



REQUEST FOR INFORMATION | *West Virginia Parkways Authority*

Roadside Tolling *and* Back Office Systems

The West Virginia Parkways Authority (WVPA) invites vendors to provide feedback, information and materials for the agency to consider during planning for replacement and systems upgrades for toll collection, customer service and violations enforcement.

WE ARE SEEKING ...

... system integrators, technology and software providers, and equipment vendors who specifically provide the services for the implementation of toll systems and can knowledgeably and transparently discuss ideas that could meet the WVPA's stated goals, with discussions about industry trends, best design and development approaches, recommended solutions, contracting and pricing methodologies, and life cycle maintenance approaches.

Responses to this request for information will include one-on-one interviews followed by written submissions. See further details within.

ROADSIDE TOLLING SYSTEMS

- » Multiple protocol automated vehicle identification
- » Axle- and height-based automated vehicle classification
- » Secure credit card payment acceptance
- » License plate image capture
- » Staffed and automated cash collection

BACK OFFICE AND CUSTOMER SERVICE SYSTEMS

- » Customer contact channels
- » Account management
- » Invoicing, noticing and reporting
- » Payment processing
- » License plate image review systems



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This RFI intends to obtain feedback and input to identify state-of-the-industry solutions to the toll collection, enforcement and customer service needs of the West Virginia Parkways Authority.

Background and Program Goals

The West Virginia Parkways Authority (WVPA) conducts toll collection, customer service and toll violation enforcement operations at three mainline toll plazas (Barriers A, B and C), one interchange ramp toll plaza (North Beckley), and WVPA self-operated customer service center locations – the primary being the WVPA headquarters in Charleston and a smaller satellite location in Beckley.

Additionally, WVPA directly supports roadside systems maintenance in collaboration with the existing legacy toll system vendor. This Level 1 maintenance includes preventative and routine activities, unit-level equipment replacement and troubleshooting and similar activities.

The mainline toll plazas are bidirectional with 10-12 lanes of low-speed or stop-condition tolling equipment, and reversible capabilities in the center lanes at Barriers B and C. Barrier A is a split location serving both directions.

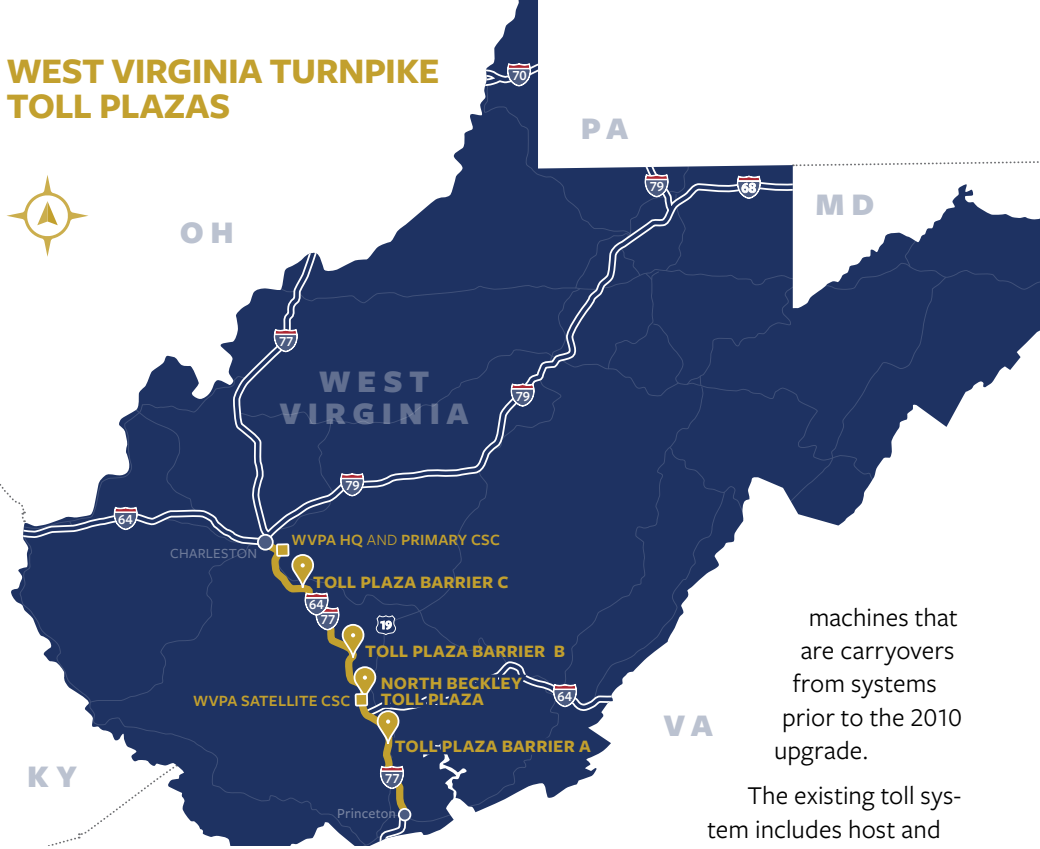
The outside lanes at Barriers B and C are also capable of tandem operations. Reversible and tandem operations are critical to

plaza throughput and must be maintained in future systems, and they will require the same full-service payment options as permanent lanes. WVPA is open to solutions to coordinate transponder detection, classification and image capture from the permanent lane installations in concert with the temporary tandem lanes to minimize additional in-lane equipment for full-service temporary tandem operation.

All lanes can read the E-ZPass radio frequency identification (RFID) standard using Kapsch Roadcheck **automatic vehicle identification (AVI)** readers. Mainline plazas have both staffed and E-ZPass-only lanes, some capable of shifting between modes depending on operational needs. All lanes include **automated vehicle classification (AVC)** systems that determine a vehicle’s class based on its axles and height ([learn more](#)).

Lanes that with E-ZPass-only mode also have license plate image capture cameras that support toll enforcement operations. Lanes that can only be operated in staffed modes do not have license plate capture cameras. Staffed lanes include manual operations to collect cash, make change and manually process insufficient funds transactions, also known as “no-pays.”

WEST VIRGINIA TURNPIKE TOLL PLAZAS



The bidirectional, split North Beckley Toll Plaza has three low-speed or stop-condition lanes in each direction. All lanes can support staffed collection, and four lanes also have exact-change, coin-only payment

machines that are carryovers from systems prior to the 2010 upgrade.

The existing toll system includes host and back office systems located at the WVPA HQ and disaster recovery systems for the host and back office at WVPA offices in Beckley. All toll plazas have been recently or are in the process of fiber connectivity back to the headquarters and disaster recovery locations.

GENERAL TIMELINE OF POTENTIAL PROCUREMENT ACTIVITIES AND IMPLEMENTATION

Note: The schedule graphic at right is for representative purposes only. WVPA reserves the right to alter schedule at any time.

	2021				2022				2023				2024			
	❄️	🌸	☀️	🍁	❄️	🌸	☀️	🍁	❄️	🌸	☀️	🍁	❄️	🌸	☀️	🍁
Procurement(s) Development																
Procurement(s)																
Implementation																

WVPA self-operates the back office and customer service center using systems provided under the 2010 project. Operations include customer service via walk-ins and phone, account management, license plate image identification, no-pay and toll violations issuance and processing, reporting and related operations. WVPA has unique customer programs ([learn more](#)).

The current roadside and back office systems were installed in 2010, and given their age and technological advancements to better support WVPA's goals, WVPA is initiating planning for the upgrade project.

After extensive study and strategic planning, WVPA determined that high-way-speed, free-flow, open road tolling will not be part of the next system upgrade, focusing instead on the "in-kind" replacement of current operations functionality with the following enhancements:

- » License plate cameras in all – including staffed – lanes to expand enforcement and payment handling options.
- » New technology for automated cash, license-plate-based or other payment options for the North Beckley toll plaza, including the possibility of all-electronic tolling as a pilot within the existing toll plaza infrastructure.
- » The ability to accept credit card payments in staffed (all plazas) and automated cash payment lanes (North Beckley), and for walk-in customers at customer service center locations.
- » Multiple protocol RFID reader capabilities in toll plazas in line with E-ZPass Group stated plans.

SCOPE OF THIS REQUEST FOR INFORMATION

ROADSIDE EQUIPMENT



- > Determining toll rates by vehicle
- > Reading, processing E-ZPasses
- > Capturing license plate images
- > Collaborative agency and vendor roadside maintenance

CENTRAL PROCESSING



- > Primary and backup host systems
- > Determining toll rates
- > Transaction aggregating
- > System monitoring

BACK-OFFICE SYSTEM



- > Processing license plate images
- > Account management systems
- > Billing and interfaces
- > Payments and fulfillment

Roadway, Toll Points and Transactions

88 miles of
TOLL ROAD

3 mainline barrier
TOLL PLAZAS

1 interchange ramp
TOLL PLAZA

2019

36.9 million+ total transactions
14.5 million+ staffed cash transactions
20.0 million+ E-ZPass transactions
1.4 million+ automated cash transactions
680,000+ gross violations

2020

30.5 million+ total transactions
11.2 million+ staffed cash transactions
17.5 million+ E-ZPass transactions
920,000+ automated cash transactions
760,000+ gross violations

ALL-ELECTRONIC TOLLING PILOT POTENTIAL: North Beckley plaza in 2019 had 2 million+ transactions that were either manual or automated cash, representing an approximate volume of license-plate-based transactions at the location if the existing plaza were converted to AET.

Accounts, Transponders and Image Processing

2019

154,202 E-ZPass accounts at year end
47,661 new accounts opened
2.5 million license plate images processed
65,000+ notices sent
116,000+ calls handled

2020

158,591 E-ZPass accounts at year end
22,251 new accounts opened
2.2 million license plate images processed
70,000+ notices sent
84,000+ calls handled

- » Enhanced capabilities to handle customers who do not have adequate payment when stopping in a staffed lane (increased efficiency and automation of “no-pays” including tracking and reporting of payments and nonpayment statuses).
- » Overall updates to customer service functions to reflect state of the practice for customer management, contacts, self-service, reporting and similar.

The “in-kind” element of the system upgrade will reuse existing toll plaza and back office facilities and infrastructure.

WVPA is not planning changes to the number of lanes, equipment nor any major

changes to infrastructure such as pavement, traffic islands, booths, tunnels or support buildings.

WVPA recognizes that some level of work likely will be required for equipment installation including enclosures, cable routing and possible pavement work for sensors; however, solutions that minimize infrastructure changes or civil work are preferred, if performance requirements can be met.

WVPA anticipates similar requirements to industry standards for this scope of work, typical of similar procurements. More details to be defined in future procurement activities, where applicable.

WVPA TOLLING SYSTEMS GOALS



Issuing Entity and Response Schedule

The WVPA issues this RFI. The sole point of contact for all inquiries related to this RFI and responses shall be the following individual:



MARGARET VICKERS
West Virginia Parkways Authority
3310 Piedmont Road
Charleston, WV 25306
mwickers@wvturnpike.com

Responses will be two-part:

- 1. Virtual one-on-one interview**
- 2. Written response submission**

Interview time slots are as follows:

- » Slot A: 10-11:30 a.m. EST
- » Slot B: 1-2:30 p.m. EST
- » Slot C: 3-4:30 p.m. EST

INTERVIEW

Virtual one-on-one interviews are planned for Monday through Friday during the week beginning April 26 and ending April 30, 2021.

Respondents will need to send an email on or before **Tuesday, April 20, 2021, before 12 p.m. EST**, to the contact above indicating their top *three* preferred date/time slots (see below). Assignments will be confirmed based on the order of emails received.

WRITTEN RESPONSES

One electronic version of your written response (as an attachment in a searchable format) may be sent via email to the contact above on or before **Friday, May 21, 2021, before 1 p.m. EST**.

Emailed responses should include the name and contact information of the responding vendor, with the phrase “Toll System Upgrade Project RFI Submission” in the subject line.

KEY DATES AND TIMES



Email preferred choices for virtual interview:
Tuesday, April 20
12 p.m. EST



Email written response to WVPA contact:
Friday, May 21
1 p.m. EST

General Conditions

This RFI does not constitute nor should respondents construe it as a solicitation or obligation on the part of the WVPA to issue a procurement nor award a contract. The WVPA will not pay for the preparation of any response or information submitted for the WVPA's use.

The WVPA may, at its sole discretion, use information provided in response to the RFI; however, the WVPA is not obligated to use any information so received.

To the extent that information to be provided in response to this RFI may be considered as divulging a Respondent's intellectual property including copyrights and trade secrets, or confidential proprietary information (CPI), the following statements shall apply:

» **Confidential Information.**

The WVPA does not require CPI or trade secrets be submitted in response to this RFI.

- » **Commission Use.** The WVPA shall consider all submitted response materials as its property. The WVPA shall have the right to

use all ideas, concepts or know-how that any response presents, unless a Respondent affirmatively notes all objections as part of its response. Notwithstanding copyright designations contained on the face of responses, WVPA shall have the non-exclusive right to reproduce and distribute responses internally, and to comply with public record or other disclosure requirements under the provisions of Commonwealth or U.S. statutes or regulations, or rules or orders of any court of competent jurisdiction.

Public Disclosure

The disclosure of information from Public Agencies is governed in West Virginia by West Virginia Freedom of Information Act (FOIA).

§29B-1-4 Entitled "Exemptions" under (a) indicates as follows: There is a presumption of public accessibility to all public records, subject only to the following categories of information which are specifically exempt from disclosure under this article:

(1) Trade secrets, as used in this section, which may include but are not limited to, any formula, plan pattern, process, tool, mechanism, compound, procedure, production data, or completion of information which is not patented which is known only to certain individuals within a commercial concern who are using it to fabricate, produce or compound an article or trade or a service or to locate minerals or other substances, having commercial value, and which gives its users an opportunity to obtain business advantage over competitors;..."

To the extent the Parkways Authority receives requests under the Freedom of Information Act to disclose such trade secrets, as defined above, it will provide timely notice to the owner of the trade secrets so that it may proceed in any form it deems necessary in any court of competent jurisdiction or otherwise to preclude the disclosure by the Parkways Authority if it is unable to do so under the West Virginia Freedom of Information Act.



Toll Plaza Barrier A Northbound

One-on-One Interviews

The WVPA plans to interview respondents virtually to obtain feedback, information and materials that may assist WVPA personnel in its decision-making.

Respondents willing to participate in an interview are responsible for all costs associated with participation.

More details about the format of the virtual meeting to be provided as part of interview planning. Respondents should assume that audio, video and screen-sharing will be available. See [Page 5](#) section “Issuing Entity and Response Schedule” for one-on-one interview timing and scheduling.



Response Instructions

The WVPA appreciates your careful consideration and response so that we can obtain meaningful feedback for planning purposes. Please respond to all applicable questions in as much detail as possible. You may copy the questions below and provide your response in a separate file. **Note: WVPA developed the questions below with the expectation not all will apply to every Respondent. If a question does not apply to your area of expertise, please write “N/A” in response.**



Staffed toll booths will allow for acceptance of credit card payments.



All lanes to include license plate image capture systems.

RFI Questions

Roadside Toll System Services

1. Describe your experience and current solutions for staffed toll collection lanes in traditional toll plazas similar to WVPA facilities. Describe elements of your solutions that:
 - a. Allow for acceptance of credit card payments, including security considerations.
 - b. Offer semi- or fully automated options for handling customers with insufficient funds.
 - c. Include automated enforcement of non-payments via license plate image capture.
2. Discuss lessons learned and approaches to transitioning from legacy single-protocol AVI readers (including any specific experience with Kapsch Roadcheck TDM readers) to tri-protocol AVI readers (TDM, 6C, Sego) within the same traditional lane plaza while processing a mix of payment methods including coin, cash, credit cards, debit cards, and transponders via both lanes with staffed booths and unattended lanes either equipped with booths, automated toll payment machines, or dedicated transponder collection?

3. Describe your firm's preferred approach to transitioning traditional toll lanes when adding multi-protocol AVI functionality; then, discuss how that would affect:
 - a. AVI synchronization.
 - b. The testing of new toll system function in tri-protocol operation.
 - c. The measurement of new toll system performance in tri-protocol operation.
 - d. In any way, the existing toll system in any lane prior to its full replacement.
4. Discuss whether and why you would prefer to propose a tri-protocol AVI reader with IAG and OmniAir certifications or an AVI reader with different or fewer third-party certifications.
5. Describe your AVC solution in the context of the WVPA classification structure ([learn more](#)) and the pavement requirements in traditional lanes. Discuss any recent advancements that would minimize or eliminate the need for pavement remediation, including any limitations of performance requirements.
6. Describe your toll system offerings for accepting payments from customers in staffed lanes beyond cash, license plate or transponder – specifically credit cards but also other methods such as contactless smartphone applications, mobile wallets or similar technologies, either as provided technologies or interfaces to third-party technologies.



All lanes equipped with multi-protocol E-ZPass-compliant RFID AVI systems.



Minimization of pavement impacts for classification sensors while meeting industry-standard performance needs.



Reuse of existing infrastructure such as junction boxes, conduit and similar where practical.



Upgraded payment options for existing automated self-payment lanes.



Roadside maintenance collaboration with WVPA.

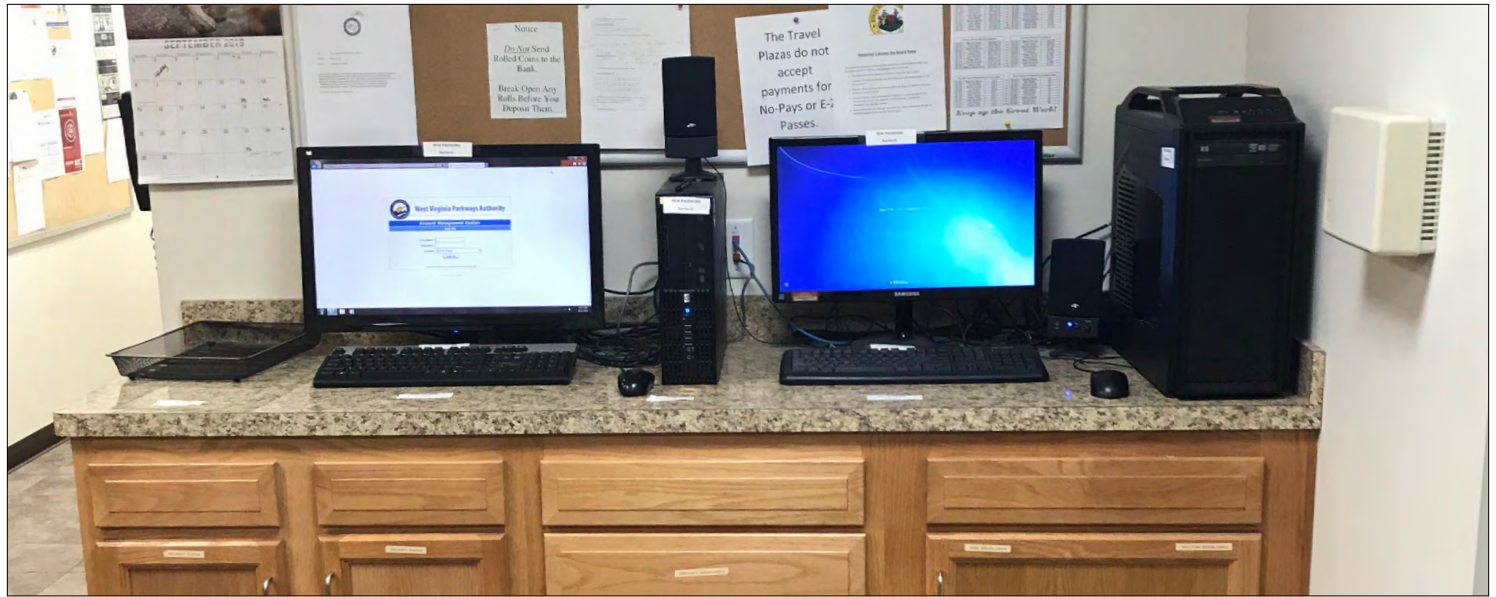
7. Describe your toll system offerings for accepting toll payment in unstaffed traditional lanes via coin, credit card, license plate image and transponder. Summarize the approach to AVC (e.g. pre-class; hybrid with some post-processing; etc.) to present the toll due to the customer and accept payment; then, discuss the following:
 - a. Any additional classification hardware that is required, or challenges that your proposed approach presents, when these same lanes operate staffed sometimes and unstaffed at other times.
 - b. Any additional cash (bills) acceptance and change-making hardware that is required, or challenges that your proposed approach presents, when these same lanes operate staffed at some times and unstaffed at others.
 - c. Any business rule considerations that would mitigate these challenges given the staffed and unstaffed operations.
8. Describe your experience or approach to working with toll agency operations that self-perform first-level maintenance of roadside tolling equipment, such as unit replacement, tuning and/or preventative maintenance activities.
9. Discuss your approach to transitioning the lanes, coordination with other legacy system vendors, while minimizing impacts to the traveling public and toll collection operations, including the possibility of night work or restricted durations of closures to off-peak periods. Provide examples where possible.



Maintaining adequate traffic throughput during implementation will be critical.

Back Office System

1. Provide an overview of various functions of your back office solution with focus on the following elements:
 - a. Account and customer management.
 - b. License plate image-based violation processing and management.
 - c. Disputes and refunds handling.
 - d. Ability to accept credit card payments with all the required PCI compliance for point of sale (POS) devices at the walk-in center, and processing of credit card information from roadside toll system transactions.
 - e. Approaches to handling undeliverable or returned mail to maximize reaching customers for payment.
 - f. Third-party interfaces as functionality that may be added later, specifically:
 - i. DMV and third-party license plate look-up services for determination of registered vehicle owner address information.
 - ii. Collections services.
 - iii. DMV registration hold.



Existing toll plaza workstations for collector and management interfaces with systems.

2. Provide an overview of the reporting capabilities of your System including ability to support ad-hoc reports/queries that can be run by the agency staff, with focus on ability to track revenue losses especially related to insufficient funds request handling and automated violation enforcement operations. Summarize your system capabilities for tracking and reporting customer payments and outstanding balance status for agency awareness and possible “hot lists.”
3. Provide an overview of your system’s ability to maximize self-service by customers or reduce time required for satisfied customer engagement through the following:
 - a. Integrated voice recognition systems
 - b. Website
 - c. Mobile applications
 - d. Other (please describe)
4. Provide details about your system’s ability to handle discounts and discount plan renewals similar to WVPA’s current programs while focusing on system configurability for future programs.
5. Describe your system’s approach to handling routine updates such as planned changes to toll rate schedules or regular software maintenance updates – both how this is typically handled contractually, in your experience, and your preferences for handling, if different.

6. Describe your system's ability to handle insufficient funds transactions such as a "missed-a-toll" functionality for customers who do not request unpaid toll processing from a staffed toll collector but desire to pay prior to agency enforcement actions.
7. Provide overview of your system's record retention capabilities focused on the violation transaction data including images and correspondence. Provide examples of similar size programs or general examples of longer term record retention situations with ready access for agency requests.
8. Provide details on any experience you have on handling third-party payment options whereby third parties handle customers and interface with your back office solution.
9. Provide your firm's experience (if no experience, indicate this and your proposed approach for) working with toll agencies that utilize your system to self-operate their entire back office operations or portions of their back office operations (e.g. vendor handles image review and processing but toll agency handles other functions).
10. Describe any other solutions that your firm offers that focus on increasing efficiency for back office operations.
11. Provide details of the functions provided by your firm's existing back office and customer service center installations for toll agencies similar in size to WVPA.
12. Provide your firm's experience with interoperability and centralized hub-style networks, including the E-ZPass Group existing and proposed systems, if applicable.



Typical WVPA Toll Plaza Tunnel for Equipment and Employee Access.