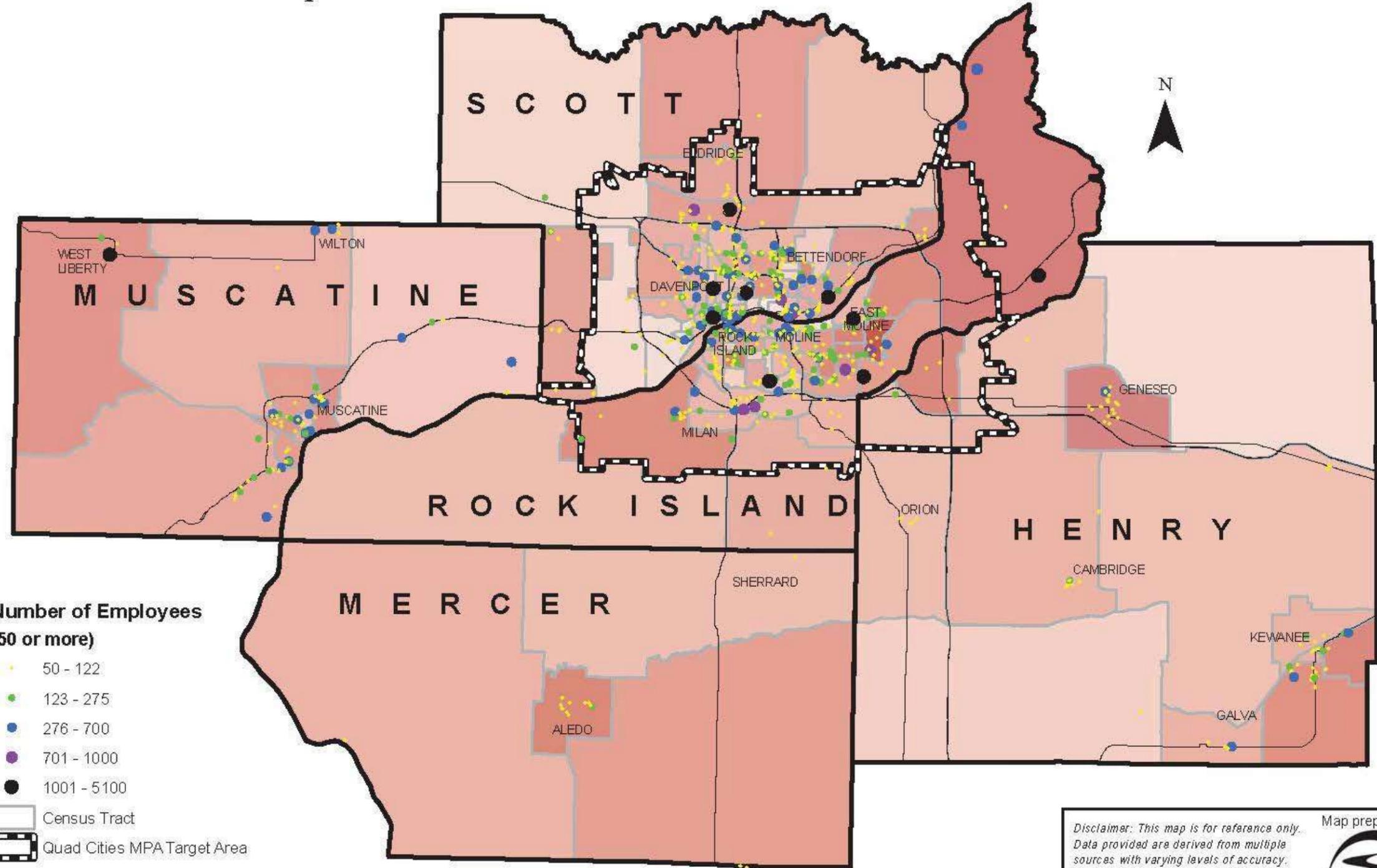


Map 1
 Bi-State Region Clean Air
 Partnership Strategic Plan

**Major Employers and
 Potential Vulnerable Populations**



Area of concern was determined by a combination of workers 16 years and older in households with no vehicle, median household income, population younger than 18, and population 65 and older. Data source: U.S. Census Bureau American Community Survey Five Year Estimates 2007-2011.

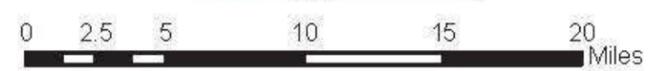


**Number of Employees
 (50 or more)**

- 50 - 122
- 123 - 275
- 276 - 700
- 701 - 1000
- 1001 - 5100

- Census Tract
- Quad Cities MPA Target Area

Sources: Employment Data: ReferenceUSA.gov; Infogroup,™. No publish date. Web. Accessed 28 Feb. 2013.
 Census Tract: U.S. Census Bureau, 2010 Census Geography
 MPA: Bi-State Regional Commission (drawn to 2010 Census Geography)

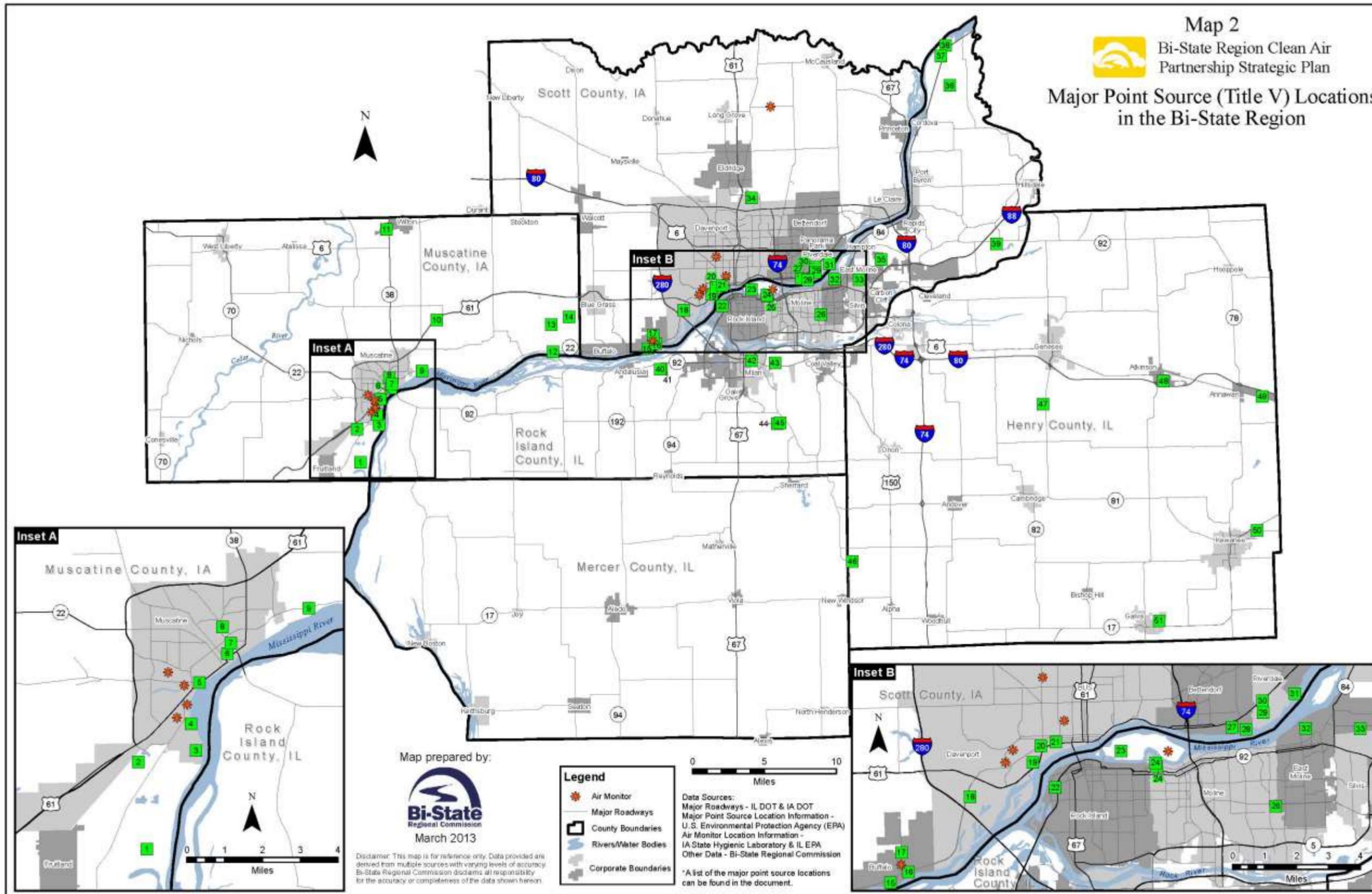


Disclaimer: This map is for reference only. Data provided are derived from multiple sources with varying levels of accuracy. Bi-State Regional Commission disclaims all responsibility for the accuracy or completeness of the data shown hereon.

Map prepared by:

 Bi-State Regional Commission
 March 2013

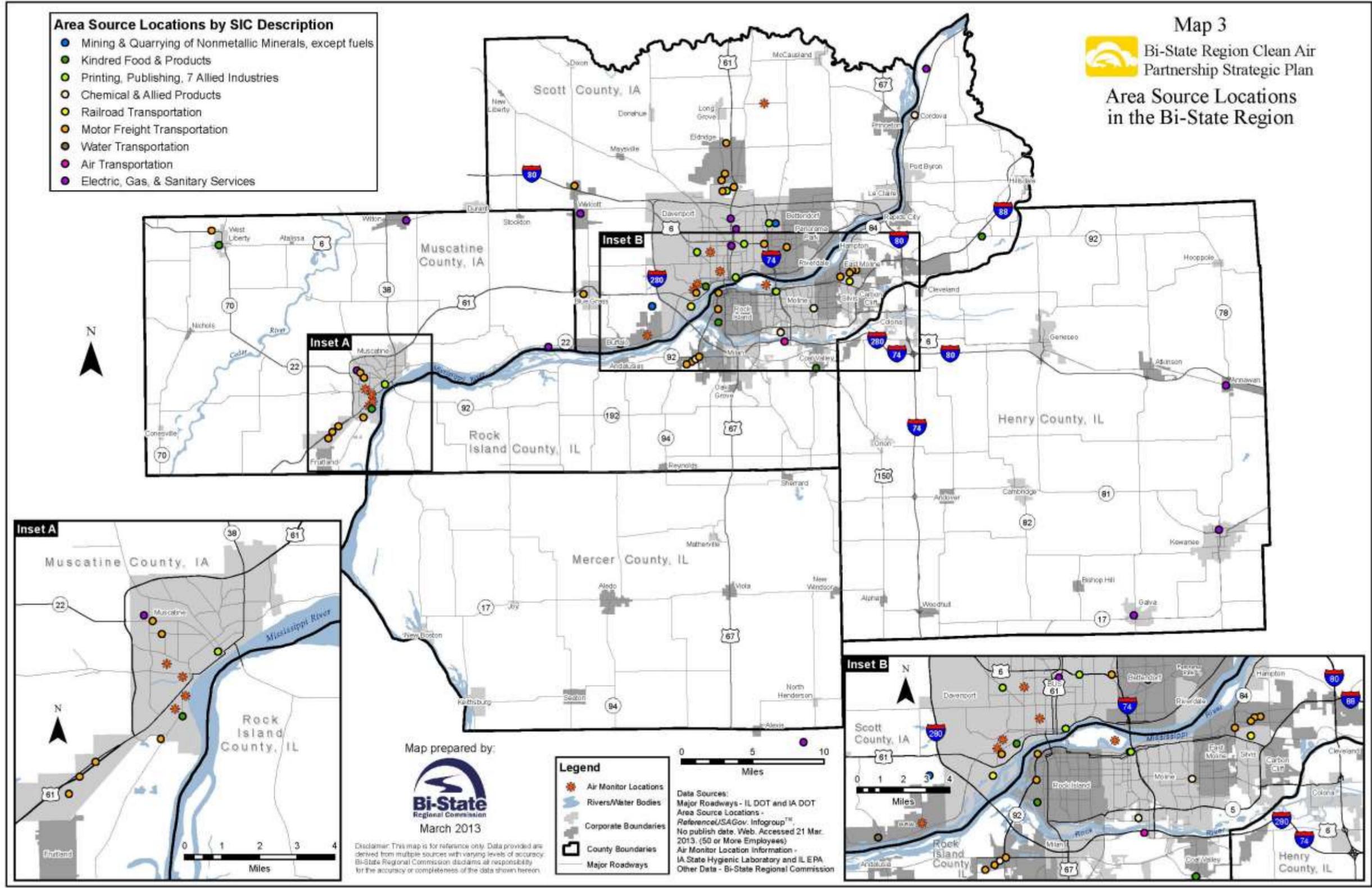
Map 2
Bi-State Region Clean Air Partnership Strategic Plan
Major Point Source (Title V) Locations in the Bi-State Region

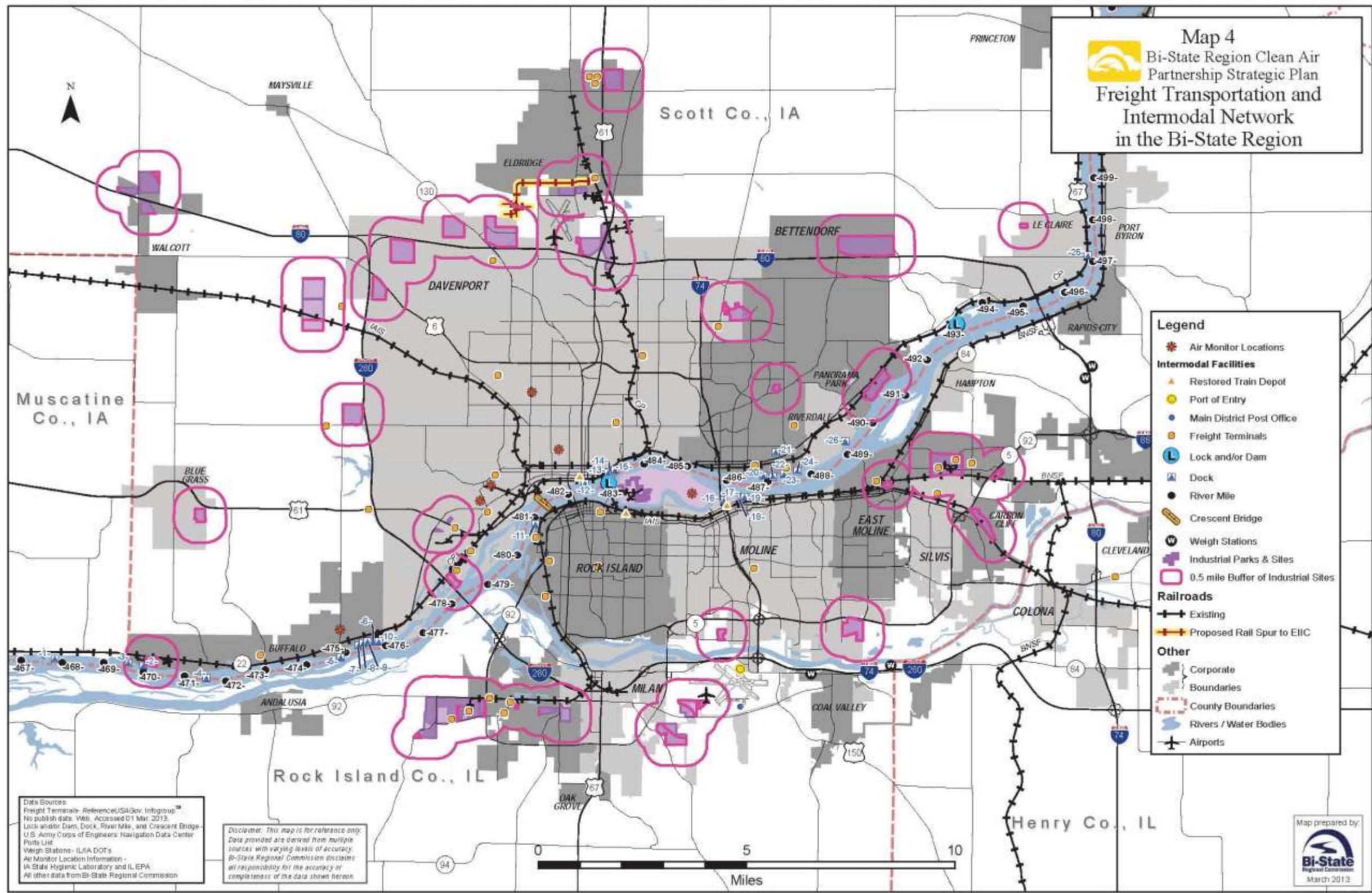


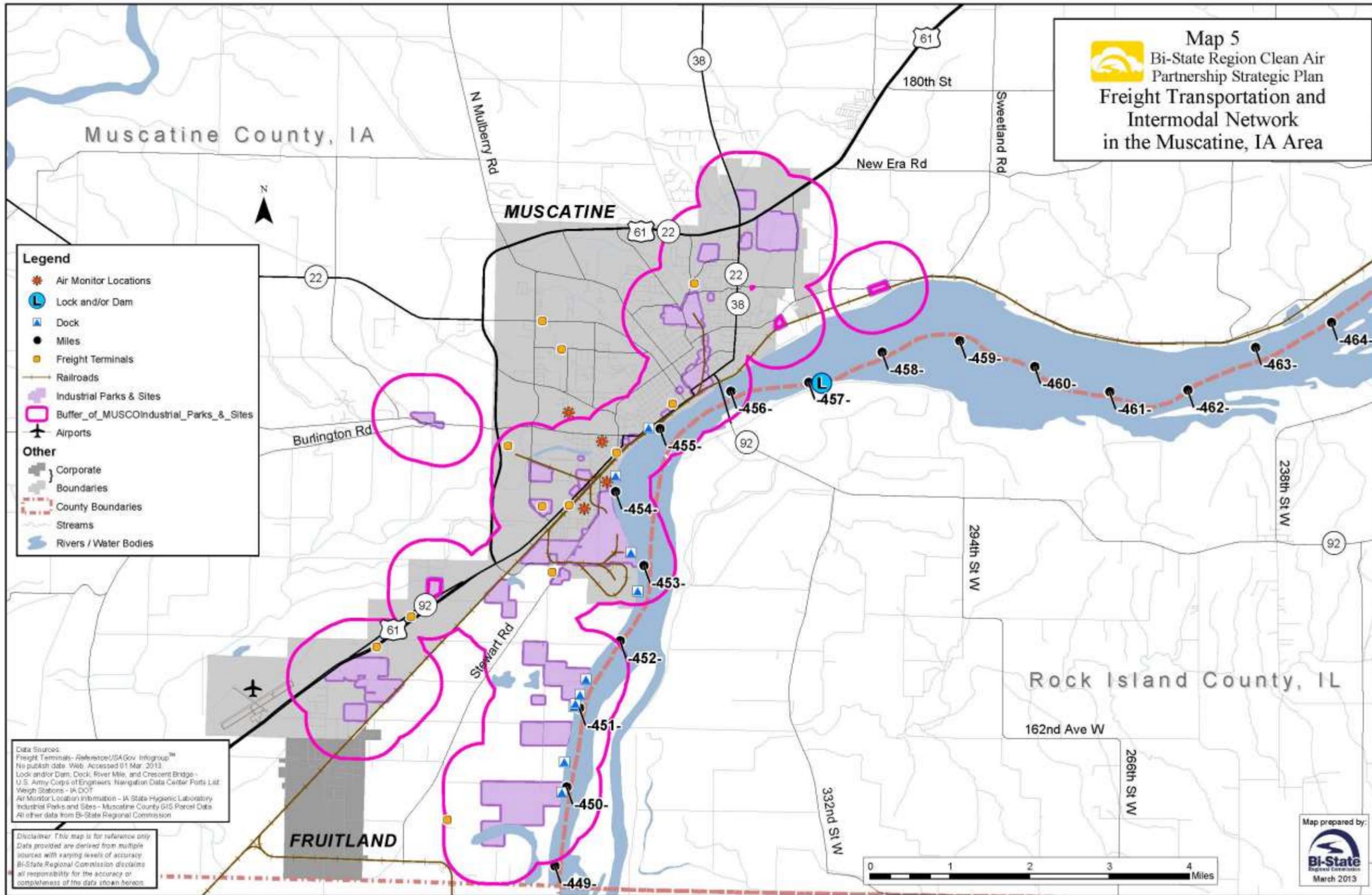
Major Point Source*		Major Point Source*		Major Point Source*	
NAME	Label	NAME	Label	NAME	Label
Monsanto Co. (EIQ # 92-6908)	1	Quad City Drum Recycling Company	19	Cordova Energy Center	36
Union Tank Car Co. -Muscatine	2	Nichols Aluminum-Davenport	20	Plains LPG Service	37
Muscatine Power & Water	3	Kraft Foods Global	21	3M Cordova-Specialty Materials Division	38
Grain Processing Corporation	4	Norcross Safety Products LLC	22	Tyson Fresh Meats, Inc	39
McKee Button Company	5	Rock Island Arsenal	23	ESG Watts Inc.	40
The Hon Company - Oak Steel Plant	6	MidAmerican Energy Co-Moline Combustion Turb	24	Resource Technology Corporation	41
Weber and Sons Button Company	7	John Deere Harvester Works	25	Export Packaging Company	42
H.J. Heinz, L.P.	8	Engineered Polymer Solutions, Inc d/b/a Valspar Coatings	26	Group O Supply Chain Solutions	43
The Hon Company - Geneva Annex	9	Sivyer Steel Corp.	27	BFI Waste Systems of N.A., Inc (Quad Cities Landfill-Phases I through III)	44
Allsteel Muscatine Component Plant	10	Flint Hills Resources	28	Quad Cities Landfill Phase IV	45
Gerdau Ameristeel US, Inc.	11	Veolia Water NA-	29	ANR Pipeline Company	46
Central Iowa Power Coop-Fair Station	12	ALCOA Inc.	30	Natural Gas Pipeline Company of America-STAI 10	47
SSAB Iowa Inc.	13	MidAmerican Energy Co., Riverside	31	Atkinson Landfill	48
Harsco Metals	14	John Deere Harvester Works-E Moline	32	Patriot Renewable Fuels LLC	49
Lafarge North America Inc	15	Atlas Roofing Corporation	33	Great Dane Trailer	50
Linwood Mining and Minerals Corporation	16	John Deere Davenport Works	34	Big River Resource	51
Scott County Sanitary Landfill	17	Upper Rock Island County Landfill, Inc.	35		
Nichols Aluminum-Casting	18	Upper Rock Energy Partners, L.L.C.	35		

- Area Source Locations by SIC Description**
- Mining & Quarrying of Nonmetallic Minerals, except fuels
 - Kindred Food & Products
 - Printing, Publishing, 7 Allied Industries
 - Chemical & Allied Products
 - Railroad Transportation
 - Motor Freight Transportation
 - Water Transportation
 - Air Transportation
 - Electric, Gas, & Sanitary Services

Map 3
 Bi-State Region Clean Air Partnership Strategic Plan
 Area Source Locations in the Bi-State Region







Appendix A

Cumulative Impact Assessment of the Bi-State Region

In March 2011, the Iowa Department of Natural Resources and the Iowa Department of Economic Development produced a report titled “Community Land Use Planning for Air Quality.” This report is designed to be used as a guide “to promote better, more informed decision-making to voluntarily improve air quality and public health in communities.” This guide also “support(s) Iowa smart planning principles.” Contained in this report is a set of questions designed to guide communities in determining the cumulative impact of potential projects with regard to existing elements. These questions have been answered below and used as a tool in formulating this strategic plan.

The report can be found at: http://www.iowadnr.gov/portals/idnr/uploads/air/environment/landuseplanning/land_use_planning_guide.pdf

Q: Is the community home to multiple industrial facilities with close proximity?

A: Yes, the Quad City MPO is home to a variety of industrial facilities including: mining and quarrying; kindred food & products; printing, publishing, and 7 allied industries; chemical and allied products; and air, rail, water, and motor freight transportation. Some specific areas that contain larger concentrations of industrial facilities compared to the rest of the region are: southwest Davenport, northwest Rock Island, and east Muscatine along the Mississippi River.

Q: Do one or more major freeways or high-volume surface streets cut through the community?

A: Yes, Interstate 74 cuts through the middle of the Quad Cities, and the area is flanked on either side by Interstate 280 and Interstate 80. Both Muscatine and the Quad Cities Areas have numerous high-volume surface streets. Two major line sources in the Bi-State Region other than the highways are the Mississippi River, and the rail lines (Canadian Pacific, Iowa Interstate, and Burlington Northern Santa Fe).

Q: Is the area classified for mixed-use zoning?

A: According to the future land use map in the *2040 Quad Cities Long Range Transportation Plan* (Chapter 3, Page 23); there are two isolated areas planned for mixed-use in the Quad Cities. One is located along the Rock Island-Milan Parkway near Indian Bluff Road. The other is located in Moline along Beacon Harbor Parkway north of Illinois 92. There are currently no planned mixed-use areas in Muscatine.

Q: Has a “walk-through” of the community been conducted to gather the following information?

- 1. Land use activities in the area, such as types of businesses, housing developments, and locations of sensitive populations**
- 2. Proximity of existing and anticipated future projects to residential areas or sensitive populations**

3. Concentration of emission sources including anticipated future projects to residential areas or sensitive populations

A: The information outlined in the questions has been addressed in future land use maps and maps that identify sensitive populations (Map 1) and emission source locations (Maps 2 & 3).

Q: Has the DNR or local air agency been contacted to obtain location of sources of emissions?

A: Yes. This is demonstrated on the map of Area Sources (Map 3).

Q: What categories of commercial establishments are currently located in the area and does the air agency have these sources on file as being regulated or permitted?

A: Yes. See Major Point Source (Map 2).

Q: Does the community have a history of multiple complaints about air quality?

A: Because of its industrial past, the Bi-State Region has experienced poor air quality. As a result, there have historically been complaints, but restrictions have been tightened, and air quality has noticeably improved in the recent past. Occasionally, the topic of leaf burning has been raised and largely addressed in the region. There would likely be more complaints if the region were to reach non-attainment due to the increased restrictions and regulations on industry.

Q: Have community leaders or groups been contacted about pre-existing or chronic community air quality concerns?

A: Yes, community leaders have formed the Air Quality Task Force in order to stay informed about and address air quality issues that affect the Bi-State Region.

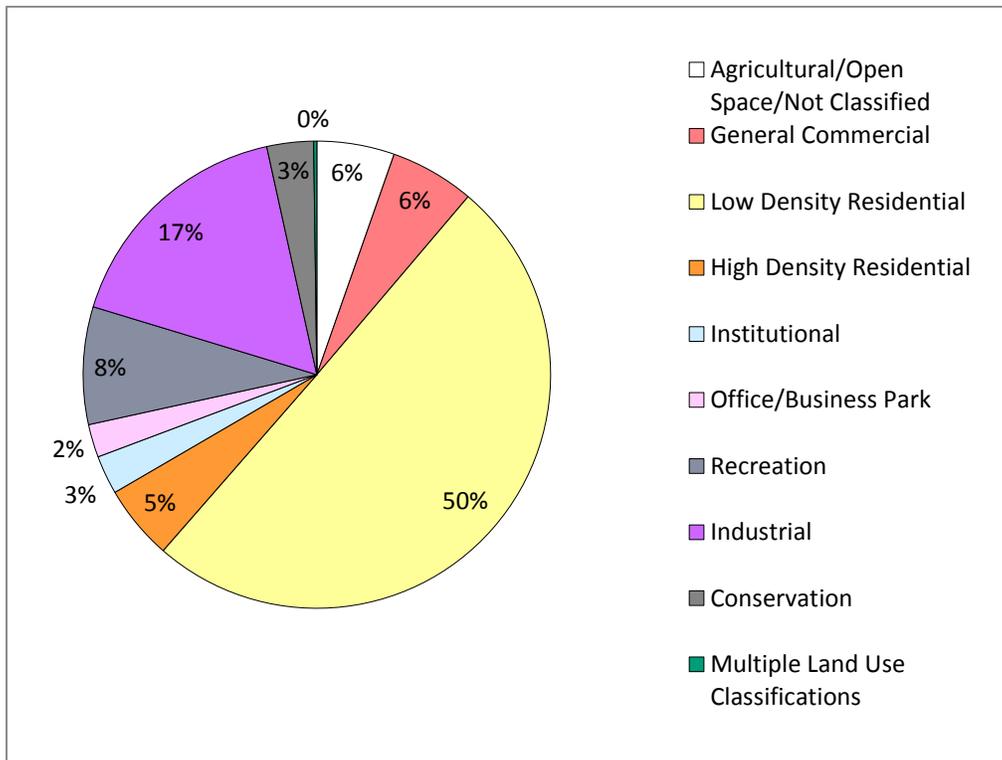
Appendix A Table 1A and Figure 1A illustrate the total future land use statistics by use and area for the Quad Cities MPO, IA/IL and Table 2A and Figure 2A illustrate the total future land use for Muscatine, IA.

Table A-1
Total Future Land Use Within MPO, IA/IL

Agricultural/Open Space	8212.60
Commercial	8936.89
Low Density Residential	76850.48
High Density Residential	7921.20
Institutional	4105.23
Office	3496.66
Recreation	12446.00
Industrial	25805.69
Conservation	4934.68
Mix	333.67
Total	153043.10

Source: Bi-State Regional Commission, 2011

Figure A-1



Source: Bi-State Regional Commission, 2011

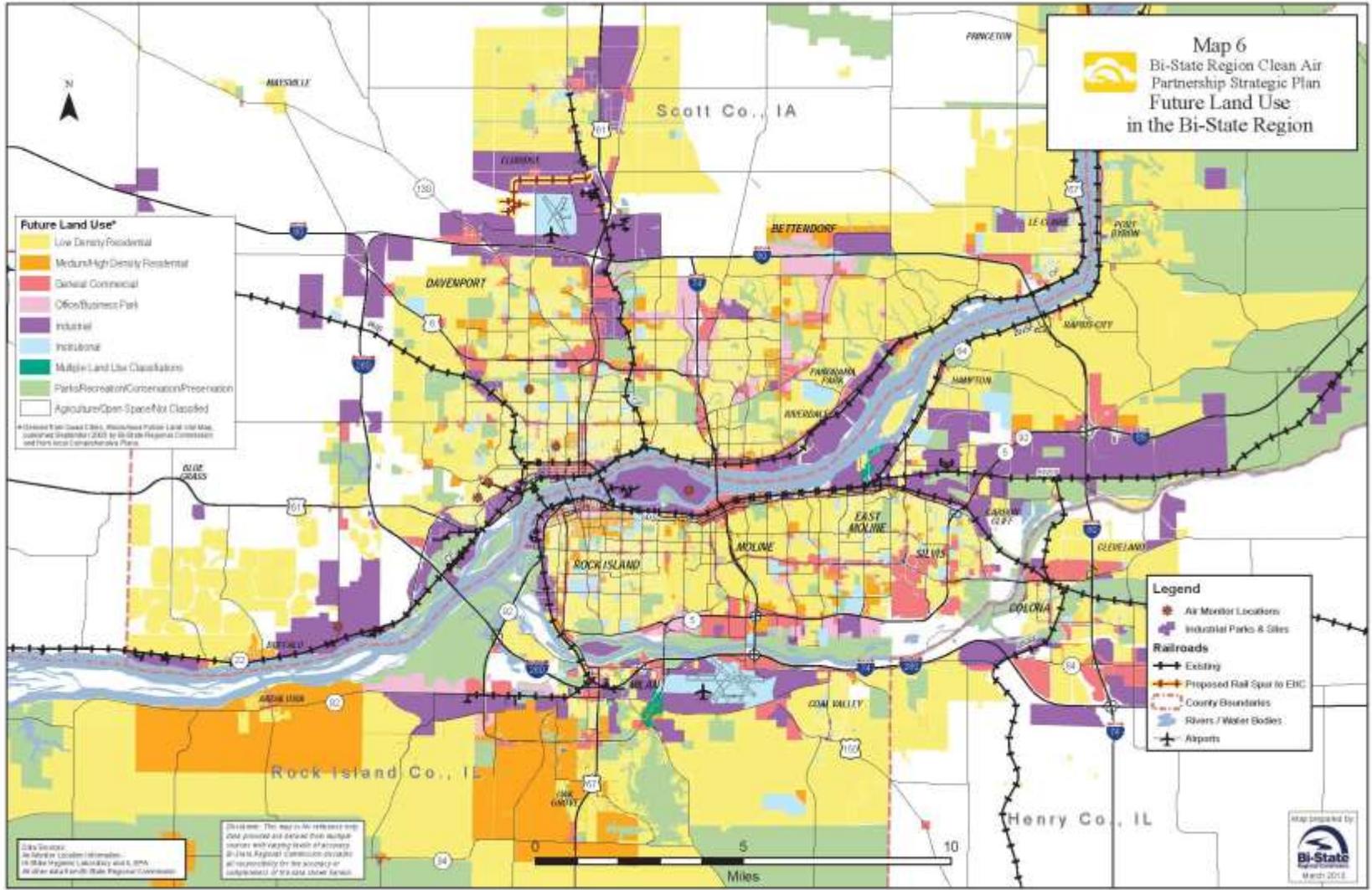
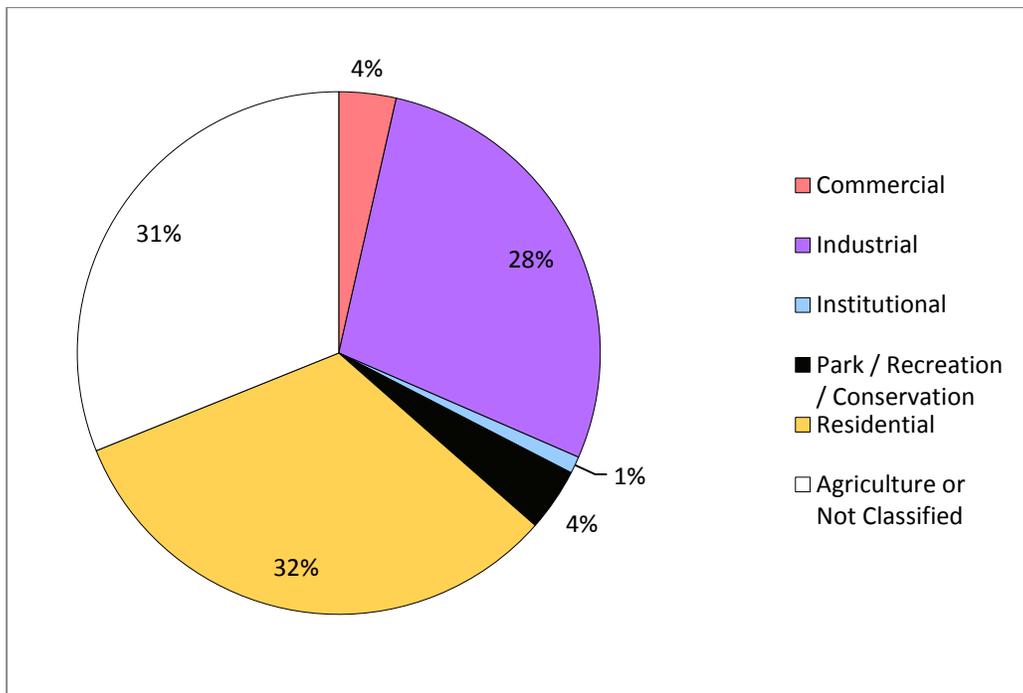


Table A-2
Total Future Land Use Within Muscatine and Fruitland Area

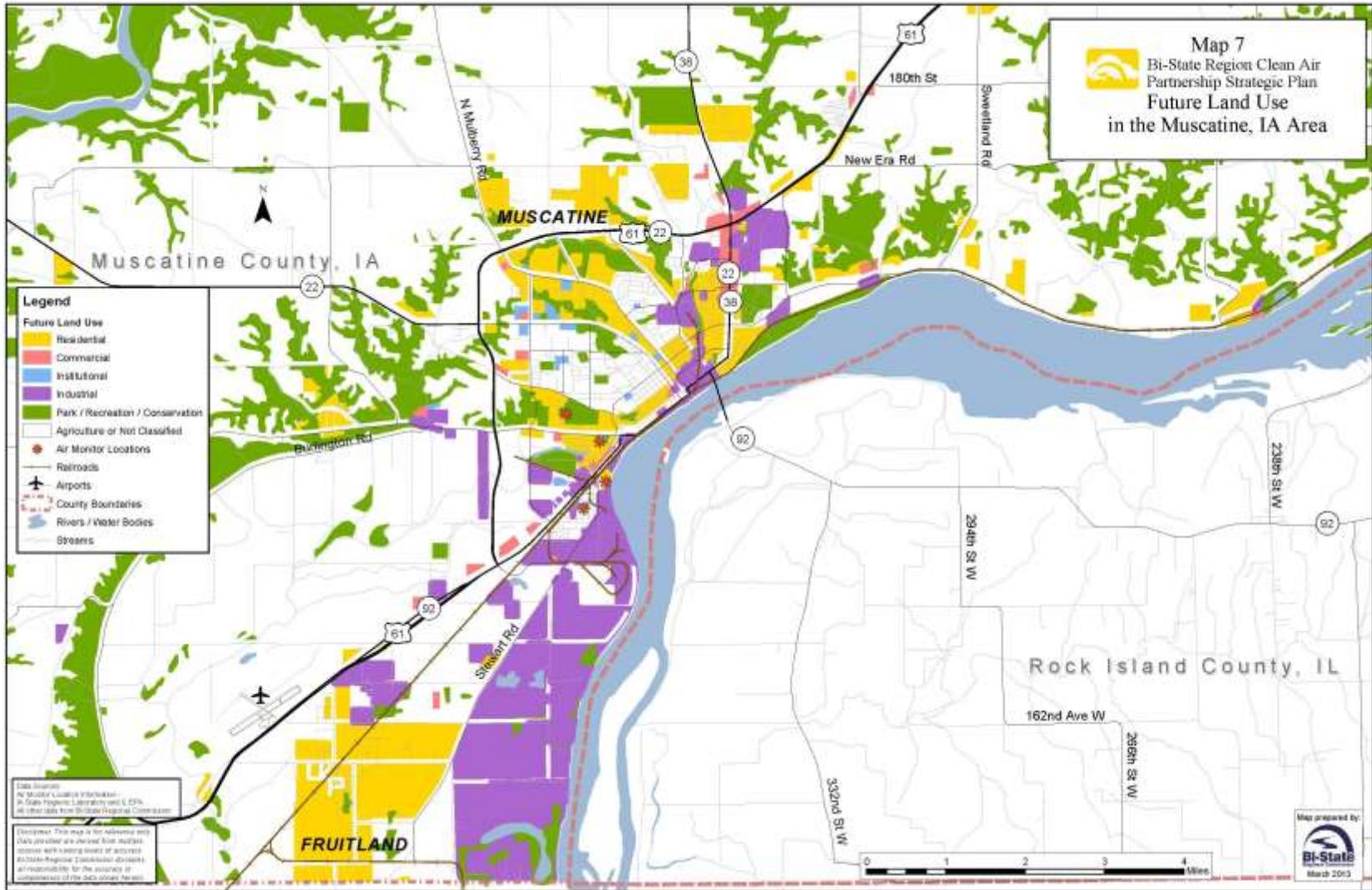
Layer	Area
COMMERCIAL	444.38
INDUSTRIAL	3520.48
INSTITUTIONAL	132.13
PARKREC	489.07
RESIDENTIAL	4078.11
WOODLAND	3910.82
Total	12574.99

Source: Bi-State Regional Commission, 2011

Figure A-2



Source: Bi-State Regional Commission, 2011



Appendix B

Freight Provider Survey

With three major interstate highways, three major rail lines, and the Mississippi river traversing the region, the Bi-State Region can be characterized as a hub for freight transportation. Understanding the freight network in the region is essential in identifying opportunities for emission reductions. In an effort to gather information regarding voluntary efforts to reduce emissions as well as gather input on how the transportation system may be improved, the following survey was created and distributed to local freight providers.

Freight and Air Quality in the Quad Cities Region

Welcome

Thank you for choosing to take our online freight and air quality survey, we appreciate your participation. Your answers will help the Bi-State Clean Air Partnership improve air quality and the overall transportation network in the Quad Cities region. There are four sections to this survey: Transportation Background Information, Current Voluntary Efforts, SmartWay, and Contact Information (Optional). The survey contains 13 questions, and your responses are important.

Transportation Background

These questions are used to determine some general information regarding the transportation-related aspects of your business.

* 1. What type of freight business do you consider yourself? (Check all that apply)

- Carrier
- Forwarder & Broker
- Third Party Logistics
- Don't Know
- Other (please specify)

* 2. What percentage of your goods are transported by each mode?

Truck (single-unit, 2-axle, 6 or more tires)	<input type="text"/>
Truck Combination	<input type="text"/>
Light Duty (passenger cars, light trucks, vans, or pickup trucks)	<input type="text"/>
Barge	<input type="text"/>
Air	<input type="text"/>
Other: Bus, Motorcycle, etc. (please specify)	<input type="text"/>

* 3. What three transportation improvements would help you in your business?

- | | |
|---|---|
| <input type="checkbox"/> Reduced congestion | <input type="checkbox"/> Increase weight limits |
| <input type="checkbox"/> Better information on work zones | <input type="checkbox"/> Better turning radii |
| <input type="checkbox"/> Better signal timing | <input type="checkbox"/> Improved connections between modes: barge/truck, truck/rail, rail/barge, other |
| <input type="checkbox"/> Better signing | |

Freight and Air Quality in the Quad Cities Region

***4. Do you or your organization have any issues/concerns related to access, bottlenecks/congestion, safety/security, and/or connectivity for your particular mode or modes of transportation within the Quad Cities Metropolitan Area or greater region?**

Yes

No

If Yes, please specify.

Current Voluntary Efforts

These questions are designed to identify what practices you are currently using that may benefit regional air quality and efficiency in your operation.

***5. Are air quality impacts considered when making your operations, purchasing, and/or business planning decisions?**

Yes

No

If Yes, please specify.

***6. Do you have any current practices that might be considered "energy efficient."**

Yes

No

If Yes, please specify.

***7. What are some factors that limit you from purchasing high-efficiency equipment? (e.g., cost or lack of information) Put "None" if none exist.**

***8. Could your business benefit from fuel-efficient equipment?**

Yes

No

If Yes, please specify.

Freight and Air Quality in the Quad Cities Region

***9. Are vehicle miles traveled tracked for your freight vehicles? If so, describe your tracking method and annual statistics?**

Yes

No

If Yes, please describe.

***10. Do you have specific goals to reduce air emissions or lower miles per gallon? If so, please tell us if you achieved any of your goals and how you accomplished the task.**

Yes

No

If Yes, please explain how your goals were achieved.

***11. Do you have an anti-idling policy?**

Yes

No

If Yes, please specify.

SmartWay

"SmartWay" is a public/private collaboration between the U.S. Environmental Protection Agency and the freight transportation industry. The program offer ways for freight shippers, carriers, and logistics companies to improve fuel-efficiency and save money. You can find more information regarding the SmartWay program by visiting <http://www.epa.gov/smartway>.

***12. Are you a member of the SmartWay program?**

Yes

No

Contact Information (Optional)

Your business information will remain anonymous in our reporting of the survey results. If you'd like to join the Bi-State Clean Air Partnership or learn more about our greater Quad Cities Region air quality efforts, please provide your contact information below or contact Gena McCullough or Brandon Melton at Bi-State Regional Commission (309)793-6300.

Freight and Air Quality in the Quad Cities Region

13. Contact Information

Name:	<input type="text"/>
Organization:	<input type="text"/>
Address:	<input type="text"/>
Telephone:	<input type="text"/>

Thank You!

Thank you for participating in this survey. Your answers will be very valuable in helping guide future decisions regarding air quality and transportation in the Quad Cities region. If you have any questions about this survey or related topics, explore our website at <http://www.bistateonline.org>, or you may contact our office at (309) 793-6300.