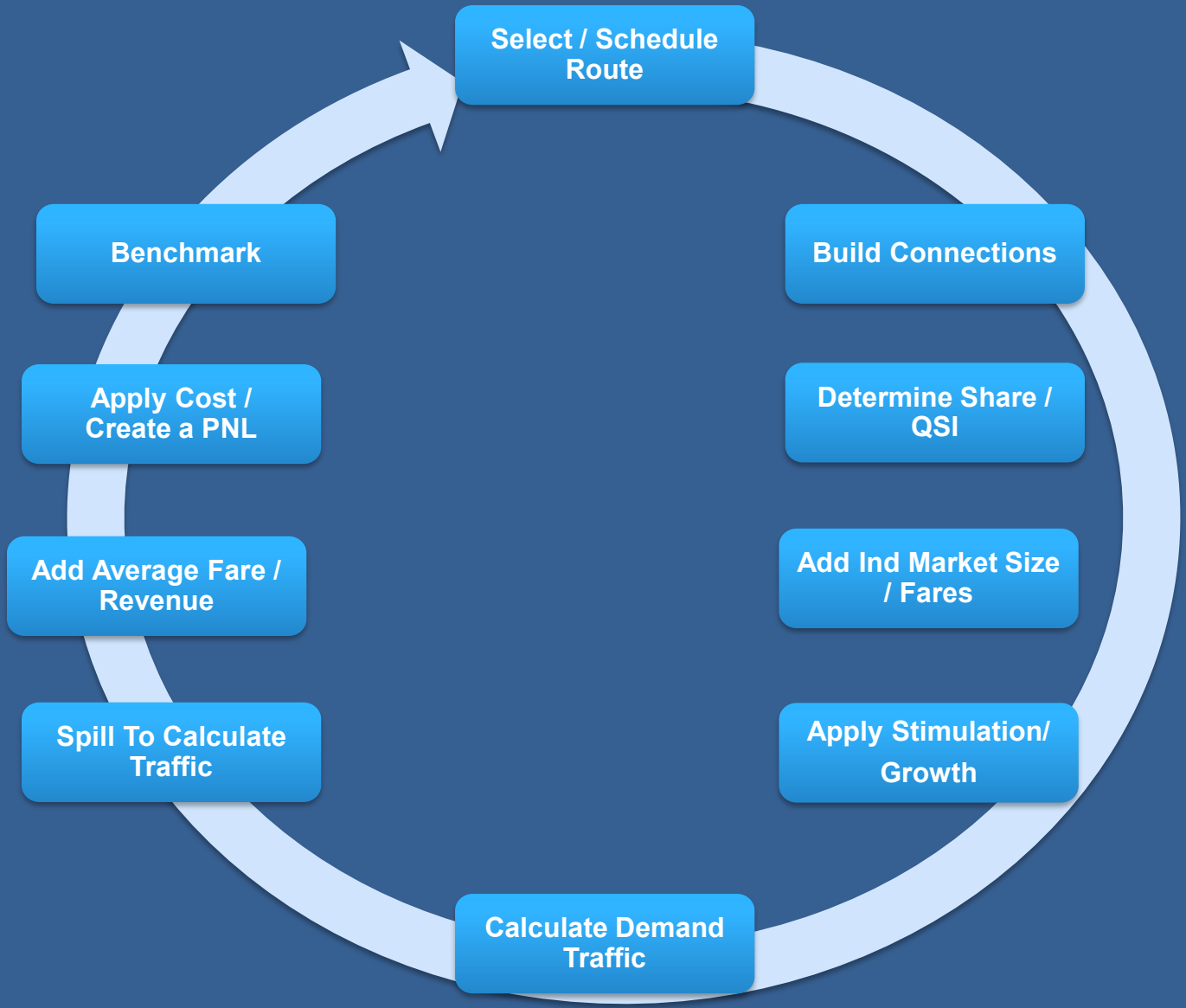
Micro Forecasting – Deep Dive

As a Reminder - Why We Micro Forecast

- In certain cases, using a more manual (Excel spreadsheet-based) approach to forecasting is appropriate. This is called a Micro Forecast
  - This is especially true for international or new domestic markets
  - These markets require a more nuanced approach due to:
    - Incomplete or missing market size and fare data
    - Forecast models calibrated to established domestic markets historical data

- Because a Micro Forecast does not include the entire network of flights, some system-level interactions and impacts will be missed

Micro Forecast Deep Dive Flow



Building a Micro Forecast Spreadsheet

Step 1: Select Route / Schedule / Aircraft

- Route Selection Criteria
  - Review Profitability in existing markets
  - Review Industry Market Size and Fare data
  - Review other Airline Frequencies
  - Maximize Facilities
  - Maximize Flow opportunities

- Aircraft Selection
  - Select aircraft without weight restriction and least amount of seats

Step 1: Select Route / Schedule / Aircraft

- Build Schedule Times
  - Select good local schedule times
  - Review Other Airline schedules
  - Maximize connect opportunities

Step 1: Selected Route / Schedule / Aircraft

ORD–XXX Daily Roundtrip 794 Miles
with 50 Seat Aircraft

- ORD-XXX
  1300
  ↓
  1515
- XXX-ORD
  1615
  ↓
  1900

Step 1: Selected Route / Schedule / Aircraft

OA Competitive Schedule

- ORD-XXX

  OA

  1500

  ↓

  1715

- XXX-ORD

  OA

  1915

  ↓

  2015

Step 2: Build Connections

- Review Minimum and Maximum Connect Times
- Target high volume markets and provide round-trip service
- Consider Circuity

Step 2: Build Connections

- Based on Southbound Bank Structure in ORD

ORD HUB ACTIVITY
INBOUND CONNECTIONS TO ORD-XXX

Origin	ORD Hub Arrival Time	ORD Hub Departure Time	Destination
BOS	1215		
BUF	1215		
CLE	1215		
CMH	1215		
DCA	1220		
DTW	1220		
EWR	1220		
LAS	1220		
LAX	1220		
LGA	1225		
PHL	1225		
PHX	1225		
SAN	1225		
SFO	1225		
STL	1225		
		1300	XXX

Step 2: Build Connections

- Based on Northbound Bank Structure in ORD

ORD HUB ACTIVITY
OUTBOUND CONNECTIONS FROM XXX-ORD

Origin	ORD Hub Arrival Time	ORD Hub Departure Time	Destination
XXX	1900		
		1930	BOS
		1930	BUF
		1930	CLE
		1930	CMH
		1930	DCA
		1935	DTW
		1935	EWR
		1935	LAS
		1935	LAX
		1935	LGA
		1940	PHL
		1940	PHX
		1940	SAN
		1940	SFO
		1940	STL

Step 2: Build Connections

XXX

O&D Market Connections

Airport	Incoming	Outgoing	Roundtrip
BOS	1	1	1
BUF	1	1	1
CLE	1	1	1
CMH	1	1	1
DCA	1	1	1
DTW	1	1	1
EWR	1	1	1
LAS	1	1	1
LAX	1	1	1
LGA	1	1	1
PHL	1	1	1
PHX	1	1	1
SAN	1	1	1
SFO	1	1	1
STL	1	1	1
TOTAL	15	15	15

Begin Building Spreadsheet

- Add Steps 1, 2, and variables for Step 3

Chicago (ORD) to XXX														
QSI Points														
					Raw		Airline							QSI
	EQP	TS	ETP	NSP	QSI	TOD	PREF	PQSI	RP	AP	MPE	RF	QSI	Share
Local														
ORDXXX														
On-Line Flow @ ORD														
BOSXXX														
BUFXXX														
CLEXXX														
CMHXXX														
DCAXXX														
DTWXXX														
EWRXXX														
LASXXX														
LAXXXX														
LGAXXX														
PHLXXX														
PHXXXX														
XXXSAN														
XXXSFO														
XXXSTL														

Step 3: QSI Demand Share Calculation

- Quality of Service Index (QSI) shares estimate the number of passengers who prefer each O&D service
- QSI evaluates nine passenger preference factors:
  - Equipment type
  - Service type
  - Elapsed time penalty
  - Non-stop proximity penalty
  - Time-of-day
  - Airline Preference
  - Route presence
  - Airport presence
  - Relative Fare

Step 3: QSI Equation

- To calculate a Quality-of-Service Index (QSI) demand share, we assign specific weight factors to variables, generating individual scores, summing those scores for the entire market, and dividing to get the final percentage share.

- We will now assign to every variable a baseline score to reflect how much a passenger prefers it.

Step 3: QSI Equation

QSI =

Preference QSI

Service Type *

Equipment Type *

Non Stop Proximity Penalty *

Elapsed Time Penalty *

Time of Day Factor *

Airline Preference Factor *

$e\ (\beta_{RP} * \text{Route Presence} + \beta_{AP} * \text{Airport Presence})$

Market Place QSI

Equipment Weights

Weight	Attributes (Sample Aircraft)
1.8	B787, A380
1.4	B777, A340
1.0	B737, M80, B57
0.9	E70, E90
0.8	CR7
0.7	EM4, EM3
0.5	Large Turbo
0.4	Small Turbo
0.3	Other

Service Type Weights

Service	Connect Points	Stops	Points Domestic	Points International
Direct		**0**	**12.00**	**12.00**
Direct		1	4.00	4.00
Direct		2	1.00	1.00
Direct		3	0.50	0.50
Direct		4	0.20	0.20
Direct		5	0.10	0.10
Online	1	1	1.00	1.00
Online	1	2	0.50	0.50
Online	1	3	0.20	0.20
Online	1	4	0.10	0.10
Online	1	5	0.05	0.05
Online	2	2	0.30	0.30
Online	2	3	0.20	0.20
Online	2	4	0.05	0.05
Online	2	5	0.02	0.20
Interline	1	1	0.15	0.15
Interline	1	2	0.07	0.07
Interline	1	3	0.04	0.04
Interline	1	4	0.01	0.01
Interline	2	2	0.04	0.04
Interline	2	3	0.01	0.01

Elapsed Time Penalty

- For each OTNS OD service, compute
  t = Best Elapsed Time / Target Elapsed Time

- If BT/TT is less than or equal to 0.5, ETP = 0
  --effectively nullifies all ODS passengers and revenue

- Otherwise, ETP is computed by a third order polynomial equation:
  $ETP = 21.2t^3 - 56.6t^2 + 50.5t - 14.2$

- For t = 1.0, ETP = 1.00
  0.9, = 0.95
  0.8, = 0.90
  0.7, = 0.80
  0.6, = 0.36

Non-Stop Proximity Penalty (NSP)

- Applied to both direct and OTSP services (NS excluded)
- If Minutes From Nearest Non-stop (MFNN) is less than or equal to 120 minutes:
  NSP = (1 - β) + β(MFNN / NS Proximity Window
  Otherwise NSP = 1.0
- Three types, depending on the service being penalized:
  --Type 1: Dir/Onl service w/ Same Carrier non-stops in O&D
  --Type 2: Dir/Onl service w/o Same Carrier non-stops in O&D
  --Type 3: Interline service
- Calibrated formula that can be used:
  --Type 1: (1 - 0.80) + 0.80 (MFNN / 180)
  --Type 2: (1 - 0.35) + 0.35 (MFNN / 120)
  --Type 3: (1 - 0.80) + 0.80 (MFNN / 120)

Windowing Logic

- Used for elapsed time and non-stop proximity logic
- Only for other than non-stop (OTNS) services
- Each OTNS target service is evaluated within a time window

- Window includes any competing service (including NS) that departs within 120 minutes of target X, *or* arrives within 120 minutes of target Y (and all within X-Y times)
- For each target service, from the set of services in its window, determine the
  --fastest OTNS service in minutes (termed Best Time, BT)
  --nearest non-stop departure or arrival in minutes (MFNN)

Time-of-Day (TOD)

- Offset: Difference between Departure and Arrival time of the fastest service in the O&D, rounded to the nearest hour

- Time-of-Day Factors:

Departure Hour		0 … 8	9	… 14	... 20	21 … 23
Offset 2:	Outbound	0.1 1.9	2.5	1.2	0.7	0.6 0.1
	Return	0.1 0.6	0.7	1.1	1.8	1.5 0.1

- No. of offsets = 24, from 0 to 23
- Hourly time-of-day factors sum to 24

Time-of-Day (TOD)

- Interpolate adjacent factors for flights departing between hours

  Assume a flight departs at 0815 (495 minutes after midnight), with TOD factors of 2.00 and 3.00 for 0800 (480) and 0900 (540), respectively

  TOD = 3.00 + [(2.00 – 3.00) * ((540-495)/60)]
  = 2.25

- TOD file arranged in hierarchical order from specific to general: Directional O&Ds, Destination Airport - Entity (D/I), Origin Airport - Entity (D/I), System Default

Airline Passenger Preference

- In most cases, it is very hard to determine why passengers prefer one airline versus another
  - Is it complimentary food?
  - Maybe it is more comfortable seats?
  - Or does one airline have better customer service?
  - Perhaps one airline has cleaner aircraft?
  - A better Frequent Flyer program?
- A direct remedy is to include an “Airline Preference Factor” (APF) in the QSI formula for specific carriers
  - Airline Preference Factors above 1.0 increase market share
  - Airline Preference Factors below 1.0 reduce market share

Route Presence Equation

Airline O&D QSI_{POO} / Total O&D QSI_{POO}

- Route presence is bounded between 0 and 1
- QSI from interline OD services are included in the denominator only
- As such, summing the route presence of all airlines in an O&D will not necessarily equal 1.0

Route Presence Beta Weights

$$\beta_{RP} * RP$$

Passenger Type	Domestic	International
β_{RP} Non-Leisure	0.4	0.09
β_{RP} Leisure	0.4	0.00

- Route Presence: Within an $O\&D_{POO}$, an airline's share of QSI

Calculation of Route Presence

ORD-XXX

Carrier	Preference QSI	Route Presence
XX	58.8	62.00%
OA	36.3	38.00
Total	95.1	100.00

Airport Presence Beta Weights$_{2010}$

$$\beta_{AP} * AP$$

	Domestic	International
β_{AP} Non-Leisure	0.69	0.49
β_{AP} Leisure	0.48	0.48

- Airport Presence: Calculated for each airport-airline pair, as airline revenue based on the share of every Market departing from airport of interest. Share is determined using Preference QSI.

Airport Presence Equation

$$\frac{\sum_{\text{O\&D 1}}^{\text{ALL}} (\text{AL QSI} / \text{Largest AL QSI})^{\alpha} * \text{O\&D Revenue}}{\sum_{\text{O\&D 1}}^{\text{ALL}} \text{O\&D Revenue}}$$

Note: O&D revenue and QSI by point of origin

Calculation of Airport Presence

O&D	Airline PQSI	Lgst Airline PQSI	% Lgst	Rev. Adj. % Lgst	Al S Rev. Adj. % Lgst	AP
ORD-XXX	59	59	100%	$160,000	$160,000	1.00

Calculation of Market Place Presence

$e\ (\beta_{RP} * \text{Route Presence} + \beta_{AP} * \text{Airport Presence})$

	RP	**AP**
	b	b
	0.4	0.75

O&D	**RP**	**AP**	**MPE**
ORD-XXX	0.62	**1.00**	2.71

Relative Fare

- To compare an airline's pricing power against its competitors, analysts set a market baseline (usually an index score of 1.00 or 100), which represents the average fare charged by *all* airlines on a specific route.
- **Index > 1.00:** If Airline A has a relative fare index of **1.15**, their tickets cost 15% more than the market average.
- **Index < 1.00:** If Airline B has an index of **0.80**, their prices are 20% cheaper than the market average.
- Lower fare can increase your QSI Market Share

Spreadsheet with QSI Share

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Chicago (ORD) to XXX														
QSI Points														
					Raw		**Airline**							**QSI**
	EQP	**TS**	**ETP**	**NSP**	**QSI**	**TOD**	**PREF**	**PQSI**	**RP**	**AP**	**MPE**	**RF**	**QSI**	**Share**
Local														
ORDXXX	0.7	12	1	1	84	1	1	84	0.62	1	2.71	1	228	35%
On-Line Flow @ ORD														
BOSXXX	0.7	1	0.8	0.5	3	1	1	2.8	0.62	1	2.71	1	8	4%
BUFXXX	0.7	1	0.8	0.5	3	1	1	2.8	0.62	1	2.71	1	8	3%
CLEXXX	0.7	1	0.8	0.5	3	1	1	2.8	0.62	1	2.71	1	8	5%
CMHXXX	0.7	1	0.8	0.5	3	1	1	2.8	0.62	1	2.71	1	8	5%
DCAXXX	0.7	1	0.8	0.5	3	1	1	2.8	0.62	1	2.71	1	8	2%
DTWXXX	0.7	1	0.8	0.5	3	1	1	2.8	0.62	1	2.71	1	8	3%
EWRXXX	0.7	1	0.8	0.5	3	1	1	2.8	0.62	1	2.71	1	8	1%
LASXXX	0.7	1	0.8	0.5	3	1	1	2.8	0.62	1	2.71	1	8	1%
LAXXXX	0.7	1	0.8	0.5	3	1	1	2.8	0.62	1	2.71	1	8	2%
LGAXXX	0.7	1	0.8	0.5	3	1	1	2.8	0.62	1	2.71	1	8	4%
PHLXXX	0.7	1	0.8	0.5	3	1	1	2.8	0.62	1	2.71	1	8	1%
PHXXXX	0.7	1	0.8	0.5	3	1	1	2.8	0.62	1	2.71	1	8	2%
XXXSAN	0.7	1	0.8	0.5	3	1	1	2.8	0.62	1	2.71	1	8	2%
XXXSFO	0.7	1	0.8	0.5	3	1	1	2.8	0.62	1	2.71	1	8	2%
XXXSTL	0.7	1	0.8	0.5	3	1	1	2.8	0.62	1	2.71	1	8	3%

Step 4: Add Industry Market Sizes / Fares

- Sources uses to estimate O&D market sizes
  - Internal data based on similar route characteristics (proxy)
  - United States Department of Transportation (BTS)
    - DB1B, T100
  - World Tourism Organization (WTO)
  - International Air Transport Association (IATA)
  - United States International Air Travel Statistics (I-92)

- Sources used to estimate average fare for O&D
  - Internal data based on similar route characteristics (proxy)
  - United States Department of Transportation (BTS)
  - Published Fares

Step 5: Apply Growth / Stimulation

- Growth / Reduction Rates
  - Review macro economic factors
    - Historical and projected GDP
  - IATA forecasts growth rates from its survey of member airlines

- Service Stimulation
  - Introducing or reducing service in a market will increase or decrease passenger demand

Market Size / Growth / Stimulation

Chicago (ORD) to XXX								
	Annual Market Size By Point of Origin			Pax PDEWs				
	Other	XXX	Total	Other	XXX	Total	Growth / Stim.	Forecasted Total Mkt Size
Local								
ORDXXX	19,470	12,067	31,537	26.7	16.5	43.2	1.15	49.7
On-Line Flow @ ORD								
BOSXXX	11,917	9,879	21,796	16.3	13.5	29.9	1.02	30.5
BUFXXX	4,147	2,980	7,127	5.7	4.1	9.8	1.02	10.0
CLEXXX	4,740	3,831	8,571	6.5	5.2	11.7	1.02	12.0
CMHXXX	6,692	4,223	10,915	9.2	5.8	15.0	1.02	15.3
DCAXXX	17,897	19,286	37,183	24.5	26.4	50.9	1.02	52.0
DTWXXX	11,469	7,572	19,041	15.7	10.4	26.1	1.02	26.6
EWRXXX	10,580	8,978	19,558	14.5	12.3	26.8	1.02	27.3
LASXXX	5,713	21,527	27,240	7.8	29.5	37.3	1.02	38.1
LAXXXX	14,248	10,588	24,836	19.5	14.5	34.0	1.02	34.7
LGAXXX	11,724	13,607	25,331	16.1	18.6	34.7	1.02	35.4
PHLXXX	27,521	19,336	46,857	37.7	26.5	64.2	1.02	65.5
PHXXXX	8,221	9,942	18,163	11.3	13.6	24.9	1.02	25.4
XXXSAN	13,883	15,537	29,420	19.0	21.3	40.3	1.02	41.1
XXXSFO	7,508	8,673	16,181	10.3	11.9	22.2	1.02	22.6
XXXSTL	16,552	9,829	26,381	22.7	13.5	36.1	1.02	36.9
	172,812	165,788	338,600	237	227	464		473

Steps 6 and 7: Calculate Demand / Spill / Traffic

	Chicago (ORD) to XXX								
	Forecast Total Mkt Size	Share	POO Demand Other	POO Demand XXX	Daily Demand	OB Pax PDEW	% Total	Pax PDEWs Other	Pax PDEWs XXX
Local									
ORDXXX	49.7	35%	10.8	6.7	17.6	16.2	56.0%	10.0	6.2
On-Line Flow @ ORD									
BOSXXX	30.5	4%	0.6	0.5	1.1	1.0	4%	0.6	0.5
BUFXXX	10.0	3%	0.2	0.1	0.3	0.3	1%	0.2	0.1
CLEXXX	12.0	5%	0.3	0.3	0.6	0.5	2%	0.3	0.2
CMHXXX	15.3	5%	0.4	0.3	0.7	0.6	2%	0.4	0.2
DCAXXX	52.0	2%	0.5	0.6	1.1	1.0	4%	0.5	0.5
DTWXXX	26.6	3%	0.5	0.3	0.8	0.7	2%	0.4	0.3
EWRXXX	27.3	1%	0.2	0.1	0.3	0.3	1%	0.1	0.1
LASXXX	38.1	1%	0.1	0.4	0.5	0.5	2%	0.1	0.4
LAXXXX	34.7	2%	0.3	0.2	0.6	0.5	2%	0.3	0.2
LGAXXX	35.4	4%	0.7	0.8	1.5	1.4	5%	0.6	0.7
PHLXXX	65.5	1%	0.4	0.3	0.8	0.7	2%	0.4	0.3
PHXXXX	25.4	2%	0.2	0.2	0.4	0.4	1%	0.2	0.2
XXXSAN	41.1	2%	0.4	0.4	0.8	0.7	2%	0.3	0.4
XXXSFO	22.6	2%	0.2	0.2	0.4	0.3	1%	0.2	0.2
XXXSTL	36.9	3%	0.7	0.4	1.1	1.0	3%	0.6	0.4
	473	2%	5.7	5.2	10.8	10.0		5.2	4.8

Steps 6 and 7: Calculate Demand / Spill / Traffic

- Including Other Connecting Passengers

Chicago (ORD) to XXX				
	Daily	OB Pax	Pax PDEWs	
	Demand	PDEW	Other	XXX
Other On-Line	1.2	1.1	0.7	0.4
Total Online Connecting	12.1	11.1	5.3	4.7
Interline Connecting	1.8	1.6	1.0	0.6
Total Onboard	31.4	28.9	16.3	11.5
Interline as a % Local	10%			

Steps 6 and 7: Calculate Demand / Spill / Traffic

- Spill (Example) Best Done with Separate Model. Assumed no seasonality

_	Demand	Dem LF	OB LF	OB Pax/Opn	_	
JAN	31.4	62.8%	57.8%	28.9	**LFCF =**	**0.950**
FEB	31.4	62.8%	57.8%	28.9	**CV =**	**0.30**
MAR	31.4	62.8%	57.8%	28.9	**RECAP =**	**0.10**
APR	31.4	62.8%	57.8%	28.9		
MAY	31.4	62.8%	57.8%	28.9		
JUN	31.4	62.8%	57.8%	28.9		
JUL	31.4	62.8%	57.8%	28.9		
AUG	31.4	62.8%	57.8%	28.9		
SEP	31.4	62.8%	57.8%	28.9		
OCT	31.4	62.8%	57.8%	28.9		
NOV	31.4	62.8%	57.8%	28.9		
DEC	31.4	62.8%	57.8%	28.9		
Annual	31.4	62.8%	57.8%	28.9		

Step 8: Calculate Average Fare / Revenue

Chicago (ORD) to XXX												
	OB Pax	Pax PDEWs		O&D	O&D Adj	O&D		Main Leg	O&D	Onboard	Onboard	Up-Down
	PDEW	Other	XXX	Fare	Fare	Fare	Miles	Prorate	Revenue	Revenue	RPMs	Revenue
Local					adj							
ORDXXX	16.2	10.0	6.2	$157	1.000	$157	794	1.000	$2,532	$2,532	12,841	$0
On-Line Flow @ ORD										Prorated		
BOSXXX	1.0	0.6	0.5	$154	1.000	$154	867	0.49	$161	$79	832	$82
BUFXXX	0.3	0.2	0.1	$153	1.000	$153	473	0.56	$43	$24	222	$19
CLEXXX	0.5	0.3	0.2	$194	1.000	$194	316	0.61	$105	$64	430	$41
CMHXXX	0.6	0.4	0.2	$168	1.000	$168	296	0.62	$107	$67	507	$41
DCAXXX	1.0	0.5	0.5	$164	1.000	$164	612	0.53	$166	$89	807	$78
DTWXXX	0.7	0.4	0.3	$155	1.000	$155	235	0.65	$108	$70	553	$38
EWRXXX	0.3	0.1	0.1	$160	1.000	$160	719	0.51	$42	$22	210	$21
LASXXX	0.5	0.1	0.4	$182	1.000	$182	1,514	0.42	$84	$35	366	$49
LAXXXX	0.5	0.3	0.2	$228	1.000	$228	1,745	0.40	$119	$48	416	$71
LGAXXX	1.4	0.6	0.7	$153	1.000	$153	733	0.51	$211	$108	1,093	$103
PHLXXX	0.7	0.4	0.3	$110	1.000	$110	678	0.52	$76	$40	550	$37
PHXXXX	0.4	0.2	0.2	$180	1.000	$180	1,439	0.43	$70	$30	308	$40
XXXSAN	0.7	0.3	0.4	$267	1.000	$267	1,723	0.40	$192	$78	572	$114
XXXSFO	0.3	0.2	0.2	$216	1.000	$216	1,846	0.40	$74	$29	271	$45
XXXSTL	1.0	0.6	0.4	$140	1.000	$140	258	0.64	$140	$89	789	$51
	10.0	5.2	4.8	$170		$170		0.51	$1,698	$870	$7,926	$828

Step 8: Calculate Average Fare / Revenue

- Including Other Connecting Revenue

Chicago (ORD) to XXX									
	OB Pax PDEW	O&D Fare	O&D Adj Fare	O&D Fare	Main Leg Prorate	O&D Revenue	Onboard Revenue	Onboard RPMs	Up-Down Revenue
Other On-Line	1.1	$120	1.000	$120	0.51	$133	$68	881	$65
Total Online Connecting	11.1					$1,831	$938	8,807	$893
Interline Connecting	1.6	$120	1.000	$120	0.51	$194	$100	1284	0
Total Onboard	28.9					$4,558	$3,570	22,932	$893

Step 9: Apply Cost / Create a PNL

- Cost variables can include:
  - Passenger variable costs
  - Fuel (both air and taxi times)
  - Landing fees
  - Variable overhead
  - Fixed overhead
  - Aircraft Ownership
- For a quick review construct a Cost Spreadshet
- To calculate best cost and profit results hand off to the Finance department to “price out” forecast.

Step 9: Apply Cost using Excel

Chicago (ORD) to XXX			
Seats	50	Annual ASMs	28,981,000
Miles	794	Annual Deps	730
ASMs per Flight	39,700	Annual Flight Hours	1,436
Daily Deps	2	Annual Block Hours	1,703
Flight Hours per Dep	2.0	Annual Onboard Pax	21,083
Block per Dep	2.33	Annual RPMs	16,740,039
		Annual LF	57.8%
Variable			
Crew	$552,205		
Maintenance	$599,696		
Passenger Related	$112,430		
Fuel	$1,277,500		
Stations	$681,711		
Total Variable Expenses	$3,223,541		
Fully Allocated			
Crew	$101,455		
Maintenance	$80,221		
Stations	$208,050		
Ownership	$654,400		
Admin	$120,903		
Total Fixed Expenses	$1,165,028		
Total Expenses	$4,388,569		
CASM	$0.151		

Step 9: Create Profit and Lost (PNL) Report

Chicago (ORD) to XXX			
Seats	50	Annual ASMs	28,981,000
Miles	794	Annual Deps	730
ASMs per Flight	39,700	Annual Flight Hours	1,436
Daily Deps	2	Annual Block Hours	1,703
Flight Hours per Dep	2.0	Annual Onboard Pax	21,083
Block per Dep	2.33	Annual RPMs	16,740,039
		Annual LF	57.8%
Local Revenues	$1,848,555	Local Yield	$0.197
Connect Revenues	$808,608	Connect Yield	$0.110
On Board Revenues	$2,657,163	On Board Yield	$0.159
Upline/Downline Rev	$651,995		
Total Revenues	$3,309,159		
Variable P/(L)			
Total Variable Expenses	$3,223,541		
Fully Allocated P/(L)			
Total Fixed Expenses	$1,165,028		
Total Expenses	$4,388,569		
CASM	$0.151		
FAE Profit / (Loss)	($1,731,406)	**VAE Profit / (Loss)**	($566,378)
FAE Margin	(39.5%)	**VAE Margin**	(17.6%)
FAUDNC Profit / (Loss)	($1,666,207)	**VAUDNC Profit / (Loss)**	($501,178)
FAUDNC Margin	(38.0%)	**VAUDNC Margin**	(15.5%)

Step 10: Benchmark Results

- Benchmark
  - Compare Micro Forecast results to similar current routes
    - Load Factor, Yield, Revenue per Available Seat Mile (RASM)

Market	ORD - XXX	ORD - YYY (Similar Route)
	Forecast	Actual
Length of Haul	794	820
Annual Operations	730	730
Seats/Opn	50	50
Onboard Rev/Opn	$3,570	$4,000
Onboard RPMS/Opn	22,932	26,240
Up-Down Rev/Opn	$893	$893
Load Factor	57.8%	64.0%
OB Passengers	28.9	32.0
Onboard Yield	15.6¢	15.6¢
OB Revenue/ASM	8.99¢	8.99¢

Summary

- As a reminder - Micro Forecasting
  - Best estimate given limited data
  - Allows feedback from other internal groups
  - Allows fast and easy adjustment in iterative process
  - Using this standard approach allows for easy comparison of another Micro Forecast