



Norfolk International Airport Master Plan Update

Planning Advisory Committee Meeting #2

May 30, 2018

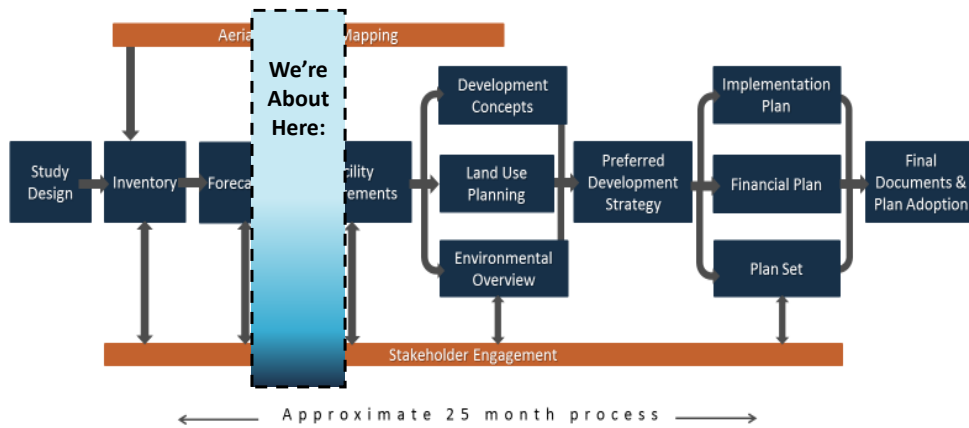


Agenda

- Update of Airport Master Plan Process
- Inventory of Existing Conditions and Facilities
 - Background Airport Information
 - Identify Key Study Issues
- Preliminary Forecast Overview
- Get Your Input and Ideas
- Next Steps



Airport Master Planning Process



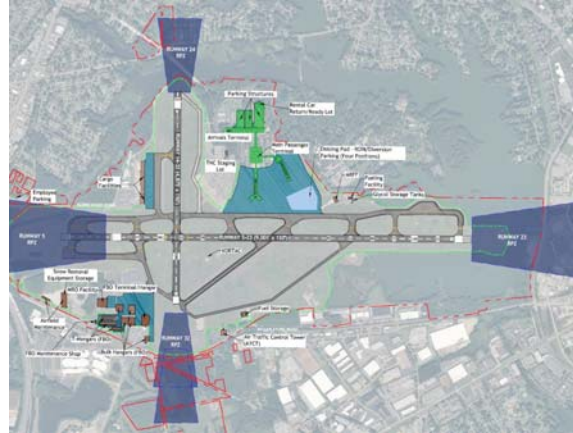
Airport Master Plan – Focus Areas

- Industry trends and regional changes since previous studies
- Specific focus area
 - Future Airfield Improvements
 - New mapping and obstruction survey required to meet FAA AGIS requirements
 - Airfield geometry and 'hot spots'
 - FAA design standards
 - Terminal Facility Improvements
 - Access & Parking Improvements



Key Airport Features

- 70th largest primary airport in the United States
- Primary airport serving Hampton Roads region of Virginia and northeast North Carolina
- Currently served by five airlines, with an additional one announced
 - Daily, non-stop service to 22 domestic destinations
- Covers 1,300 acres
- Two Active Runways
 - Runway 05-23
 - Runway 14-32
- Cargo Operations
 - UPS
 - FedEx



Airport Service Area

- Primary commercial service airport in the Hampton Roads area
 - Extends beyond Norfolk and into other regions in Virginia and parts of northeastern North Carolina
- Hampton Roads Metropolitan Statistical Area (MSA)
 - 37th largest MSA in the United States
 - Population of approximately 1.7 million people
- Location regarding time and distance in nautical miles (nm) in comparison to other major airports
 - Newport News/Williamsburg International Airport (PHF)
 - 20 nm; 55-minute drive; northwest of ORF
 - Richmond International Airport (RIC)
 - 65 nm; 2-hour drive; northwest of ORF

**Drive times may be impacted during certain times of day due to traffic congestion and/or construction activity*





Inventory of Existing Conditions and Facilities

Inventory Summary

- Industry trends and regional changes since previous studies
- Ongoing & future terminal facility planning efforts warrant an updated ALP
- Specific focus areas:
 - Airfield capacity and design standards
 - Airfield navigational aids and infrastructure
 - Rental car facility expansion
 - Parking and surface access improvements
 - Terminal facility improvements
 - General Aviation facility requirements
 - Fueling, de-icing, and other infrastructure
 - On-airport land use planning (non-aeronautical)



Airfield Planning

- Some airfield alternatives to be evaluated:
 - Need for secondary and/or crosswind runways
 - Evaluation of Runway 14-32 to serve as an ARC C-III or a B-II runway
 - Reconstruction vs. Closing Runway 14-32
 - Long-term reconstruction of Runway 5-23
 - Improvements to airfield geometry to meet FAA guidelines and design standards
 - Impact of FAA NextGen on aircraft operations and procedures
 - Evaluation of taxiway and apron demand
 - Proposed relocation of VORTAC



Passenger Terminal Planning

- Some terminal concepts to be evaluated:
 - Evaluation of terminal space programs, based on forecasted passenger volumes
 - Terminal plans that offer operational flexibility and accommodate future expansion of the terminal complex
 - Incorporating future technological improvements associated with airline and terminal operations
 - Incorporation of sustainable design



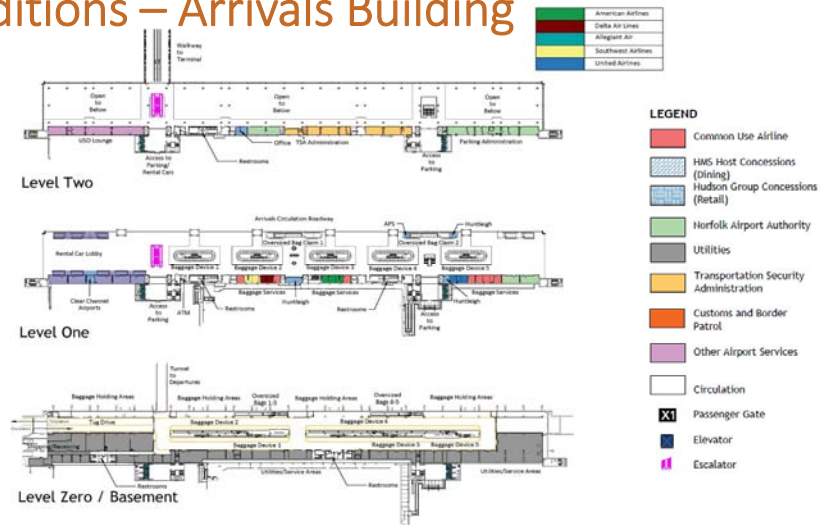
Terminal Area Overview – Arrivals Building



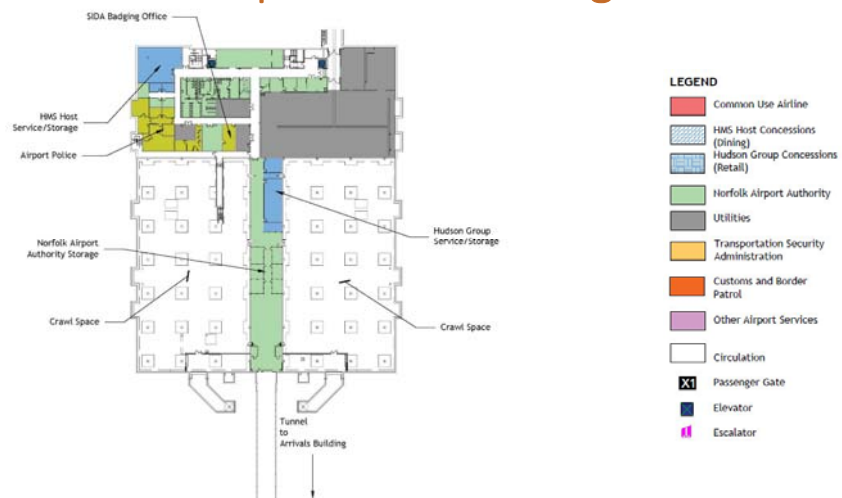
Terminal Area Overview – Departures Building



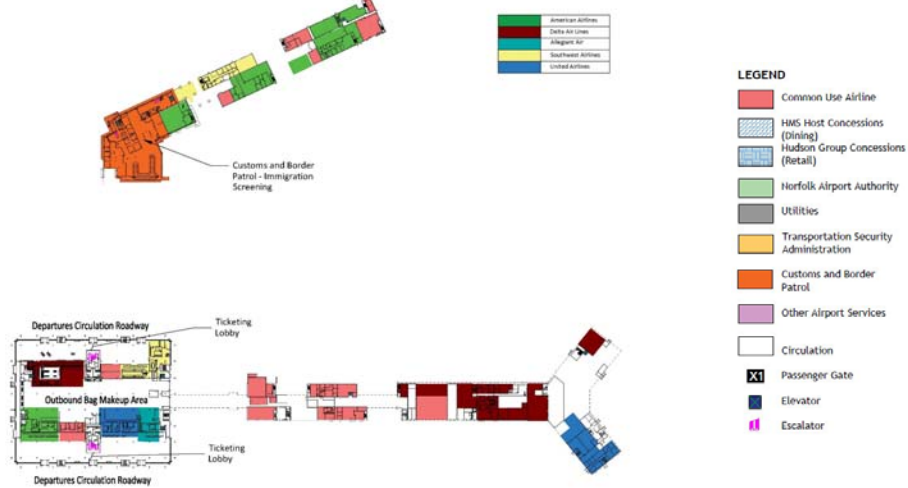
Existing Conditions – Arrivals Building



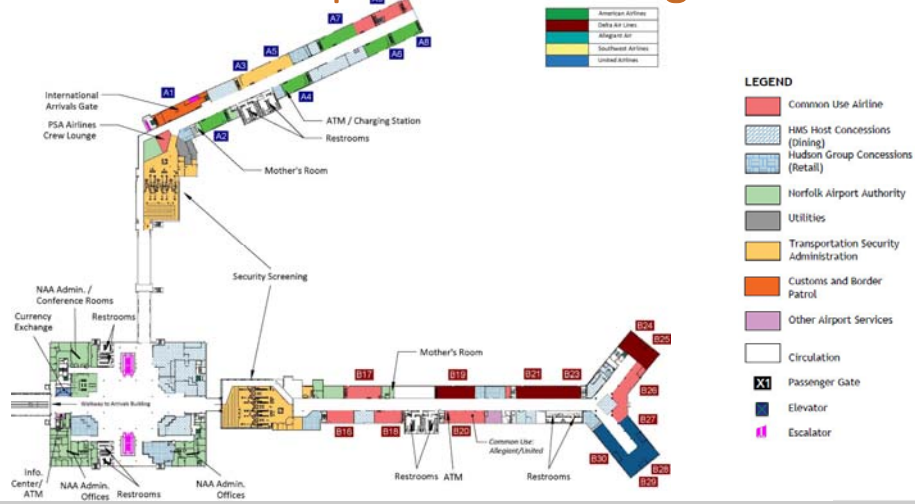
Existing Conditions – Departures Building Level Zero



Existing Conditions – Departures Building Level One



Existing Conditions – Departures Building Level Two



Parking and Access Planning

- Some parking and access alternatives to be evaluated:

- Consolidated Rental Car Service Facility
- Evaluate demand/capacity of Airport Parking
- Evaluate access roadways and circulation
 - Signage and wayfinding
- Cashier plaza requirements
- Curbside circulation and capacity
- Curbside management plan
 - Public vehicles, TNCs, taxis, limos, & courtesy shuttles
- Future Light Rail access



Land Use Planning

- Completion of an existing Land Use Study for land within the planning area and adjacent lands
- Identify any existing and proposed land use regulations that could impact development standards and potential noise impacts
- Identify deficiencies and/or surpluses in the amount of developable land for each land use category
- Prepare conceptual land use plans based on established goals and objectives
- General feasibility and potential benefits of alternative ground access, curbside, parking, and rental car options



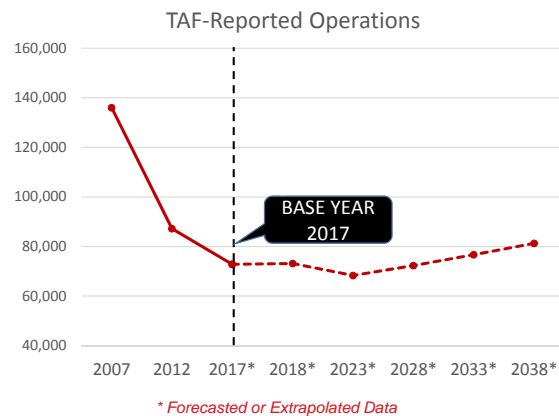


Preliminary Forecast Overview



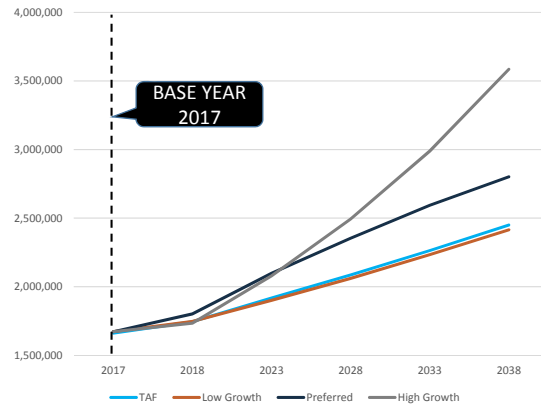
FAA Terminal Area Forecast Aircraft Operations

Year	Enplanements	Operations
2007	1,879,725	136,039
2012	1,637,027	87,179
2017	1,662,046	72,785
2018	1,745,078*	73,109*
2023	1,917,196*	68,314*
2028	2,084,894*	72,257*
2033	2,264,058*	76,676*
2038	2,449,771*	81,260*
AAGR 2018-2038	1.7%	0.5%
Growth 2018-2038	40.4%	11.1%



Recommended Forecast of Enplanements

Year	TAF	Low Growth	Preferred	High Growth
2017	1,662,046	1,672,024	1,672,024	1,672,024
2018	1,745,078	1,746,424	1,802,262	1,733,874
2019	1,784,510	1,780,570	1,932,284	1,798,012
2020	1,819,118	1,811,475	1,961,869	1,864,522
2021	1,853,026	1,841,740	1,995,873	1,933,493
2022	1,885,223	1,871,143	2,026,479	2,005,014
2023	1,917,196	1,901,058	2,097,769	2,079,182
2024	1,950,745	1,932,337	2,149,375	2,156,093
2025	1,982,776	1,962,614	2,200,864	2,235,849
2026	2,015,088	1,993,342	2,252,129	2,318,556
2027	2,049,581	2,026,513	2,303,118	2,404,321
2028	2,084,894	2,060,388	2,353,674	2,493,260
2029	2,120,362	2,094,451	2,403,906	2,585,488
2030	2,155,875	2,129,129	2,453,749	2,681,128
2031	2,192,829	2,164,555	2,502,078	2,780,305
2032	2,229,437	2,199,678	2,548,805	2,883,152
2033	2,264,058	2,233,281	2,594,210	2,989,803
2034	2,300,776	2,268,681	2,638,206	3,100,398
2035	2,338,309	2,304,398	2,680,839	3,215,085
2036	2,375,402	2,340,935	2,722,227	3,334,015
2037	2,411,936	2,377,210	2,762,397	3,457,343
2038	2,449,771	2,414,705	2,801,402	3,585,234
AAGR 2018-2038	1.7%	1.6%	2.2%	3.7%
Growth 2018-2038	40.4%	38.3%	55.4%	106.8%
% Above TAF	-	-1.4%	14.4%	48.5%

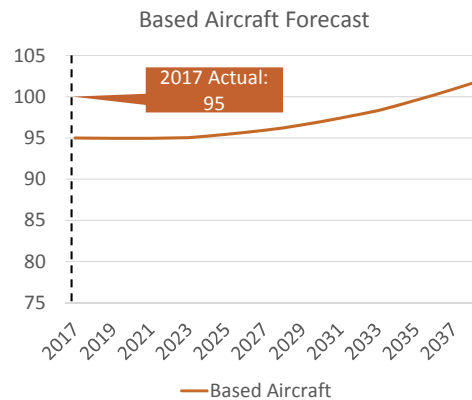


Low Growth: Static Regional Market Share
 Preferred: 5-Year Schedule Build-out and Regression
 High Growth: Historical Trend 3-Year Time Series



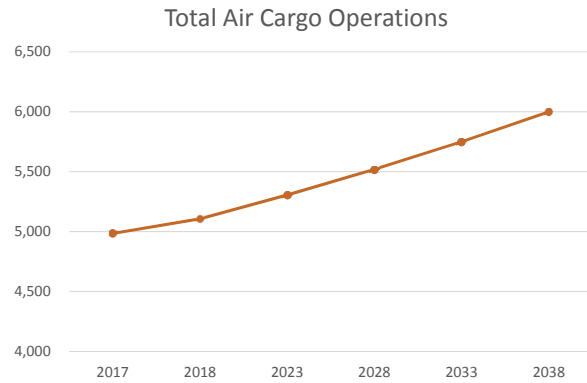
Recommended Based Aircraft Forecast

Year	Based Aircraft
2017	95
2018	95
2019	95
2020	95
2021	95
2022	95
2023	95
2024	95
2025	95
2026	96
2027	96
2028	96
2029	97
2030	97
2031	97
2032	98
2033	98
2034	99
2035	100
2036	100
2037	101
2038	102
AAGR	0.4%
20-Year Growth	7.4%



Recommended Air Cargo Operations Forecast

Year	Integrators	Other Air Cargo	Total
2017	4,332	652	4,984
2018	4,438	669	5,106
2019	4,546	686	5,232
2020	4,658	704	5,361
2021	4,771	722	5,493
2022	4,888	740	5,628
2023	5,008	759	5,767
2024	5,130	779	5,909
2025	5,256	799	6,054
2026	5,384	819	6,203
2027	5,516	840	6,356
2028	5,650	862	6,512
2029	5,789	884	6,673
2030	5,930	907	6,837
2031	6,075	930	7,005
2032	6,224	954	7,178
2033	6,376	979	7,354
2034	6,532	1,004	7,535
2035	6,691	1,029	7,721
2036	6,855	1,056	7,911
2037	7,023	1,083	8,106
2038	7,194	1,111	8,305
AAGR	0.5%	2.6%	0.8%
20-Year Growth	10.1%	66.1%	17.5%

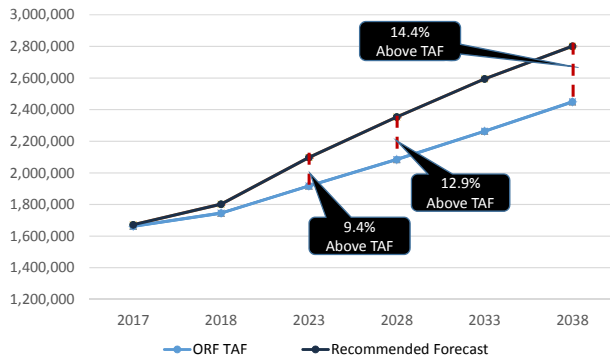


Recommended Forecast Overview

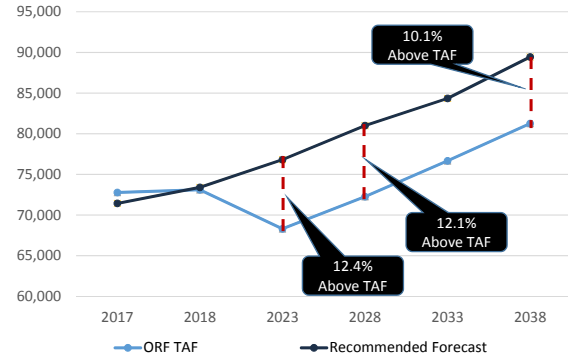
Year	Enplanements	Air Carrier	Total Operations	
			GA/Cargo	Military
2017	1,672,024	47,195	24,794	600
2018	1,802,262	48,986	24,978	600
2019	1,932,284	49,916	25,167	600
2020	1,961,869	49,999	25,358	600
2021	1,995,873	50,212	25,553	600
2022	2,026,479	50,333	25,751	600
2023	2,097,769	51,456	25,953	600
2024	2,149,375	52,122	26,159	600
2025	2,200,864	52,771	26,368	600
2026	2,252,129	53,399	26,581	600
2027	2,303,118	54,030	26,798	600
2028	2,353,674	54,636	27,018	600
2029	2,403,906	55,143	27,243	600
2030	2,453,749	55,627	27,472	600
2031	2,502,078	56,077	27,706	600
2032	2,548,805	56,478	27,943	600
2033	2,594,210	56,860	28,185	600
2034	2,638,206	57,679	28,432	600
2035	2,680,839	58,479	28,684	600
2036	2,722,227	59,248	28,940	600
2037	2,762,397	59,993	29,201	600
2038	2,801,402	60,710	29,467	600
AAGR 2018-2038	2.2%	1.1%	0.8%	0.0%
Growth 2018-2038	55.4%	23.9%	18.0%	0.0%

Recommended Forecast vs. FAA TAF

Recommended Forecast vs. TAF Enplanements



Recommended Forecast vs. TAF Operations



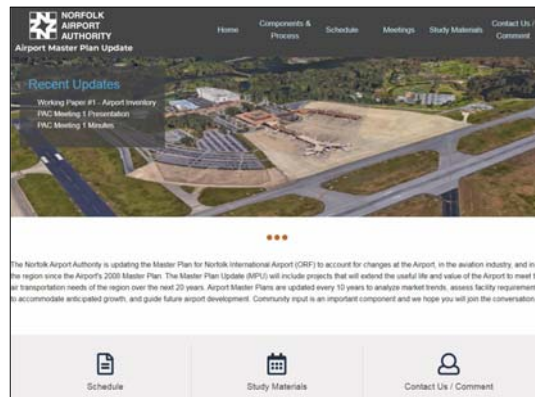
FAA requires forecasts to be within 10% in the first 5 years and 15% within the first 10 years



Study Website

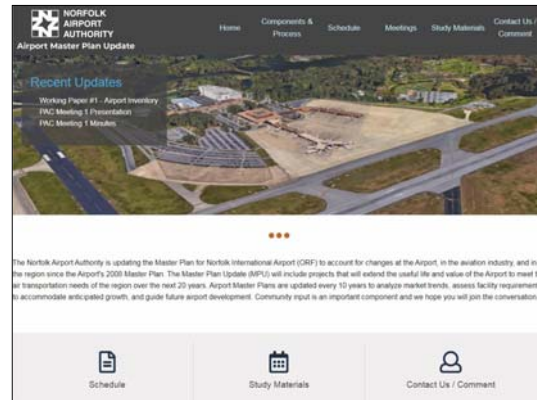
- Study Overview – Home Page
- Components & Progress
- Timeline/Schedule
- Community Outreach
- Submit Comments & Mailing List
- Documents & Meetings

orfmasterplan.com



Website Statistics

- As of the first 6 weeks (through May 23):
 - 798 Site Visits
 - 8% Return Visitors
 - 14 comments received
 - 25 email list sign-ups



Comments Received

- Large support for reinstalling moving walkway or reducing walking distances
- More seating:
 - Gate areas
 - Meeter/Greeter Areas
- More concessions
- Airport/Airline lounge
- Global Entry office



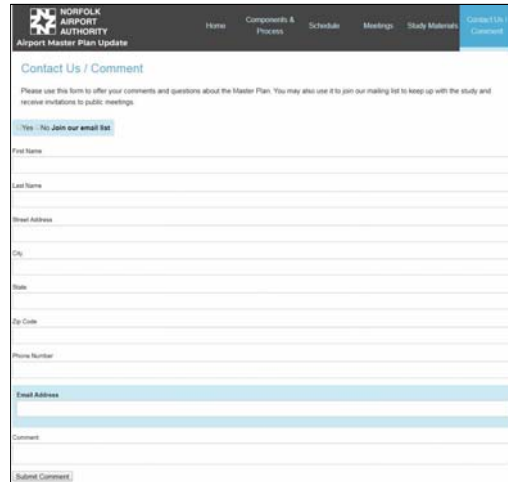
Non-Master Plan Comments

Many comments fall outside the subject of a master plan, including:

- Cheaper flights
- More direct routes

Sample:

“I drive to Reagan and BWI to fly non-stop. I'm sure demand dictates **your** decisions but offering more non-stop flights would help”



The screenshot shows the 'Contact Us / Comment' form on the Norfolk Airport Authority website. The form includes a header with the airport authority logo and navigation links (Home, Components & Process, Schedule, Meetings, Study Materials, Guide EIS/ Comment). Below the header, there is a section for 'Contact Us / Comment' with a brief instruction: 'Please use this form to offer your comments and questions about the Master Plan. You may also use it to join our mailing list to keep up with the study and receive invitations to public meetings.' There is a checkbox for 'Yes - I'd like our email list' and a 'No' option. The form fields include: First Name, Last Name, Email Address, Phone Number, and a large text area for the comment. A 'Submit Comment' button is at the bottom.

Next Steps

- Collect Comments on Working Paper No. 1
- Complete Activity Forecast (Working Paper No. 2)
- FAA Review and Approval of Forecasts
- Continue with Technical Study Components
- PAC Meeting #3 – TBD (late summer)



Questions / Comments

Any questions or comments regarding the Airport Master Plan or any of the information discussed today?

Available for contact:

Anthony Rondeau

Norfolk Airport Authority

757-857-3351

arondeau@norfolkairport.com

