

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding ("MOU") is made by and between AMERICAN UNIVERSITY and THE COUNTY BOARD OF ARLINGTON COUNTY and its departments ("County") (collectively "the Parties"). This MOU is solely intended to outline a plan for a collaborative relationship where the Parties agree to share access to County Information (including stored and streamed, structured and unstructured, in the form of documents, databases, images and various forms of recorded information, also referred to as "Data") and is not intended to create a legal entity, create rights in third persons or to create any contractual obligations.

WHEREAS the County and AMERICAN UNIVERSITY seeks to improve the County and its citizens' quality of life and services while accelerating the County's efficiency and resiliency through the use of County data and combining County community planning and management skills with AMERICAN UNIVERSITY's analytical and data science expertise; and

WHEREAS this collaborative effort uses the data exchanged as a part of this MOU to analyze, inform and improve and gain efficiencies in current and future County operations, practices and policies ("the project"); and

WHEREAS this project may encompass multiple scopes of work ("SOW"), and each SOW and analysis performed under this MOU will vary from department to department and the immediate needs of the County and its Board; and

WHEREAS, the parties agree that the culminating deliverables hereunder are reports by AMERICAN UNIVERSITY for the deliberative use of the County Manager to develop initiatives, implement results and engage in strategic planning resulting from AMERICAN UNIVERSITY's analysis and data-based findings; and

WHEREAS, the parties agree that protecting the privacy of County residents remain a top priority, and no data containing protected health information ("PHI") regulated by the Health Insurance Portability and Accountability Act of 1996 ("HIPAA"), or personally identifiable information ("PII") regulated by the Privacy Act of 1974 will be exchanged as a part of this MOU, except in de-identified or aggregated form; and

WHEREAS, the purpose of this MOU is to develop a collaborative framework to facilitate the project and the sharing of data;

NOW THEREFORE, it is hereby agreed by and between the parties hereto as follows. The above recitals are fully incorporated into this MOU:

1. **Scope of Work.** The terms and conditions of this MOU may govern multiple SOWs, each of which are hereby incorporated into this MOU upon full execution of each SOW by AMERICAN UNIVERSITY and the County Manager or his designee. Each SOW shall contain the following information: project description, expected deliverables, deadlines, description of data being shared, disposition of data upon termination of the SOW or this MOU, any applicable restrictions on use of the data, each Party's point of

contact for work being performed, and other information relevant to the work being performed. SOWs under this MOU shall be given distinct names and ordered chronologically, as follows: SOW-1, SOW-2, etc. In the event of any conflict between any SOW and this MOU, the terms and conditions of this MOU shall take precedent over any SOW.

2. Term and Amendment. This MOU will be effective for a period of five (5) years from the date of the last signature thereon. The term may be extended by mutual agreement of the Parties. Changes to any term in this MOU must be by written amendment executed by both Parties.
3. Project Officers and Notices. Each SOW will specify a project officer or point of contact for all matters related to the work being performed under the SOW. For all other matters related to this MOU, including but not limited to notices related to contract renewal, termination, breach, or proposed amendments, the Parties agree to send any such notice in writing to the other Party's point of contact, who are specified below:

AMERICAN UNIVERSITY
Frank Armour
Assistant Professor of Information Technology
American University
202-885-1863
farmour@american.edu

If to the County:
Jaime Lees
Department of Technology Services Process & Data Analysis Manager
Arlington County Government
703-228-0752
jlees@arlingtonva.us

With a copy to:
Office of the County Attorney
Attn: MinhChau Corr
2100 Clarendon Blvd., Suite 403
Arlington, Virginia 22201
mcorr@arlingtonva.us

4. Permitted Uses of County Data. Subject to the terms and conditions of this MOU, AMERICAN UNIVERSITY is granted a non-exclusive license to have and use the County's Data as specified in the applicable SOW.

5. Restrictions on Use. In addition to all restrictions specified in any applicable SOW, AMERICAN UNIVERSITY will comply with all applicable local, state and federal laws or regulations that relate to data retention and to the security, use and/or dissemination of County Data.

AMERICAN UNIVERSITY agrees to ensure that County Data will not be shared with anyone, including any AMERICAN UNIVERSITY employees, contractors, consultants or agents who has not signed the County's Non-Disclosure of Data Agreement (NDA).

AMERICAN UNIVERSITY agrees to ensure that any AMERICAN UNIVERSITY personnel who are eligible for access to Data have agreed to comply with all restrictions and requirements attached to those Data, as specified in this MOU and any applicable SOW, before access is granted. AMERICAN UNIVERSITY will keep a record of all personnel with such access and will provide the County a list of those personnel within one business day upon request.

6. Ownership. The Parties acknowledge that the County Data provided to AMERICAN UNIVERSITY remains the sole property of Arlington County. This MOU conveys only a limited license to use County Data as specified in the MOU and any applicable SOW. Except as explicitly stated in this MOU, the County conveys no property interests or ownership interests to AMERICAN UNIVERSITY or any third party through this MOU.

The Parties acknowledge that that any deliverable(s) produced pursuant to this MOU and any applicable SOW is work-for-hire and is the sole property of the County. However, AMERICAN UNIVERSITY may publish the results of research using County Data after providing the County with a thirty (30) day period in which to review the proposed publication and supporting data, where applicable. The County may decline to allow County data to be included as supporting data or require that data be modified by masking, removing or aggregating data deemed by the County to be confidential and/or restricted/controlled access. The County's failure to respond within the thirty (30) day period shall be deemed a denial of the request to include County Data.

The Parties further acknowledge that AMERICAN UNIVERSITY's pre-existing data, processes, methodology or other intellectual property used by AMERICAN UNIVERSITY in the performance of work pursuant to this MOU shall remain the sole property of AMERICAN UNIVERSITY.

Any processes, methodology or intellectual property jointly created by AMERICAN UNIVERSITY and the County as a result of collaboration under this MOU shall be owned jointly by the both the County and AMERICAN UNIVERSITY.

7. No Warranties. Data is made available on an "as is," "as available" and "with all faults" basis. To the fullest extent permissible by law, the County expressly disclaims all warranties, express or implied, including but not limited to the warranties of

merchantability, fitness for a particular purpose, non-infringement, title, accuracy, completeness, system integration or freedom from computer virus.

The County does not represent or warrant that the Data will be error-free or provided on an uninterrupted basis; that defects will be corrected or that the Data is up to date, complete or accurate.

8. **Security.** AMERICAN UNIVERSITY shall protect all data shared or exchanged pursuant to this MOU in accordance with the data classification in the applicable SOW and Attachment B: Data Classification Guidelines. For purposes of compliance with this MOU, AMERICAN UNIVERSITY shall use the same level of safeguards as those required for Data Owners, Data Stewards or Data Managers, as those terms are used in Attachment B. AMERICAN UNIVERSITY shall disclose to the County any data security breach involving shared County Data within one business day of discovery of the breach.
9. **Virginia Freedom of Information Act ("VFOIA") and Subpoenas.** In the event AMERICAN UNIVERSITY receives a VFOIA request, subpoena, court order, or any other request for County Data, AMERICAN UNIVERSITY shall, prior to issuing any response, notify the County of the request and of its intended response and provide the County with an opportunity to respond or otherwise seek legal protection for its Data. AMERICAN UNIVERSITY shall notify the County as soon as possible of any such request, but in no case later than two business days after receipt of any such request.
10. **Attribution and Publicity.** All uses of County Data must display the following notice prominently: "Arlington County Data was used for this purpose, but it is not endorsed or certified by Arlington County." The Arlington County name and logo are protected by trademark and the County owns and retains all rights to the Arlington County name and logo. AMERICAN UNIVERSITY may not use the Arlington County name or logo except as expressly permitted by this MOU.
11. **Limitation of Liability.** Under no circumstances will the County be liable to AMERICAN UNIVERSITY for any loss or damages of any kind that are directly or indirectly related to AMERICAN UNIVERSITY's access or use of, or inability to access or use, County Data.
12. **Termination and Data Retention.** Without limiting other remedies available, the County may terminate this MOU or any SOW at any time, with or without cause. Upon termination, AMERICAN UNIVERSITY shall dispose of all copies of County Data in accordance with the applicable SOW. Data which has been previously approved by the County for use in published works maybe retained pursuant to that approval.

13. Remedies. In the event of a breach or threatened breach of this MOU by AMERICAN UNIVERSITY or any employee, representative or agent of AMERICAN UNIVERSITY, the County shall be entitled to injunctive relief to enforce this MOU. The County may also pursue other remedies available, all of which shall be cumulative.
14. Venue and Jurisdiction. The Parties agree that for any action brought pursuant to or to enforce any provision of this MOU, to the extent not otherwise prohibited by law, jurisdiction and venue shall be solely in the state courts in County of Arlington, Virginia.
15. Assignment. Neither Party may assign this MOU or any duties or obligations therein without the other Party's written consent.
16. Status of the Parties. No Party shall be considered an employee, agent, contractor, partner or fiduciary of the other, nor shall anything contained in this MOU be construed to create any partnership or joint venture between the parties.
17. No Third Party Beneficiaries. This MOU is not intended to, and shall not confer, upon any other person or entity other than the parties hereto, any rights or remedies with respect to the subject matter of this MOU.
18. Complete Agreement. This MOU is the entire agreement between the Parties related to ENTITY'S NAME use of County Data. No oral or written, prior or contemporaneous agreement shall have any effect, nor shall any subsequent agreements have any force or effect unless made in writing and signed by both Parties. This MOU was made in and shall be interpreted and performed pursuant to the laws of the Commonwealth of Virginia.

AUTHORIZED SIGNATURES

Signed by authorized representatives of the Parties on the dates written below.

Mark J. Schwartz
 Arlington County Manager,
 on behalf of the Arlington County Board

Date: Nov 16 2018

[Signature]
 American University

Date: 11/17/2018

Frank Armour, MS Analytics
 Printed Name and Title Program Director

**Metered Parking Analysis Project Phase II
Scope Document**

Overview

Project Title	Parking Meter Analysis Phase II
Project Scope	<p>Paid parking in the commercial districts of Arlington County is managed under the strictures of a sophisticated parking policy developed by the Department of Environmental Services (DES) that has to account for limited parking availability, optimal parking duration maximums and enforcement and trending activities requiring parking spaces such as car share, food trucks and tour bus parking. One persistent challenge for this parking project is the lack of insight into who is parking where and for how long, and whether a parking spot is available to the person who is seeking it. The information we have available is transactional – who paid to park where and for how long – rather than occupancy – how many cars are parked in a specified area and how many spots are available. The challenge is to determine whether the parking transactions can serve as a representative model for actual occupancy. Constraints to using the transactional data are numerous, for example;</p> <ol style="list-style-type: none"> 1. Someone may pay to park for 2 hours however they stay for 4 hours or 30 minutes thus we would not know whether that spot was available. 2. Not all parking transactions are reflected in the transactional data – coin transactions and the Treasurer’s Office program (EasyPark) are unavailable data sources.
Involved Agencies	DES, DTS, American University
Key Stakeholders	<p>DES: Jason Barnett, Stephen Crim, Marietta Gelfort AU: Frank Armour DTS: Jaime Lees, Rohit Devkota</p>
Start Date	September 25, 2018
Projected End Date	May 10, 2019

Deliverables

Description	Due
<ol style="list-style-type: none"> 1. Historical Analysis <ol style="list-style-type: none"> a. Review the draft transactional data historical analysis b. Identify and correct any data quality issues c. Extend the analysis <ol style="list-style-type: none"> i. Allow visualization to be updated for custom date and time ranges (e.g., one 	12/05/2018

<ul style="list-style-type: none"> month, one year, 18 months, one day, 8-11am, 12-6pm, etc.) ii. Calculate total revenue across all transaction types that match to the custom date and time ranges iii. Display parking transactions for specific zone(s) and time iv. Display peak transaction volume by geographical areas (groups of zones) and time of day categories (groups and categories to be provided) v. Show where parking is available and not available by time of day categories excluding zones where meters are not enforced at the time selected. vi. Show parking trends by weekday and time of day categories and weekend and time of day vii. Compare transactional volume before and after July 1, 2018 (when the County raised meter rates and expanded enforcement hours) 	
<p>2. Analysis of Transactions as Model for Occupancy</p> <ul style="list-style-type: none"> a. Compare Kimley Horn study occupancy data to transactional data at the same locations and times. b. Demonstrate the extent to which the two datasets correlate using map and other visualizations. c. Explore instances where/when correlation is poor to determine cause. d. Identify and analyze parking patterns across space within and between parking zones. 	05/08/2019
<p>3. Data Quality Monitoring Analysis. Display parking turnover, parking duration, parking occupancy, and transaction volumes as indicators of potentially anomalous data.</p>	05/08/2019

<p>4. Analysis Documentation and Presentation</p> <ul style="list-style-type: none"> a. Document methods for validating data and data visualization quality and any steps taken to cleanse the data b. Document all assumptions, rules and processing criteria applied to the data, e.g., times of day categories, zone groupings c. Document methodology for comparing transactional and study data to determine alignment d. Present In person a final presentation outlining business problem, approach, work performed, outcomes and recommendations/lesson learned. 	<p>05/08/2019</p>
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Data Control Plan

Each County dataset to be shared is identified below. The datasets are individually classified and are to be handled according to their classification, per the County’s Data Classification Guidelines and Best Practices (Attachment A). Any individual who will be assigned access must first review and sign the County’s standard Non-Disclosure Agreement.

Dataset #1

Data Description	<p>Transactional Data: The parking zones data from Park mobile, parking meter IDs data from Cale/Multi-space meter and IPS have been combined with GIS layers to form a single dataset as transactional data. The transactional dataset includes transactions table and lookup table.</p>
Data Type	Excel Spreadsheet
Data Classification	Open Data
Point of Contact	Jason Barnett
Means of Delivery	<p>The datasets will be transferred to Amazon S3 bucket from the datahub. The link to the S3 bucket will be provided and can be used to download the datasets. Once the file is uploaded in S3 bucket, email notifications will be sent to the authorized users.</p>
Schedule for Delivery	Monthly
Security and Access Provisions	None beyond what is specified in the data sharing agreement and data classification best practices and guidelines.
Permitted Use	Data may not be used beyond the purposes of the defined scope without written permission from Arlington County
Disposition of Data at Conclusion of Project	Final datasets will be stored in the datahub and the copies will be uploaded in S3 bucket; all other copies of the data will be

	disposed of in accordance with the data classification best practices and guidelines.
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Dataset #2

Data Description	GIS Parking Meter Layers
Data Type	Excel Spreadsheet
Data Classification	Internal Department
Point of Contact	Jason Barnett
Means of Delivery	Post data files to Sharepoint site
Schedule for Delivery	One-time delivery
Security and Access Provisions	None beyond what is specified in the data sharing agreement and data classification best practices and guidelines.
Permitted Use	Data may not be used beyond the purposes of the defined scope without written permission from Arlington County
Disposition of Data at Conclusion of Project	Final datasets will be posted to the Sharepoint site; all other copies of the data will be disposed of in accordance with the data classification best practices and guidelines.

Dataset #5

Data Description	Kimley -Horn study results
Data Type	Excel Spreadsheet
Data Classification	Internal Department
Point of Contact	Stephen Crim
Means of Delivery	Post data files to Sharepoint site
Schedule for Delivery	One-time delivery
Security and Access Provisions	None beyond what is specified in the data sharing agreement and data classification best practices and guidelines.
Permitted Use	Data may not be used beyond the purposes of the defined scope without written permission from Arlington County
Disposition of Data at Conclusion of Project	Final datasets will be posted to the Sharepoint site; all other copies of the data will be disposed of in accordance with the data classification best practices and guidelines.

Signed:



Dennis Leach, DES, Arlington County Govt

10/11/2018

Date



Frank Armour, American University

Date

5-10-2018

