6. Financial analysis

Due to a variety of funding options available, financing the statewide network could follow several paths that would result in a wide range of associated costs. In addition to the number of lots, location and design will also greatly affect the funds needed to develop a statewide network. Location will affect the cost parameters as lots located in and/or near cities will likely have higher property acquisition costs than lots located in rural areas. Cost factors are also impacted by design criteria and the type of amenities provided. For example, choosing to have a paved surface instead of a granular surface and adding amenities such as lighting and perimeter fencing would certainly impact project costs.

In terms of future expansion of the statewide network, the number of lots developed will be a function of available funding, programming goals, and development opportunities. Chapter 4 presented a list of the top 25 county-to-county commuting pairs based on the highest residence-to-workplace passenger flows. This cutoff constrained the analysis to a reasonable number of candidate locations, but the actual number of expansion lots that are considered will be a function of those items mentioned above.

6.1 Multijurisdictional implementation

As discussed in section 4.3, the intent of this plan was to identify general locations that appear to be ideal candidates for park and ride lot development. Given that specific sites have not been identified, this allows for a multijurisdictional implementation of the statewide network that has been presented in this plan.

Each individual location possesses different characteristics, which may make it more conducive for one jurisdiction to pursue park and ride lot development over another. Ideally, this flexibility will allow for better overall site selection and a more efficient development timeline. As a result, it is recommended that this issue be considered on a location-by-location basis as opportunities for development arise.

6.2 Preferred development options

There are a variety of options available for developing a more comprehensive statewide park and ride system. The following presents a hierarchy of preferred development options, primarily based on cost factors and opportunity for development. Each candidate location identified in Chapter 5 should be examined with these preferences in mind.

It should also be noted that, for all development options discussed in this section, the Iowa DOT could provide ridesharing assistance at no cost to the local partner through tools such as statewide ride-matching software. Upon agreement, locations of all available park and ride lots could be advertised on the Iowa DOT's ridesharing/park and ride webpage. Maintenance, liability, and other issues would be discussed between the state and local partners to identify satisfactory solutions within the constraints of the Iowa DOT's park and ride facilities policy.

Existing public property

Due to the high cost of property acquisition, the preferred development option is to utilize existing public property or right of way in the candidate locations identified in Chapter 5. Consistent with the multijurisdictional implementation concept presented previously, existing property could be owned by the state, counties, or cities. The preference for using existing public property is based on the assumption that there would be no property acquisition costs and minimal improvement needed to facilitate use. This public partnering development option has the greatest potential for successful and cost-effective expansion of the park and ride system.

Cities and counties would also have an incentive to provide property for park and ride lots at no cost due to the economic benefits derived from accommodating their residents who commute to different locations for work. While these individuals commute to other locales, they still contribute to the local economy of their place of residence. Cities and counties benefit from local taxes, retail purchases, local school enrollment, and other economic impacts. Again, these economic and social benefits are an incentive for local jurisdictions of any population or location to consider using available property to support their commuting residents.

No-cost private property

Should available public property not exist in the candidate locations identified in Chapter 5, another no-cost option is to partner with private property owners, such as retail businesses, for the use of their parking facilities. In 2004, the National Center for Transit Research conducted a study on the use of Florida park and ride facilities entitled *Evaluation of Shared Use Park and Ride Impact on Properties*. Findings indicated that park and ride users made purchases at retail locations that would not have been made had those park and ride facilities not been there. Iowa could benefit from evaluating examples of other states' park and ride programs that have utilized private partners, and the candidate locations identified in Chapter 5 should be examined for such opportunities.

Leasing private property

A similar partnering path that has been used by some states is lease agreements with private property owners for the use of parking facilities. While this is not a no-cost option, it may be preferable to the final option discussed below as leasing property typically results in lower costs than property acquisition. The Iowa DOT's policy related to park and ride facilities notes that such agreements shall, at a minimum, include the name of the property owner, a contact person and contact information, terms of the agreement, use of the facility, responsibility and schedule for maintenance and inspection, consent to advertise/promote the property as a park and ride facility, security, and signage. Again, Iowa could benefit from evaluating other states' park and ride programs that have successfully utilized the lease agreement option.

Purchasing public property

Perhaps the least preferable option for the development of a more comprehensive statewide park and ride system is for the Iowa DOT and other public entities to finance property acquisition for the development of expansion lots. While many states have used this development option for much of their park and ride system, partnering to identify no-cost or low-cost opportunities would be preferred. The following section highlights some possible funding sources if development were to be financed primarily by public entities.

6.3 Funding sources

Park and ride facilities can be funded in a number of ways and by a variety of sources. Evidence of significant capital investment was shown in a *2012 National Cooperative Highway Research Program Research Results Digest (359)* report, which surveyed 13 states with established park and ride programs. Nine of these 13 states had programmed funds for park and ride facilities projects, totaling $1.7 billion over the next 20 years. The options discussed below highlight some of the most commonly used funding sources.

By far the most popular funding source for states with mature park and ride programs is **Congestion Mitigation and Air Quality Improvement Program (CMAQ) funds**. The primary reason for this is because the goals and guidelines for this federal program align very well with park and ride projects. As the program name suggests, CMAQ funding is targeted toward projects that reduce congestion and improve air quality, which is a logical outcome of ridesharing activities supported by park and ride facilities. In addition, these funds cover up to 80 percent of the eligible project costs, requiring just a 20 percent local match.

Currently, Iowa receives approximately $10 million to $11 million in CMAQ funding annually, and enjoys maximum flexibility with these funds due to the state's attainment status. Iowa's CMAQ funds are allocated to three separate pots, and funding from two of these pots could be utilized to finance park and ride facilities. The first is a **discretionary set-aside for Iowa DOT's CMAQ activities**, and the second is the **Iowa's Clean Air Attainment Program (ICAAP)**, which distributes funding through a competitive application process.

Another commonly used federal funding source is the **Surface Transportation Program (STP) funds**. These funds also cover up to 80 percent of the eligible project costs, leaving a 20 percent local match similar to the CMAQ program. STP funds also offer greater overall flexibility in terms of project eligibility. Perhaps the most noteworthy advantage of STP funds is that they are available for programming, not only through the Iowa DOT, but primarily through Iowa's **metropolitan planning organizations** and **regional planning affiliations.** This, along with other funding sources discussed later in this section, makes the multijurisdictional implementation concept a real possibility.

Many states have also taken the financing path of incorporating park and ride lots into larger construction or maintenance projects. Under this option, costs for park and ride facilities, including right of way and surface construction, are absorbed into the overall costs for the larger project. With this financing path, advance planning is imperative so that park and ride facilities can be considered when new projects enter the design phase. Regardless of whether or not this linkage occurs, park and ride facilities could be funded using **state Road Use Tax Fund dollars** programmed in the five-year **Iowa Transportation Improvement Program**.

Another important financing option that many states have used is to partner with cities and counties. In those cases where public partnerships still involve development costs, sharing these costs would be beneficial to all involved. In addition to those federal, state, and regional sources highlighted above, there are **local sources of funding** that could be used to finance park and ride facilities through **city capital improvement programs** and **county five-year construction programs**. Just as cities and counties have an incentive to provide property for park and ride lots to accommodate their commuting residents, they also have an incentive to provide local funding.

According to the Federal Transit Administration's 2014 Joint Development Circular, Chapter 53, programs commonly used for transit projects and assistance could also be used for intermodal facilities, parking facilities, and park and ride services. In Iowa, due to limited funding availability, transit funds are typically allocated to public transit operations activities and bus replacement capital purchases. Therefore, the availability of FTA funding in Iowa for park and ride-type facilities is unlikely for the

foreseeable future. In terms of state funding, **Public Transit Infrastructure Grant (PTIG) Program funds** are eligible to be used for park and ride facilities; however they require a vertical component and public transit agency sponsor to qualify. PTIG funds can cover up to 80 percent of project costs up to a total of 40 percent of the total funds available in a given year, and the projects are evaluated based on their benefits to transit.

6.4 Cost estimates

The Iowa DOT's Office of Design and Office of Right of Way have provided information to assist interested parties in developing rough cost estimates for park and ride lot development. In order to provide information that would be useful in a variety of development scenarios, a "menu" of per square foot figures was requested that could be used to develop estimates for paved or granular lot construction on right of way in metropolitan, small urban, nonurban incorporated, or rural locations. Although the figures are accurate according to the latest data available, it should be noted that the cost of land, especially agricultural land, is highly variable from year to year and geographically. Therefore, the averages used to generate development cost estimates should be evaluated accordingly.

Table 6.1: Right of way acquisition cost estimates (per square foot)

	Lower	Upper	Average
Metropolitan	$3.00	$12.00	**$7.50**
Small urban	$1.50	$3.50	**$2.50**
Nonurban incorporated	$0.75	$2.00	**$1.38**
Rural	$0.05	$0.34	**$0.20**

Source: Iowa DOT, Office of Right of Way (2014)

State-owned park and ride location at Iowa 5/Iowa 92 and S45 in Marion County

Table 6.2: Surface construction cost estimates (per square foot)

	Paved	Granular
Earthwork	$1.10	$1.10
Special backfill	$1.10	N/A
7-inch Portland cement concrete pavement	$3.70	N/A
Granular surface	N/A	$0.70
Unquantified items*	$2.90	$2.90
TOTAL	**$8.80**	**$4.70**

*Unquantified items include drainage structures, erosion control, traffic control, lighting, and signage.
Source: Iowa DOT, Office of Design (2014)

To provide perhaps a more tangible point of reference, these per square foot figures were applied to a "typical" lot size in order to estimate costs for full lot development in the eight possible scenarios shown in Table 6.3. For the purposes of this plan, "typical" is defined as the average size of the 26 existing state-owned park and ride lots, which is roughly 12,000 square feet. Conservatively, 350 square feet is needed per parking space, meaning that a 12,000 square-foot lot should accommodate approximately 35 vehicles. Also, it should be noted that "typical" is not to be interpreted as "preferred," which is a function of each individual location.

Table 6.3: "Typical" lot development cost estimates (12,000 square feet)

	Paved	Granular
Metropolitan	$195,600	$146,400
Small urban	$135,600	$86,400
Nonurban incorporated	$122,100	$72,900
Rural	$107,940	$58,740

Source: Iowa DOT (2014)